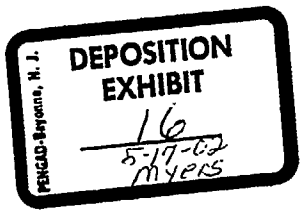
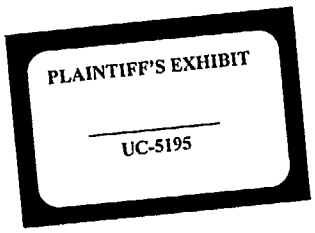
EPA -450/3-90-017





National Emission Stand ards for Asbestos ---- Background Informati on for Promulgated Asbes tos NESHAP Revisions

Emissions Standards Div ision

U.S. ENVIRONMENTAL PROTECTI ON AGENCY

Office of Air and Radia tion

Office of Air Quality Planning and Standards

Research Triangle Park, North Ca rolina 27711

October 1990

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for a fee, from the National Technical In formation Services, 5285 Port Royal Road, Springfield, Virginia 22161.

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ABBREVIATIONS

A/C asbestos/cement

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ACM	asbestos-containing material
AHERA	Asbestos Hazard Emergency Response Act of 1986
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
BID	background information document
CAA	Clean Air Act
CPSC	Consumer Products Safety Commission
DOT	Department of Transportation
EPA	Environmental Protection Agency
ID	identification
LEV	local exhaust ventilation
NADC	National Association of Demolition Contractors
NARS	National Asbestos Registry System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NIOSH	National Institute for Occupational Safety and Health
OAQPS	Office of Air Quality Planning and Standards
OSHA	Occupational Safety and Health Administration
OSW	Office of Solid Waste
PEL	permissible exposure limit
PLM	polarized light microscopy
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act of 1986
TEM	transmission electron microscopy
TSCA	Toxic Substances Control Act

1.0 SUMMARY

On January 10, 1989, the Environmental Protection Agency (EPA) proposed revisions to the asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) (54 FR 912) under authority of Section 112 of the Clean Air Act (CAA). Public comments were requested on the proposal in the Federal Register. There were 100 commenters composed mainly of industry groups; also commenting were regulatory agencies and Federal agencies. The comments that

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were submitted, along with responses to t hese comments, are summarized in this background information document (BID). T he summary of comments and responses serves as the basis for the revisions mad e to the standard between proposal and promulgation.

1.1 SUMMARY OF CHANGES SINCE PROPOSAL

Several modifications have been made to the requirements for demolition and renovation since proposal. The appli cability provisions were revised to explicitly require the thorough inspectio n of a facility for the presence of asbestos before demolition or renovation. Previously, the requirement for an inspection was inferred from the requirem ents to report to EPA all demolitions and any renovation where the amount of as bestos exceeds the threshold amount. The provision that would have required th at all notices be sent by certified mail has been deleted allowing, instead, the use of the U.S. Postal Service, commercial delivery, or hand delivery of notices. In situations when the date on which asbestos stripping or removal ch anges from the date contained in the original notice, the 5-day waiting period has been modified. In stead, the owner or operator must notify EPA by tele phone followed by a written notification of the new start date. The notice by telephone, must be received before the original start date, and the w ritten followup notice must be received no later than the original start date. The final rule also contains a new provision that requires that the tr ained on-site supervisors receive additional refresher training in the prov isions of the NESHAP every 2 years. The definition of "emergency renovation" and the provisions pertaining to emergency renovations have been modified to include a renovation caused by the disruption of normal industrial operation s, in addition to a renovation caused by unsafe conditions (which was contained in the proposed amendments). The NESHAP has also been revised to clarify w hich nonfriable materials do not have to be removed from a facility prior to de molition.

The recordkeeping and reporting prov isions for asbestos waste disposal have also been changed since proposal. S pecifically, the requirement that waste generators and waste disposal site owners and operators submit semiannual reports to EPA detailing waste disposal activities for the past 6 months has been eliminated. Also, the pr oposed requirement for waste generators and disposal sites to obtain a n EPA identification (ID) number, to be included on all waste shipment records , was deleted. Two new provisions have been added to the waste disposal req uirements since proposal. Disposal site owners and operators must now notify EPA whenever they receive an improperly contained shipment of asbestos waste, and waste generators must notify EPA if, after a specified amount o f time, they are unable to confirm delivery of a waste shipment.

In addition to the above changes, se veral minor clarifying and editorial changes were made. These and the other c hanges are discussed in more detail, along with the rationale for the changes, in Chapters 3.0 through 16.0

1.2 SUMMARY OF IMPACTS OF PROMULGATED AC TION

1.2.1 Environmental Impacts of Pro mulgated Action

The estimated environmental impacts have not changed since proposal. If there were full compliance with the NESHA P, emissions from asbestos removal activities associated with demolition and renovation would be about 700 kg/yr. However, it is estimated from EPA's enfor cement experience that approximately 50 percent of all demolitions and renovat ion operations are performed without

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EPA's being notified, indicating that a s ignificant amount of asbestos material (including asbestos waste) is ha ndled out of compliance with the provisions of the NESHAP. Based on the c urrent level of compliance, estimated emissions from demolition and renovation for both removal and waste disposal are approximately 228,000 kg/yr, with emi ssions from illegal waste dumping accounting for nearly all of this amount. The recommended amendments would improve compliance with the NESHAP, there by reducing emissions and health risks, although the degree to which compl iance would be improved and emissions would be reduced is uncertain.

Estimated process emissions under th e current NESHAP at full compliance for milling, manufacturing, and fabricati ng are approximately 7,400 kg/yr. To the extent possible, EPA considered the e ffects that the final ban and phasedown rule would have on the impacts of the recommended asbestos NESHAP standard. Depending on the extent to whi ch the ban and phasedown rule reduce asbestos consumption, the amount of asbes tos processed and the amount of asbestos emitted to the atmosphere are li kely to be reduced, although the precise impact is unclear.

Estimated emissions from waste dispo sal, if there were full compliance with the NESHAP by all sources, would be about 600 kg/yr. However, as noted above, enforcement experience indicates that a significant amount of asbestos waste from noncomplying demolitions and r enovations is handled out of compliance with the NESHAP. Based on cur rent practice, estimated waste disposal emissions from all waste, but pr imarily from the illegal dumping of demolition and renovation waste, are 227, 000 kg/yr. The recommended amendments are focused on improving compl iance with the NESHAP. Although the degree to which emissions would actually be reduced cannot be quantified precisely, the emission reduction would a pproach 227,000 kg/yr as compliance approaches 100 percent.

1.2.2 Energy and Economic Impacts of Pro mulgated Action

Since proposal, changes have been mad e that affect the industry burden associated with recordkeeping and reporti ng. The requirement for waste generators and disposal sites to make sem iannual reports summarizing their waste disposal activities has been omitte d. However, a provision was added

requiring waste generators to report to E PA after a specified time if they are unable to confirm delivery of any waste s hipments. In addition, a provision was added that requires waste disposal si tes to notify EPA in the event that they receive a waste shipment that is imp roperly contained. Also, on-site supervisors of demolitions and renovation s, in addition to their initial training, must receive refresher training every 2 years.

The total costs of the recommended a mendments are expected to be small relative to normal operating costs for th ese industries. Amendments are intended to promote compliance and codify existing good practices. An additional cost of approximately $9.9 mil lion/yr would be associated with the recordkeeping and reporting requirements of the amendments. This is an increase over the $9.3 million recordkeep ing and reporting costs estimated for the proposed amendments. The increase in costs results from the changes in the final amendments described above. No significant adverse impacts on energy are anticipated.

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2.0 LIST OF COMMENTERS AND ORGANIZATION OF COMMENTS AND RESPONSES

A total of 100 letters commenting on the proposed standard were received. Comments from the public hearing on the proposed standard were recorded, and a transcript of the hearing was placed in the project docket. The docket number for this project is A-88-28. Dockets are on file at EPA Headquarters in Washington, DC, and at the Office of Air Quality Planning and Standards (OAQPS) in Durham, NC. A list of commenters, their affiliations, and the EPA docket number assigned to their correspondence is given in Table 2-1.

For the purpose of orderly presentation, the comments have been categorized by the part of the regulation they address. Each category of comments and corresponding chapter are as follows:

3.0 General Comments

4.0 Definitions

5.0 Milling, Manufacturing, and Fabricating

6.0 Roadways

7.0 Demolition and Renovation

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8.0 Spraying

9.0 Insulating Materials

10.0 Waste Disposal for Asbestos Mil ls

11.0 Waste Disposal for Manufacturin g, Fabricating, Demolition, Renovation, and Spraying

12.0 Inactive Waste Disposal Sites

13.0 Air Cleaning

14.0 Reporting

15.0 Active Disposal Sites

16.0 Waste Conversion Processes

2 -1

TABLE 2 -1 LIST OF COMMENTERS ON PROPOSED AMENDME NTS TO ASBESTOS NESHAP

Docket item number	Comme nter and affiliation
IV-D-01	John F. Welch SBA Safe Bu ilding Alliance Suite 1200, Metropolitan Sq. 655 Fifteen th St. N.W. Washington, D.C. 20005
IV-D-02	Joey Toney Calaveras A sbestos Ltd. P.O. Box 12 7 Copperopoli s, CA 95228
IV-D-03	Hal Barrett University of Alabama 12 Thomas C ircle P.O. Box 60 95 Tuscaloosa, AL 35487-6095
IV-D-04	William L. Baker National As sociation of Demolition Contractors 4415 W. Har rison St.

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	Hillside, I L 60162
IV-D-05	Dennis R. Moran C.M. Towers , Inc. P.O. Box 11 66 W. Caldwell , NJ 07007
IV-D-06	John F. Welch Safe Buildi ngs Alliance Suite 1200, Metropolitan Square 655 Fifteen th St. N.W. Washington, DC 20005
IV-D-07	Kenneth Nyquist Asbestos In formation Association 1745 Jeffer son Davis Hwy. Crystal Squ are 4, Suite 509 Arlington, VA 22202

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TABLE 2 -1 (continued)

Docket item number	Comme nter and affiliation
IV-D-08	Robert Stockton N.O.A. Asso ciates 300 Technol ogy Dr. Malvern, PA 19355
IV-D-09	J. Martin Thrash er City of Col orado Springs Dept. of U tilities P.O. Box 11 03 Colorado Sp rings, CO 80947
IV-D-10	Joey Toney Calaveras A sbestos Ltd. P.O. Box 12 7 Copperopoli s, CA 95228
IV-D-11	Timmie D. McBrid e 323 Brooksi de Blvd. Pittsburgh, PA 15241
IV-D-12	Harold E. Hodges Tennessee D ept. of Health and Environment 701 Broadwa y Nashville, TN 37219-5403

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IV-D-13	John C. Baguzia Wayne Count y Air Pollution Control 2211 E. Jef ferson Detroit, MI 48207
IV-D-14	J. Michael Valen tine Minnesota P ollution Control Agency 520 Lafayet te Rd. Saint Paul, MN 55155
IV-D-15	Robert P. Miller Michigan De pt. of Natural Resources Stevens T. Mason Bldg., Box 30028 Lansing, MI 48909

(continued)

TABLE 2 -1 (continued)

Docket item number	Comme nter and affiliation
IV-D-16	Ralph Self N.C. Dept. of Public Instruction 116 W Edent on St. Education B ldg. Raleigh, NC 27603-1712
IV-D-17	J. A. Paul Regional Ai r Pollution Control Agency 451 W. Thir d St. P.O. Box 97 2 Dayton, OH 45422
IV-D-18	Robert L. Foster Tennessee D ept. of Health and Environment 701 Broadwa y Nashville, TN 37219-5403
IV-D-19	Charles K. Weiss Baltimore C ounty Office Bldg., Rm. 223 111 W. Ches apeake Ave. Towson, MD 21204
IV-D-20	Darrel Graziani Hillsboroug h County Environmental Protection Commission 1900 - 9th Ave. Tampa, FL 33605
IV-D-21	Paul Heffernan Kaselaan & D'Angelo Associates, Inc.

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28 State St .
Boston, MA 02109

IV-D-22

John L. Myers
Calidria As bestos
P.O. Box K
King City, CA 93930

(continued)

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TABLE 2 -1 (continued)

Docket item number	Comme nter and affiliation
IV-D-23	Joanne Wright Ad Hoc Coal ition of Asbestos Abatement Contractor s (no address)
IV-D-24	B. A. Steiner ARMCO Corpo rate Offices Box 600 Middletown, OH 45043
IV-D-25	Robert L. Pearso n Environment al Affairs Public Serv ice Co. of Colorado P.O. Box 84 0 Denver, CO 80201-0840
IV-D-26	Joseph G. Brehm Wisconsin D ept. of Natural Resources P.O. Box 79 21 Madison, WI 53707
IV-D-27	Jack W. Fisch Westinghous e Electric Corp. Gateway Cen ter Pittsburgh, PA 15222
IV-D-28	Garry Kuberski Florida Dep t. of Environmental Regulation 3319 Maguir e Blvd., Suite 232 Orlando, FL 32803-3767
IV-D-29	David R. Jordan City of Ind ianapolis, Dept. of Public Works 2700 S. Bel mont

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Indianapoli s, IN 46221

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TABLE 2 -1 (continued)

Docket item number	Comme nter and affiliation
IV-D-30	Peter A. Hesslin g Pinellas Co unty (Fla) Board of Commissioners 16100 Fairc hild Dr., Suite V -102 Clearwater, FL 34622
IV-D-31	Karen A. Baker SASI Superi or Abatement Services, Inc. 113 E. Bara ga, P.O. Box 7101 Marquette, MI 49855
IV-D-32	Dwight Wylie Mississippi Dept. of Natural Resources P.O. Box 10 385 Jackson, Mi ssissippi 39289 -0385
IV-D-33	Edward D. Makrus ki Gandee & As sociates, Inc. 4488 Mobile Dr. Columbus, O H 43220
IV-D-34	H. Lanier Hickma n, Jr. Governmenta l Refuse Collection and Dispos al Association, Inc. P.O. Box 72 19 Silver Spri ngs, MD 20910
IV-D-35	William Ewing The Environ mental Management Group, Inc. Cobb Corpor ate Center/300 350 Frankli n Rd. Marietta, G A 30067
IV-D-36	John L. Wittenbo rn and William M. Guerry (Collier Sh annon Rill & Scott, Counsel for) SSIUS Speci alty Steel Industry of the U.S. 1055 Thomas Jefferson St., NW Washington, DC 20007

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TABLE 2 -1 (continued)

Docket item number	Comme nter and affiliation
IV-D-37	John L. Wittenbo rn and William M. Guerry (Collier Sh annon Rill & Scott, Counsel for) SCA Shipbui lders Council of America 1055 Thomas Jefferson St., NW Washington, DC 20007
IV-D-38	Ron Rappard & Lo uis Knieper Solid Tech Inc. 4800 Lamar Mission, KS 66202
IV-D-39	L. N. Bell ARCO Oil an d Gas Company P.O. Box 28 19 Dallas, TX 75221
IV-D-40	J. W. Barbee Mobil Oil C orporation 3225 Gallow s Rd. Fairfax, VA 22037-0001
IV-D-41	Carol P. Hoffste in E.I. DuPont De Nemours and Company Wilmington, DE 19898
IV-D-42	Peter C. Cunning ham (Hopping Boyd Green & Sams, Coun sel for) Florida Ele ctric Power Coordinating Group Inc. 123 S. Calh oun St. P.O. Box 65 26 Tallahassee , FL 32314
IV-D-43	J. R. Smith The Light C ompany (Houston) P.O. Box 17 00 Houston, TX 77001

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TABLE 2 -1 (continued)

Docket item number	Comme nter and affiliation
IV-D-44	Kenneth P. Woodi ngton South Carol ina Attorney General's Office Rembert C. Dennis Bldg. P.O. Box 11 549 Columbia, S C 29211
IV-D-45	Gregory J. Odega rd ElPaso Natu ral Gas Company P.O. Box 14 92 El Paso, TX 79978
IV-D-46	Richard L. White Texas Utili ties Electric Company Skyway Towe r 400 N. Oliv e St. Dallas, TX 75201
IV-D-47	Walter D. Anders on Resilient F loor Covering Institute 966 Hungerf ord Dr., Suite 12 -B Rockville, MD 20850
IV-D-48	Michael A. Wiega rd (Paul, Hastings, Janofsky & Walker, Counsel for) GAF Corpora tion Twelfth Flo or 1050 Connec ticut Ave., NW Washington, DC 20036
IV-D-49	F. William Brown ell (Hunton & Williams, Counsel fo r) Utility Air Regulatory Group 2000 Pennsy lvania Ave., N.W. P.O. Box 19 230 Washington, DC 20036

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TABLE 2 -1 (continued)

Docket item number	Comme nter and affiliation

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IV-D-50	(Kirland & Ellis , Counsel for) Safe Buildi ngs Alliance 655 Fifteen th St., N.W. Washington, DC 20005
IV-D-51	G. A. Kilpatrick Phillips Pe troleum Company Bartlesvill e, OK 74004
IV-D-52	H. T. Gibson Exxon Compa ny U.S.A. P.O. Box 21 80 Houston, TX 77252-2180
IV-D-53	Richard W. Nieme ier Dept. of He alth & Human Services 4676 Columb ia Parkway Cincinnati, OH 45226-1998
IV-D-54	Lee Lockie South Coast Air Quality Management District 9150 Flair Dr. El Monte, C A 91731
IV-D-55	Jack Houghton Montgomery County Government 110 N. Wash ington St., 3rd Floor Rockville, MD 20850
IV-D-56	Robert C. Wyatt Dynamac Cor poration 11140 Rockv ille Pike Rockville, MD 20852
IV-D-57	Scott Schneider and Matthew Gillen Workers' In stitute for Safety and Health 1126 Sixtee nth St., N.W. Washington, DC 20036

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TABLE 2 -1 (continued)

Docket item number	Comme nter and affiliation
IV-D-58	R. S. Rose Dow Chemica l Company

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	2030 Buildi ng, Willard H. DOW Center Midland, MI 48674
IV-D-59	R. T. Simril Duke Power Company Nuclear Pro duction Dept. P.O. Box 33 189 422 South C hurch St. Charlotte, NC 28242
IV-D-60	Victoria Farran Texas Instr uments, Inc. P.O. Box 65 5303 Dallas, TX 75265
IV-D-61	Rhonda L. Ross General Mot ors Corporation 30400 Mound Rd. Warren, MI 48090-9015
IV-D-62	A. J. Ahern American El ectric Power Service Corporation One Riversi de Plaza Columbus, O H 43215
IV-D-63	Gerald L. Raley Public Serv ice Indiana 1000 E. Mai n St. Plainfield, IN 46168
IV-D-64	V. M. McIntire Eastman Kod ak Company Eastman Che micals Division Kingsport, TN 37662

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TABLE 2 -1 (continued)

Docket item number	Comme nter and affiliation
IV-D-65	Jerome S. Amber Ford Motor Company Suite 608 15201 Centu ry Dr. Dearborn, M I 48120
IV-D-66	Walter R. Mook Air Polluti on Control District

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	(Victorvill e, CA) 15428 Civic Dr., Suite 200 Victorville , CA 92392
IV-D-67	Gary D. Vest U.S. Dept o f the Air Force Washington, DC 20330-1000
IV-D-68	Thomas W. Rarick Indiana Dep t. of Environmental Management 105 S. Meri dian St. P.O. Box 60 15 Indianapoli s, IN 46206-6015
IV-D-69	David M. Anderso n Bethlehem S teel Corporation Bethlehem, PA 18016
IV-D-70	D.G. Doughty Oklahoma De pt. of Health P.O. Box 53 551, 1000 NE Tenth Oklahoma Ci ty, OK 73152
IV-D-71	Skiles W. Boyd Detroit Edi son Company 2000 Second Ave. Detroit, MI 48226

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TABLE 2-1 (continued)

Docket item number	Comme nter and affiliation
IV-D-72	Marilyn F. Muell er Supradur Ma nufacturing Corp. P.O. Box 90 8 Rye, NY 10 580
IV-D-73	Charles D. Mallo ch Monsanto Co mpany 800 N. Lind bergh Blvd. St. Louis, MO 63167
IV-D-74	Joseph A. Fields U.S. Dept. of the Army Holston Arm y Ammunition Plant Kingsport, TN 37660-9982

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IV-D-75	Deborah Turner -Fox Atlantic El ectric P.O. Box 15 00 Pleasantvil le, NJ 08232
IV-D-76	J.D. Patterson MSU System Services Inc. P.O. 61000 New Orleans , LA 70161
IV-D-77	William C. Eddin s Commonwealt h of Kentucky, Natural Resources and Enviro nmental Protection Cabinet 18 Reilly R d. Frankfort, KY 40601
IV-D-78	Nick Nikkila Oregon Dept . of Environmental Quality 811 SW Sixt h Ave. Portland, O R 97204-1390
IV-D-79	J. L. Sullivan, Jr. GPU Nuclear Corp. One Upper P ond Rd. Parsippany, NJ 07054

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TABLE 2 -1 (continued)

Docket item number	Comme nter and affiliation
IV-D-80	Sue M. Briggum Waste Manag ement Inc. 1155 Connec ticut Ave., NW, Suite 800 Washington, DC 20036
IV-D-81	Joe Francis Nebraska De pt. of Environmental Control P.O. Box 98 922 Lincoln, NE 68509-8922
IV-D-82	Judith A. Whelan P.O. Box 87 Brookeville , MD
IV-D-83	Richard D. Sharp e South Carol ina Dept. of Health and Environmen tal Control 2600 Bull S t. Columbia, S C 29201

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IV-D-84	Thomas S. Hadden Ohio Enviro nmental Protection Agency P.O. Box 10 49 1800 Water Mark Dr. Columbus, O H 43266-0149
IV-D-85	Paula J. Keyes Environment al Sciences, Inc. 105 E. Spee dway Blvd. Tucson, AZ 85705
IV-D-86	Paul C. Fiduccia , Winston & Strawn (Counsel f or) Building Ow ners and Managers Association 2550 M St., NW, Suite 500 Washington, DC 20037

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TABLE 2 -1 (continued)

Docket item number	Comme nter and affiliation
IV-D-87	Raymond Pelletie r U.S. Dept. of Energy Washington, DC 20585
IV-D-88	Robert G. Smerko The Chlorin e Institute Inc. 2001 L St., NW Washington, DC 20036
IV-D-89	Alex R. Cunningh am California Dept. of Health Services 714/744 P S t., P.O. Box 942732 Sacramento, CA 94234-7320
IV-D-90	James R. Frederi ck OPT Omega P hase Transformations Inc. P.O. Box 96 0 Narberth, P A 19072
IV-D-91	Charles D. Mallo ch Monsanto Co mpany 800 N. Lind bergh Blvd. St. Louis, MO 63167
IV-D-92	Harvey W. Schult z New York De pt. of Environmental Protection

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New York, N Y 10007

IV-D-93

Kenneth Nyquist
Asbestos In formation Association
1745 Jeffer son Davis Hwy.
Crystal Squ are 4, Suite 509
Arlington, VA 22202

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TABLE 2 -1 (continued)

Docket item number	Comme nter and affiliation
IV-D-94	Richard E. Grusn ick ADEM Alabam a Dept. of Environmental Management 1751 Cong, W.L., Dickinson Dr. Montgomery, AL 36130
IV-D-95	William B. King Armstrong W orld Industries Inc. 1025 Connec ticut Ave., NW Suite 1007 Washington, DC 20036
IV-D-96	Dennis T. Johnst on Austin Rove r Cars of North America U.S. Liaiso n Office 8953 N.W. 2 3 St. Miami, FL 33172
IV-D-97	Michael McElwrat h U.S. Dept. of Interior Office of t he Secretary Washington, DC 20240
IV-D-98	Alan I. Roberts U.S. Dept. of Transportation 400 Seventh Street, SW Washington, DC 20590
IV-D-99	Sabino Gomex Texas Air C ontrol Board 6330 Hwy. 2 90 E Austin, TX 78723

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IV-D-100

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Arlington, VA 22202

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3.0 GENERAL COMMENT S

3.1 BASIS FOR REVISIONS

Comment: Two commenters question th e basis for the proposed revisions. Pertaining to the entire proposal, commen ter 72 states that there is a lack of evidence to substantiate the proposed cha nges. Commenter 93 states that EPA is expanding the scope and stringency of the NESHAP without the necessary factual evidence and without adherence to the two-step process required as a result of the vinyl chloride case (NRDC v . EPA, 824 F. 2d 1146 [D.C. Cir. 1987]).

Response: Regarding the claim that the proposed revisions lack substantiating evidence, there is an over whelming consensus among enforcement officials and industry groups that there is a significant level of noncompliance and confusion with the NESH AP. While there may be differences of opinion regarding what the actual degr ee of noncompliance is, there is agreement that it could be improved. To this end, the revisions contain recordkeeping and reporting requirements and changes that codify previous policy determinations that were made to c larify the regulation and will help EPA achieve its goal of improving enforce ment.

Regarding the comment that EPA is ma king substantive changes without adherence to the procedure required as a result of the vinyl chloride case Natural Resource Defense Council [NRDC] v . EPA, 824 F. 2d 1146 [D.C. Cir. 1987], the vinyl chloride case pertains t o the requirements EPA must comply with when setting standards under Section 112. The intent of the revisions is to improve the enforceability and clarity of the existing asbestos NESHAP, not to set a new standard. At such time as EPA decides that a comprehensive review of the asbestos NESHAP is needed a nd, if further revision is appropriate, the requirements of the viny l chloride case (NRDC v. EPA, 824 F. 2d 1146 [D.C. Cir. 1987]) will be taken i nto consideration unless Congress has amended the Clean Air Act so as to change EPA's approach to regulating toxic air pollutants.

3.2 COMPLIANCE/ENFORCEMENT

Comment: The following general comm ents were received on compliance with and enforcement.

1. Commenter 30 states that the rev isions proposed on January 10, 1989, are comprehensive and bring the regulatio n more in line with industry performance standards; in addition, they should aid enforcement. Commenter 46 states that they generally support the re visions proposed on January 10, 1989, including the use of leak -tight wrapping and glove bags, and that t hey concur that the standards in effect prior to the January 10, 1989, proposal are effective. Also, commenters 80 and 77 ge nerally support EPA's proposed

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revisions to enhance enforcement and comp liance for demolition and renovation operators and other generators of asbesto s waste, and generally support EPA's

proposed revisions for asbestos waste dis posal sites. With minor reservations, commenter 81 supports the r evisions proposed on January 10, 1989.

2. Commenters 57 and 49 believe tha t, although intended to control and prevent appreciable emissions of asbestos , certain revisions proposed on January 10, 1989, do not achieve this goa l. Commenters 66 and 67 explain that, overall, revisions are needed, alth ough reducing procedural and administrative requirements would allow t hem to concentrate on the problem. Commenter 30 points out that it remains t o be seen who will perform the proposed new activities and whether addit ional funding will be needed.

Response: 1. No response is necess ary.

2. The EPA has considere d these comments carefully and has concluded that the revisions will enhance enforcement and improve compliance with the NESHAP. Although the objections to procedural and administrative requirements are understandable, EPA cons iders such requirements essential to enhancing enforcement and improving compl iance. The EPA anticipates that the new activities will be performed as in th e past--by States, localities, and EPA working in cooperation. The EPA expe cts that, initially, a modest increase in or a redirection of resources may be necessary in order to carry out the new activities included in the re vised rule. However, in the long run, it is anticipated that, as a result of improvements on enforcement and compliance, the burden required to enforc e the revised rule will decrease.

3.3 INDUSTRY BURDEN

Comment: Commenters 9, 25, 28, 62, and 73 express their concern that imposing an additional regulatory burden does little to promote compliance and may inhibit compliance. Two commenters, 9 and 58, believe that it penalizes those trying to comply, while commenters 24 and 58 state that the revisions proposed on January 10, 1989, appear to r espond to a situation caused by lack of adequate enforcement. Serious environ mental hazards should be focused on, and commenters 24 and 65 emphasize that t he proposed revisions will allow EPA to bring many more enforcement actions fo r procedural deficiencies without reducing health risks. Commenters 58 and 75 assert that EPA should consider strict enforcement of the rule existing p rior to January 10, 1989, for noncompliers to promote compliance, inste ad of stricter regulation of those entities that are in compliance. Comment ers 69 and 70 argue that EPA should focus on those who completely ignore the regulations rather than on those who incorrectly record their activities. The se commenters also believe that the result will be a paperwork-intensive program that will be detrimenta l to their programs. Another approach to improve co mpliance recommended by commenters 70 and 76 is through education rather than m ore paperwork. Commenter 65 states that regulatory agency flexibility, inste ad of additional strict, procedural requirements that will result in numerous minor violations, is an incentive that will encourage overall compliance.

Response: The EPA agrees that the r evisions proposed on January 10, 1989, impose some additional regulatory b urden in the form of reporting and

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recordkeeping requirements, but these new provisions will promote compliance with those parts of the NESHAP that directly regulate asbestos emissions. In response to comments received, EPA has eliminated the proposed semiannual waste reports. The EPA considers the revisions essential to improving compliance with the NESHAP. It is not EPA's intention that the new provisions in the NESHAP penalize those attempting to comply, and EPA believes that those who are currently complying with the existing rule will continue to comply with this rule. The EPA disagrees with the suggestion that additional enforcement resources alone would solve the problem. The EPA notes that it has been increasing asbestos NESHAP enforcement activities. Although there will be increased potential for procedural violations under the final rule, EPA considers the new provisions to be important tools to increase compliance and, thereby, reduce the potential for substantive violations involving the emission of asbestos. The EPA believes the new provisions essential to bring noncompliers into compliance and considers the additional paperwork a necessary part of those provisions. The EPA agrees with the commenters who suggested education as another approach to improve compliance and will widely disseminate information on its Final Asbestos Demolition and Renovation Civil Penalty Policy. The EPA agrees that regulatory agency flexibility is important and observes that these revisions provide options for compliance, as well as the means to seek Administrator approval for innovative control approaches.

3.4 STRINGENCY

Comment: Commenter 22 argues that there are several areas of increased stringency of controls (e.g., definitions for "visible emissions" and "friable," and the use of HEPA filters) although the preamble states that there is no effect on control stringency. Commenters 47 and 48 point out the potential for confusion in regard to the NESHAP's applicability to nonfriable flooring and roofing materials, and without clearly exempting resilient floor covering and other nonfriable material, NESHAP coverage would be extended, thus calling into affect the requirements of the vinyl chloride case (NRDC v. EPA, 824 F. 2d 1146 [D.C. Cir. 1987]).

Response: The intent of the proposed revisions is not to alter the stringency of the asbestos NESHAP, but to clarify it as it existed prior to the January 10, 1989, proposal, and to improve enforceability and compliance. The wording changes in the definitions are intended to meet the goal. The amended definition of "visible emissions" better describes what EPA considers to be visible emissions. It does not add or subtract from coverage. The proposed revisions do not require the use of HEPA filters, although they do permit their use. "Friable asbestos material" is clarified to explicitly allow for measurement in a way that was already generally accepted. It is not EPA's policy to regulate materials, such as vinyl floor tile, that are nonfriable and are unlikely to release significant levels of asbestos fibers even when damaged. The proposed revisions have been modified to clarify that resilient floor covering, asphalt roofing products, gaskets, and packing do not have to be removed from a building prior to demolition and under what circumstances other nonfriable materials would be covered. Additional

information on nonfriable materials will be distributed at a later date to all affected parties to assist them in applying these regulations.

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3.5 REVISIONS TO FACILITATE ENFORCEMENT

Comment: Commenters 12, 23, and 29 support the concept of a regulation to facilitate enforcement. Commenter 12 urges a risk-based proposal as quickly as possible. Commenter 70 supports making only essential changes at this time and deferring the rest until risk-based revisions are published. Commenter 86 supports EPA's stated position not to make substantive changes until it has completed an analysis of health and risk factors, although some of the revisions are substantive and should be deleted. Commenter 57 explains that it is unclear if EPA intends to issue revised regulations at some time that affect stringency of controls, but believes they are needed.

Response: The EPA believes the revisions to the asbestos NESHAP will promote compliance and enhance enforcement without affecting stringency, but EPA does intend at a later date to consider the need for revisions that affect stringency of controls.

3.6 AGENCY BURDEN

Comment: Commenter 14 agrees that the proposed changes will help enforcement, but asserts that they will result in an increased workload requiring additional resources. Commenter 99 believes that the additional forms for notification, etc., will be helpful, but that additional resources are required to enter the information into a data base.

Response: The EPA agrees that, at least initially, additional resources will be required. However, EPA believes that the additional resources needed initially are reasonable and consonant with the improvements expected in enforcement of the NESHAP and that, in the long run, improvements in compliance will ease the Government's enforcement burden.

3.7 SUPPORT CLARIFYING CHANGES

Comment: Commenters 16, 48, 49, 75, and 63 concur with most of the proposed rule changes, which add to clarity, and support EPA's attempt to clarify the NEHSAP.

Response: No response is necessary.

3.8 CLEARER LANGUAGE

Comment: Commenter 18 suggests that EPA rewrite the proposed and final NESHAP rule in direct language.

Response: As a result of this and other comments dealing with specific provisions of the rule, such as the provisions concerning the treatment of nonfriable materials, several parts of the regulation have been revised to make them easier to understand. In addition, concurrent with promulgation of

the final rule, EPA is carrying out an extensive campaign to educate all parties affected by this rule as to its requirements.

3.9 INTERPRETATION OF NESHAP

Comment: Commenter 21 argues that EPA should compel States with delegated authority to conform to EPA interpretations in enforcement, or cease citing Federal regulations if the State is functioning under its own

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authority. Commenter 21 states further t hat EPA should exercise its oversight authority to ensure that regulations deve loped by States are consistent with the NESHAP.

Response: All States with delegated authority for NESHAP enforcement should make the same interpretation of th e regulation when they are enforcing the asbestos NESHAP. The EPA recognizes that this may not always appear to be the case and, therefore, understands the concern raised by the commenter. Because this rule clarifies parts of the NESHAP, it will promote more uniform interpretations. In addition, EPA plans to issue additional information to assist regulatory agencies and the regula ted community in NESHAP interpretation.

3.10 TYPE OF ASBESTOS

Comment: Commenter 69 urges EPA to consider regulations that differentiate between the less hazardous chrysotile and the more hazardous amosite and crocidolite.

Response: The commenter states that EPA should consider different regulations to differentiate between the less hazardous chrysotile and the more hazardous amphibile and crocidolite. The EPA disagrees with this assessment.

For lung cancer, EPA finds the evide nce supporting this argument to be inconclusive and inconsistent. Some of t he lowest unit risk factors observed for lung cancer are among cohorts exposed to predominantly chrysotile asbestos. However, some of the highest u nit values are also from exposures to primarily chrysotile. This suggests the chrysotile exposures can confer an extremely high risk of lung cancer. The cause of the observed variability in lung cancer unit risk for chrysotile in d ifferent studies is unknown, but some of the variabilities can be attributed to differences in the fiber characteristics associated with different processes, uncertainties due to small numbers in epidemiological studies, and incorrect estimates of the exposures of earlier years.

For mesothelioma, EPA recognizes tha t peritoneal mesotheliomas have largely been associated with crocidolite exposure and that there is some epidemiological evidence suggesting that crocidolilte is more potent than chrysotile in inducing pleural mesothelio ma. However, definitive conclusions concerning the relative potency of variou s fiber types in inducing mesothelioma cannot be made on the basis of available epidemiological information. This is because: (1) mesot heliomas are difficult to diagnose;

(2) dose-response information for mesothelioma for individual fiber types is unavailable; (3) exposure data are inadeq uate; and (4) exposure to crocidolite fibers could be higher because they becom e airborne more easily than other fiber types. Further, numerous animal st udies have demonstrated that chrysotile is at least as potent as amphi boles in inducing both mesothelioma and lung cancer by inhalation, as well as by injection or implantation.

Available information indicates that the combined epidemiological and animal evidence fails to establish conclu sively differences in mesothelioma hazard for the various types of asbestos fibers. In view of the inconsistencies and uncertainty regarding this issue, EPA believes that it is prudent and in the public interest to con sider all fiber types as having comparable carcinogenic potency in its qu antitative assessment of mesothelioma risk. The EPA does recognize that some e vidence exists indicating that

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amphiboles may be more potent in inducing mesothelioma than chrysotile. However, the need for further study to resolve this issue, and the resulting delay in EPA's risk assessment for asbestos, cannot be justified given the volume of data showing the carcinogenic potency of all fiber types. Similar conclusions were reached previously by other scientific bodies and agencies (54 FR 132, July 12, 1989).

3.11 HEALTH EFFECTS

Comment: Commenter 22 asserts that the low prevalence of asbestos-related gastrointestinal cancer along with asbestosis, lung cancer, and mesothelioma.

Response: A number of epidemiological studies have documented significant increases in the incidence of gastrointestinal cancer due to occupational exposure to asbestos. Gastrointestinal cancers consist largely of cancers of the esophagus, stomach, colon, and rectum. However, the magnitude of gastrointestinal cancer risk is lower than that of lung cancer or mesothelioma, and no dose-response data are available.

The commenter states that the evidence indicating a positive association between gastrointestinal cancer and asbestos exposure is weak and inconclusive and does not justify listing along with asbestosis, lung cancer, and mesothelioma. Other comments have indicated that unidentified factors may cause the excess gastrointestinal cancers. Some commenters have suggested that many of the excess cancers attributed to gastointestinal sites may be due to misdiagnosis of peritoneal mesotheliomas. Other commenters have contended that, in the absence of any positive experimental evidence, the epidemiology data alone do not support the conclusion that exposure to asbestos can cause gastrointestinal cancer.

The EPA recognizes that the evidence supporting an association between gastrointestinal cancer and asbestos exposure is not as strong as that which is available to support an association between asbestos exposure and lung cancer and mesothelioma. However, after weighing the available information, EPA believes that there is evidence of a strong casual relationship between asbestos exposure and gastrointestinal cancer excess. This evidence includes

the following: (1) A statistically significant increase in gastrointestinal cancer was found in 10 of 23 epidemiological studies; (2) a consistent relationship exists between increased gastrointestinal cancer risk and increased lung cancer risk (approximately 10 to 30 percent of the lung cancer excess); (3) it is biologically plausible that asbestos could be associated with these tumor sites because it is conceivable that the majority of fibers inhaled are cleared from the respiratory tract and subsequently swallowed, allowing the fibers to enter the gastrointestinal tract (additionally, fibers may be swallowed directly); and (4) one study demonstrated some evidence of carcinogenicity in male rats fed diets containing intermediate range size chrysotile asbestos (65 percent 10 microns in length).

Further, EPA does not accept the argument that all gastrointestinal cancers identified in the epidemiology studies described above are the result of misdiagnosis. Cancers of some gastrointestinal cancer sites (e.g., stomach and pancreas) could be the result of misdiagnosis of peritoneal mesotheliomas. However, this does not account for all of the excess cancers seen at sites such as the colon or rectum. The Occupational Safety and Health Administration (OSHA) in its final rule lowering the permissible exposure limit (PEL) for asbestos (51 FR 22612, June 20, 1986) concluded that the studies conducted to date "constitute substantial evidence of an association

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between asbestos exposure and a risk of i ncurring gastrointestinal cancer." The EPA agrees with this conclusion.

3.12 CROSS-REFERENCING

Comment: Commenter 28 requests that EPA delete the cross-referencing section because it does not enhance compl iance with the NESHAP.

Response: Cross-referencing to other asbestos regulations is for informational purposes. The EPA believes a heightened awareness of other standards that apply to asbestos will hel p improve understanding of and compliance with the asbestos NESHAP and h elp reduce overall exposure to asbestos.

3.13 INSPECTIONS BY THE ADMINISTRATOR

Comment: Commenter 41 suggests that a designated representative of the Administrator should conduct inspections to reduce the Administrator's burden.

Response: It appears that the comme nter was assuming that the Administrator of EPA, personally, would h ave to perform all of the activities specified in the NESHAP as being the resp onsibility of the "Administrator." However, this is not the case. Section 6 1.02 of 40 CFR defines "Administrator" as the Administrator of E PA or "his authorized representative." Inspections and other e nforcement-related activities required of the Administrator are typical ly performed by local, State, or regional enforcement agencies and not dir ectly by the Administrator of EPA.

3.14 EFFECTIVE DATE

Comment: Because the revisions are extensive, commenters 49, 58, and 63 argue that the final revisions should bec ome effective no earlier than 6 months after promulgation, and commenter 73 recommends that they not become effective for at least 1 year.

Response: Section 112 of the Clean Air Act contains specific requirements concerning when NESHAP regul ations shall to into effect. Section 112(b)(1)(c) provides that "any emission standard established pursuant to this section shall become effective upon promu lgation." There are two exceptions to this requirement. First, with respect to existing sources, Section 112(c)(1)(B)(i) states that standards "sh all not apply until 90 days after [the standard's] effective date." Second , Section 112(c)(1)(B)(ii) allows a waiver of up to 2 years for an existing s ource if the Administrator finds that such a period is necessary for the instal lation of controls and that steps will be taken during the period of waiver to ensure that the health of persons will be protected from imminent endangerm ent.

Thus, the statute requires NESHAPs t o become effective immediately for new sources and within 90 days for existi ng sources, unless the Administrator has grounds to grant a waiver for longer than 90 days.

Requirements relating to recordkeepi ng and monitoring are authorized by Section 114 of the Clean Air Act and, thu s, are not subject to specific restrictions regarding when they go into affect.

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The EPA agrees with the commenters' concern and has decided to allow 30 days from the date of promulgation before the new waste tracking requirements go into effect. The revisions proposed on January 10, 1989, already contained a provision giving 1 year before the demolition and renovation training requirements become effective. For the other proposed revisions, EPA believes that additional time is not necessary, and they become effective upon promulgation.

3.15 STORAGE AND TRANSFER

Comment: Commenter 84 recommends that specific regulations for waste storage and transfer be added to the NESHAP.

Response: The storage of waste at the site of generation and at the disposal site is clearly covered by the NESHAP. The waste generator is responsible for ensuring that waste is taken to an acceptable landfill including the time from when the waste leaves the generator's site until it reaches the landfill.

3.16 ALTERNATE METHODS

Comment: Commenter 78 opposes the proposed revision of delegable authorities. Commenter 59 argues that the regulation should state that, if

the NESHAP is adopted by a State and if it has primacy, EPA should relinquish their approval procedures and turn them over to the State.

Response: The provisions of the asbestos NESHAP that are nondelegable relate to alternate methods of treatment, control, and disposal. The intent of this requirement of Federal approval is to provide national consistency in an area that would have no such consistency without Federal control. The basic enforcement authority of the underlying NESHAP remains delegable to the individual States. Therefore, EPA is exercising Federal control only in the area that is most in need of consistency across the country. Many commenters stated that one of the problems with the NESHAP had been a lack of consistency from jurisdiction to jurisdiction. The limitations on delegation help to address such concerns.

3.17 RESPONSIBILITY FOR COMPLIANCE

Comment: Commenters 76 and 80 support the concept that each party, generator and disposal site owner, be responsible for only those aspects that are reasonably under their control.

Response: Prior to these revisions, the waste generator was responsible for selecting a disposal site that met the requirements of the asbestos NESHAP; the disposal site was not directly regulated. Under these revisions, the disposal site owner or operator is responsible for complying with the asbestos NESHAP provisions for waste disposal, but the waste generator continues to be responsible for ensuring that the asbestos waste is delivered to a disposal site operated in compliance with the NESHAP.

3.18 NONCOMMERCIAL ASBESTOS

Comment: Commenter 56 requests that EPA consider addressing naturally occurring, noncommercial asbestos in the current revisions to the NESHAP.

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Response: The EPA is currently studying contaminant asbestos and the possibility of regulating it under the NESHAP at a later date. A previous study of the use of asbestos-contaminated crushed stone in unpaved roads concluded that such uses were infrequent and restricted to a few geographic areas; therefore, such uses were better suited to regulation by local authorities rather than by national regulations. It should also be noted that under the demolition and renovation and spraying provisions, EPA does not distinguish between commercial (deliberately added) and noncommercial (including contaminant) asbestos. The EPA may also consider revisions in a later rulemaking that would regulate the use of insulating materials containing asbestos regardless of whether or not the asbestos is commercial asbestos.

4.0 DEFINITIONS

4.1 GENERAL

Comment: Commenter 57 agrees that the proposed revisions to the definitions are an improvement over the existing language.

Response: No response is necessary.

4.2 ASBESTOS-CONTAINING WASTE MATERIAL

Comment: 1. Commenter 22 asserts that "containers that previously contained commercial asbestos" could include trucks, railcars, etc., and suggests that EPA replace it with "or other similar packaging used in direct contact with commercial asbestos."

2. Commenter 26 states that the definition should include "asbestos-contaminat abatement project because it is not part of a facility component.

3. Commenters 35, 49, and 63 request a clarification of the definition and ask if the laundering of asbestos-contaminated clothing is prohibited; they note that OSHA allows laundering of contaminated clothing.

4. For demolition and renovation, commenter 93 suggests that the wording be revised to apply to friable waste material, waste from control devices, and contaminated equipment and clothing.

Response: 1. As suggested by the comment, EPA did not intend for trucks or railcars used to transport commercial asbestos to be considered asbestos-containi or plastic bags for delivery to asbestos manufacturing plants. It is these bags and similar packaging that are likely to be contaminated with asbestos after being emptied and that EPA intends to cover as asbestos-containing waste material. The EPA will modify the definition to make this clear.

2. The EPA agrees with the commenter and intends for the definition to cover asbestos-contaminated debris, which is present prior to the demolition or renovation operation.

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3. Asbestos-contaminated clothing is used as an example of the types of materials that might be considered to be asbestos-containing waste material. The EPA did not intend to contradict OSHA rules that allow the laundering of asbestos contaminated clothing. Only asbestos-contaminated clothing that is to be disposed of, whether disposable or not, would be covered by this definition. The EPA will revise the definition to make this clear.

4. It is still EPA's position that, as applied to demolition and renovation, this term applies to friable asbestos waste and not to nonfriable asbestos waste that has not been crumbled, pulverized, or reduced to powder.

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The definition has been revised to clarify the waste materials subject to the standard.

4.3 COMMERCIAL ASBESTOS

Comment: Commenter 20 recommends revising the definition of "commercial asbestos." They assert that the term "value" in the definition is argumentative and not consistent with the intent of Section 112 of the Clean Air Act.

Response: This term is used in the requirements that apply to asbestos mills, manufacturers, and fabricators as well as asbestos insulation. It is EPA's intent to regulate sources where asbestos is deliberately added, although in the case of demolition, renovation, and spraying, contaminant asbestos may also be covered because it is not possible for these sources to determine the origins of the asbestos content.

The definition is revised to make it consistent with EPA's policy determination, which stated that materials to which asbestos is added and that are increased in value due to the added asbestos are commercial asbestos and are, therefore, subject to the NESHAP, no matter what they are called. The EPA does not consider the term "value" to be either argumentive or inconsistent with the intent of Section 112 of the Clean Air Act.

4.4 DEMOLITION

Comment: 1. Commenter 4 suggests that the definition of "demolition" should be revised to prohibit the burning of demolition debris because the heat can cause asbestos to be released from nonfriable material.

2. Moreover, Commenter 4 suggests that the definition should also prohibit the abandonment of buildings, a major source of asbestos emissions.

3. Commenter 70 believes that the inclusion of intentional burning in the definition of "demolition" is premature.

4. Commenter 84 recommends adding salvage operations to the definition of "demolition."

5. Commenter 18 asks for a clarification of load-supporting structural member and whether or not it includes equipment.

6. Commenter 84 recommends adding " including the stripping or removal of asbestos-containing material from facility components" to the definition.

Response: 1. Because the current standard does not prohibit the burning of demolition debris, any change to prohibit this activity would be considered

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an increase in the stringency of the regu lation. The EPA will consider the need for revisions that alter the stringe ncy of the NESHAP at a later date.

2. While EPA agrees that abandoned and vacant buildings may become emission sources, particularly where the asbestos has been disturbed by illegal scavenging operations, EPA believ es that emissions from such buildings are low and has no information to the con trary. Therefore, EPA believes that including abandoned and vacant buildings in the definition of "demolition" is unwarranted at this time.

3. Concerning the comment that the inclusion of intentional burning is premature, enforcement officials requeste d this change based on their enforcement experiences. Although EPA be lieves that the intentional burning of facilities, which would be subject to the NESHAP if demolished, will not occur very often, it is important to cont rol such sources to avoid inadvertent exposures that would result from the burn ing, waste collection, and disposal of the asbestos-contaminated material.

4. The EPA realizes that the unauth orized removal of equipment for its salvage value may be a problem. Such ope rations are, however, regulated under the NESHAP provisions for renovation when the threshold quantities of asbestos are exceeded. Equipment is considered to be a facility component, and any alteration of a facility component, inclu ding removal or stripping, is covered as part of a renovation. Operations that involve wrecking or taking out structural members are demolitions.

5. The meaning of the term "load-supporting structural member" has not been changed from its meaning in the stan dard in effect prior to the January 10, 1989, proposal, and refers to structural components such as beams and load-supporting walls. Equipment, however, do es not typically serve as a load-supporting structural member; it is consi dered part of a facility (i.e., a facility component).

6. Demolition refers to a specific activity, "...the wrecking or taking out of any load-supporting structural member..." The str ipping or removal of asbestos, which is already covered by the NESHAP, is an activity that must precede the wrecking or taking our of loa d-supporting structural members and, technically, cannot be considered demolit ion, although it may occur as part of an overall project to demolish a structur e. The EPA believes it is preferable to retain this distinction.

4.5 EMERGENCY RENOVATION OPERATION

Comment: Commenters 9, 14, 41, 42, and 49 state that the scope of the term "emergency renovation operation" sho uld not be limited to events resulting in "unsafe conditions," but sho uld include events such as fires, ruptured pipes, boiler failures, and othe r situations that could present potential public health or safety hazards if not immediately attended to. Commenter 18 asks if the definition would include the release of asbestos into the air. Commenter 63 recommends that th e definition include operations necessary to protect equipment from signi ficant damage.

Response: Events that would necessi tate an emergency renovation include those that may produce immediately unsafe conditions as well as those that, if

not quickly remedied, could reasonably be foreseen to result in an unsafe or

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detrimental effect on health. For example, a boiler in an apartment building that suddenly malfunctions during the winter would need to be repaired immediately. To protect equipment from significant damage and to avoid imposing an unreasonable financial burden by requiring sources that experience a sudden unexpected equipment failure to wait 10 days, the final rule includes equipment damage and financial burden as additional reasons for emergency renovations. However, the exemption from wetting is not automatic whenever equipment would have to be shutdown to perform repairs or maintenance. Industry should not routinely request an exemption from the wetting requirements in order to avoid shutting down equipment.

4.6 EPA ID NUMBER

Comment: Commenters 61 and 63 argue that the definition of EPA ID number is unclear. Commenter 61 notes that EPA assigns ID numbers to hazardous waste generators under Subtitle C of the Resource Conservation and Recovery Act (RCRA) and that, because asbestos is not a RCRA hazardous waste, not all asbestos waste generators will have EPA ID numbers. Commenter 63 observes that the proposed rule does not indicate how an ID number is to be obtained. Commenter 84 recommends use of the contractor's license number under the Asbestos Contractors Tracking system for EPA ID number.

Response: The EPA has reconsidered the matter of an EPA ID number and has determined that the name of the owner/operator and address will suffice to identify and locate violators. The requirement to obtain and report an EPA ID number will be deleted from the NESHAP.

4.7 FABRICATING

Comment: Commenter 28 suggests revising the definition to specify that bonding and debonding operations are covered only when there is grinding or sizing involved. The asbestos waste generated from bonding and debonding is small and the significance to human health of the air emission is questionable.

Response: The EPA agrees that facilities that only debond worn brake linings from brake shoes and bond new linings to the old brake shoes are not significant emission sources. It is only when grinding, sawing, drilling or other similar operations are performed on the asbestos lining that significant asbestos emissions occur. Because these operations are currently covered by the NESHAP, inclusion of the reference to bonding and debonding was intended to clarify what kind of friction product fabricators are covered. The EPA will modify the definition to be more specific as to which bonding and debonding operations are covered.

4.8 FACILITY

Comment: 1. Commenter 4 requests that the definition of "facility" include the accidental accumulation of asbestos debris resulting from weathering or other deterioration, and exclude certain structures known to contain no asbestos, e.g., bridges, dams, foundations, and motors.

2. Commenter 70 believes that the definitio include private residences having more than four dwelling units. Because "dwelling units" is not defined, it does not clearly limit the application to apartments. Commenter 70 states that the definition should be changed to clearly exclude private residents, outbuildings, garages, barns, and other farm buildings. Commenter 83 endorses the addition of "any ship" to the definition of "facility."

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3. Several commenters argue that th e exclusion of residential facilities having four or fewer dwelling units should be eliminated. Commenter 89 argues that residential demo lition/renovation and waste disposal involve significant quantities of asbesto s and should be regulated. Commenter 54 asserts that residential buildings hav ing four or fewer units should not be exempt from the work practices' provision s even if they are exempt from the notification requirements. Commenter 94 recommends that only facilities with one dwelling unit be excluded because ren ters of apartments are frequently exposed as a result of asbestos work perf ormed by untrained workers.

Response: 1. Facilities containing asbestos that has fallen off facility components or accumulated otherw ise, are covered by the standard. The owners/operators of such facilities are s ubject to the NESHAP any time that they remove any friable asbestos, in amou nts above the threshold, from the facility. Regarding the commenter's reco mmendation to exclude certain structures known to contain no asbestos, it is not clear that in some instances such structures, or associated structures, would not contain asbestos. The EPA believes that it is pr udent not to exclude such structures.

2. Private residences and associate d outbuildings are currently excluded from coverage. Outbuildings associated w ith commercial or other types of facilities covered by the standard would also be covered.

3. The recommendation to remove the exemption for residential facilities having four or fewer dwelling units would expand the scope of the rule. Revisions that alter stringency may be co nsidered during a later rulemaking. However, EPA does not consider residentia l structures that are demolished or renovated as part of commercial or public projects to be exempt from this rule. For example, the demolition of one or more houses as part of an urban renewal project, a highway construction p roject, or a project to develop a shopping mall, industrial facility, or ot her private development, would be subject to the NESHAP. The owner of a ho me that renovates his house or demolishes it to construct another house would not be subject to the NESHAP.

4.9 FACILITY COMPONENT

Comment: The definition of "facilit y component" in effect prior to the January 10, 1989, proposal should be reta ined according to commenters 42 and 49. Commenters 42 and 49 explain that th e proposed definition is less precise, especially in light of the absen ce of a definition for "equipment." If the definition is revised, exclude "po rtable equipment" from the definition.

Response: The EPA intends that any part of a facility containing, covered with, or coated by asbestos be su bject to the NESHAP. The list of facility components contained in the defi nition was an attempt to characterize all of the components that potentially co uld be found in a facility. Occasionally, however, questions arise ab out the applicability to components not specifically listed in the current de finition. The more general definition addresses those types of quest ions. Regarding the request to exclude portable equipment, EPA wants to regulate portable equipment at a facility if the piece of portable equipme nt contains, is covered with, or is coated by asbestos.

4.10 FRIABLE ASBESTOS MATERIAL -MATERIAL COVERED

Comment: 1. Commenter 22 asserts t hat this term is being expanded to include asbestos -cement (A/C) and other nonfriable materia l that may be

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"broken" and should not be included unles s evidence is presented that excessive amounts of fibers would be rele ased. Commenters 47, 48, 93, and 95 request that the term "broken" be defined or deleted to show that the addition of this term to the definition of "friabl e asbestos material" does not affect the nonfriable nature of resilient floor covering or other similar nonfriable materials. Commenter 21 suggests that EP A clarify whether or not material that can be broken is considered friable, or is it necessary that the material be broken to produce dust before it is co nsidered friable.

2. Commenter 77 states that the use of "hand pressure" to determine friability or ability to release fibers i s vague, and feels that a standardized method is needed to determin e friability.

3. Commenter 89 expresses the need to clarify the definition of "friable asbestos material" to explain that crumbl ed, pulverized, etc., means to be crumbled, etc., to a powder, and not crum bled as a piece of paper without reducing it to powder.

4. Commenter 29 requests that EPA p ublish a list of "friable" materials, and commenter 47 suggests that EPA specif ically exclude resilient floor covering unless it is sanded.

5. Commenter 95 supports EPA's resi stance to revising the definition because it is well established and widely accepted.

6. Commenter 29 believes that EPA s hould define "friability" in any way that suits its needs and feels that the h and friability test is not appropriate for demolition and renovation activities because the concern should be whether or not asbestos is emit ted when the material is subjected to the forces of demolition and renovation. They assert that the definition should incorporate the aspect of mechanic al forces that are likely to act on the asbestos material. Commenter 14 sugg ests that the current interpretation of friable asbestos, explained in the pre amble, should be included in the regulation to clarify what is regulated.

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Commenter 93 recommends deleting the word "broken" from the definition, asserting that it misses the point of EPA 's 1974 policy determination, which exempts nonfriable material from the NESH AP, because many types of nonfriable material can be broken by hand but cannot be crumbled by hand pressure. Similarly, commenter 95 argues that the a ddition of "broken" expands coverage because many nonfriable materials can be broken, although the potential for fiber release is low. Commenter 95 furth er argues that vinyl floor tile broken during demolition or renovation do es not become friable and that this point should be made clear.

Commenter 83 suggests modifying this definition to include previously nonfriable material rendered friable, rat her than attempting to condition numerous individual definitions where thi s may apply. They argue that the proposed approach leads to inconsistency in the use of terms "asbestos -containing ma asbestos material." Commenter 83 suggest s use of the term "asbestos -containing mate "rendered friable."

Response: 1. Addition of the word "broken" to this definition was not intended to expand applicability to nonfr iable materials, but was intended to complement and be consistent with the cur rent meaning of "...crumbled, pulverized, or reduced to powder..." Thi s phrase refers to characteristics that are likely to result in asbestos fib ers becoming airborne. Upon

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reconsideration, EPA has decided that the term "broken" is likely to create confusion and possibly lead to misapplication of this definition, and, EPA therefore, has decided to eliminate "broken" from the definition.

2. The American Society for Testing and Materials (ASTM) has investigated objective methods for determining friability, but because of several difficulties encountered in trying to develop a method, the investigation was not completed. The EPA agrees that the use of hand pressure to determine friability may be somewhat subjective in some instances. The EPA believes that for most materials, however, use of hand pressure is adequate to determine friability.

3. In this definition, crumbled is not analogous to crumpling a piece of paper. The EPA interprets "crumbled" to mean easily crumbled into a large number of places. To assist in the appropriate application and interpretation of the NESHAP as it applies to nonfriable materials, EPA will issue additional information to all relevant parties that will address the commenter's concern on the treatment and handling of nonfriable asbestos material.

4. In the revisions proposed on January 10, 1989, EPA listed the nonfriable materials that normally would be exempt from the requirements for demolition. The EPA is also providing additional clarification on the handling and treatment of nonfriable materials including A/C materials. The EPA feels that by listing the nonfriable materials and through the process of elimination, the commenter's request for a list of friable materials is

satisfied. Resilient floor covering will be one of the nonfriable materials normally exempted from the demolition provisions. The revised NESHAP will explicitly require controls on the sanding of floor covering.

5. The EPA has resisted making major changes to this definition because it is well established and widely accepted. However, the change requiring the use of a specific method of determining asbestos content is long overdue and will reduce confusion over what activities are subject to the regulation.

6. The EPA considered, but rejected, a revision to this definition to include materials that can be crumbled, pulverized, or reduced to powder by the mechanical forces expected to act on the material. The EPA believes, however, it is useful to distinguish between material that can be easily crumbled, etc. to a powder, i.e., friable material, and material that is normally nonfriable that as a result of the forces associated with demolition and renovation, may become crumbled, pulverized, or reduced to a powder and is therefore, capable of releasing asbestos fibers in amounts similar to friable material. Also, although nonfriable material may be broken or crumbled and capable of releasing asbestos, it does not necessarily become friable. Rather than modifying the definition of "friable asbestos material," the definition of "asbestos-containing material" has been replaced with "regulated asbestos-contain nonfriable materials that are likely to be crumbled, pulverized, or reduced to powder in the course of demolition or renovation operations; nonfriable materials that are in poor condition as indicated by peeling, cracking, or crumbling of the material; and nonfriable materials that are subjected to sanding, grinding, cutting, or abrading. Additional discussion of the issue is presented in Section 7.1.1 of this BID.

4.11 FRIABLE ASBESTOS MATERIAL - ANALYTICAL METHOD

Comment: 1. Commenters 17, 35, and 70 support the proposed changes to the definition of "friable asbestos material," specifically the change to

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percent by area. Commenter 69 argues tha t to go from percent weight to percent area may have major impact on cov erage because there may be wide discrepancies in the results reported by the two methods. Commenter 69 provides an example of this stating that a cement-based fireproofing that contained 30 percent asbestos by area con tained less than 1 percent by weight. Commenter 70 feels the definition of "fri able asbestos material" is appropriate; however, the method referenc ed should not be limited to point counting, in view of 47 FR 1982, p. 38535 , which clarifies the acceptability of "an equivalent estimation method." Co mmenter 78 states that the definition would require asbestos content to be dete rmined by transmission electron microscopy (TEM) analysis, and that the h igh cost of TEM should be considered. Commenter 78 recommends that the current method continue to be accepted with TEM specified over other methods.

2. Commenter 22 prefers that the me thod for percent by area not be referenced but be included in final rule, while commenters 28 and 29 prefer that the method be incorporated by refere nce.

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3. Commenter 21 suggests clarifying the definition to avoid misinterpretation of area as the method o f expressing analytical results; e.g., some persons may interpret "area" t o mean the area of the building surface that contains asbestos.

Response: 1. The revisions to the asbestos NEHSAP proposed on January 10, 1989, would have changed the definition of "friable asbestos material" from "greater than 1 percent we ight" to "greater than 1 percent area" and referenced a method for the ana lysis. Because the method referenced actually contains two analytical methods --polarized light microscopy (PLM) which currently measures area, and x -ray diffraction (XRD) which measures weight--EPA has modified the definition to specif y the use of PLM to avoid possible confusion as to which method is referenced. Because the PLM method measures percent area, the phrase "by are a" is not necessary and has been taken out of the definition. The differe nce between percent area and percent weight depends on the density and volume of materials in the sample. These relationships are described in Asbestos C ontent in Bulk Insulation Samples: Visual Estimates and Weight Composition (EPA-560/5-88-011, September 1988). However, the fact remains that the PLM pr ocedure used to determine the amount of asbestos in building materials (Interi m Method for the Determination of Asbestos in Bulk Insulation Samples) EPA -600/M4-82-020, December 1982) measures percent area and not percent wei ght. PLM laboratories polled at meetings of the National Asbestos Council admitted that percent area is what they measure and report. Accordingly, th ere should be little or no impact on the standard by the proposed change.

Point counting is not required for t he PLM procedure. An equivalent visual estimation technique may be used. Visual estimation may be made during macroscopic examination by using a stereo binocular microscope, resulting in a volume estimation of components. For mos t samples, quantitation by macroscopic examination is preferred. Vi sual estimation may also be made during polarized light microscopy (PLM) e xamination, resulting in a projected area estimation of components. However, if point counting is not used and the reported asbestos content is less than 10 percent, EPA has revised the definition to require the point counting technique using PLM. Point counting, a systematic technique for estimating con centration, may be useful in quality assurance activities, especially in estab lishing a relationship between point counts and visual estimation procedures.

The accuracy of quantitation data fr om either technique of estimation is

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dependent upon several factors, including : sample homogeneity, asbestos content, asbestos fiber size, the presenc e of interfering matrix/binder material, and the skill of the microscopi st. It is suggested that the quanatitation skill of the microscopist m ay be improved and concurrently verified through the use of calibration s tandards. These standards may include well-characterized bulk materials or in-house calibration standards formulated by mixing known weights of com monly available fibrous (asbestos, cellulose, glass, etc.) and nonfibrous (p laster, clay, vermiculite, calcium carbonate, etc.) materials.

For some materials, experience has s hown that gravimetry (gravimetric sample reduction) is a viable technique t o aid in the determination of asbestos content. The technique involves the systematic removal (and determination of the resulting weight los s) of interfering components, and the concentration of asbestos in a residue, t he components of which are identified by PLM. EPA is currently conducting rese arch to develop procedures that will help determine the appropriate analytical procedure to use based on the type of material, the level of asbestos presen t in the material, as well as other factors.

TEM is not recommended for routine a nalysis of bulk samples. TEM may be useful in the analysis of special materia ls containing finely divided asbestos particles. The EPA is currently reviewin g procedures for analyzing and identifying categories of such materials to determine if additional guidance should be issued to provide for these mat erials.

2. One advantage to including the a nalytical method for the identification and quantitation of asbest os directly in the NESHAP is that the method is then readily available to those who have an interest in the asbestos NESHAP. A disadvantage of this approach is that, when the analytical method is revised as a result of improvements in methodology, the analytical method contained in the NESHAP cannot be changed without going through lengthy and time-consuming procedures to amend the regulat ion. in this situation, referencing the method, rather than putti ng the method into the regulation, would allow any revisions in analytical m ethodology to be immediately incorporated into the NESHAP. The EPA co nsiders this aspect to be extremely important and for this reason has decided to incorporate the analytical method by reference. Furthermore, EPA believes that most of the individuals that are affected by this aspect of the rule, i.e. , abatement contractors and laboratories, are familiar with the metho d and its location in 40 CFR Part 763, Subpart F.

3. The EPA believes that, by includ ing the analytical method used to determine asbestos content in the definit ion, future misinterpretation of the definition is unlikely.

4.12 FUGITIVE SOURCES

Comment: Commenter 28 recommends re vising the definition of "fugitive sources" to apply to mills, manufacturing , and fabricating sources not controlled by an air pollution control de vice.

Response: Fugitive emissions are th ose emissions that are not controlled by an air pollution control device, e.g., emissions from windows, doors, waste-piles, roof vents, and conveyors. Fugiti ve emissions at milling, manufacturing, and fabricating sources ar e controlled by Sections 61.142(a), 61.144(b)(1), and 61.147(b)(1), respectiv ely. Therefore, EPA does not believe

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it necessary to revise the definition as suggested.

4.13 GENERATOR

Comment: Commenter 83 notes that "g enerator" is not defined in the proposed rule and asked if the building o wner or the contractor is the generator.

Response: As the commenter correctl y notes, "generator" is not defined, although "waste generator" is. The revis ed rule will use the term "waste generator" where only "generator" was use d before.

The waste generator at a demolition or renovation can be either the building owner or the contractor, or both based on the definitions of "waste generator," which refers to any owner or operator covered by the NESHAP that produces asbestos waste, and the definiti on of "owner or operator of a demolition or renovation activity," which applies to either the building owner or the contractor, or both.

4.14 GLOVE BAGS

Comment: Commenter 84 suggests that EPA not endorse glove bags to the exclusion of other, more effective techno logical solutions.

Response: The EPA intends to allow the use of glove bags, an effective, commonly used technology that is consiste nt with EPA's wetting requirements. The EPA also allows alternative methods t hat have been approved by the Administrator.

4.15 INACTIVE WASTE DISPOSAL SITE

Comment: Commenter 45 asks if the d efinition of "inactive waste disposal site" includes sites that were inactive 1 year or more prior to the effective date of this proposal.

Response: The revised definition do es not alter the sources that are covered (sites that were operated by mill s and manufacturing and fabricating operations) and applies to the affected, existing inactive sites. Sites that were inactive 1 year or more prior to the effective date are still covered.

4.16 INSPECTION PORTS

Comment: Commenter 84 explains the importance of adopting a definition for "inspection ports" and requiring thei r use by inspectors for the observation of asbestos removal operation s without having to enter the work area.

Response: The EPA must be afforded the opportunity to inspect or observe a removal operation. To the extent feasi ble, owners/operators should provide for compliance monitoring without the ins pector having to enter the workplace. Inspection ports or some other means of o bserving a removal operation are especially useful in areas where inspecto rs are not allowed to enter the work

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site for liability or other reasons. Because the opportunity for inspection is already required, EPA does not believe that a separate requirement for inspection ports is necessary.

4.17 INSTALLATION

Comment: Commenter 83 argues that the definition of "installation" needs clarification and asks whether a group of residential buildings would be excluded. They argue that a group of residential buildings at one location being demolished or renovated by one developer should be covered.

Response: A group of residential buildings under the control of the same owner or operator is considered an installation according to the definition of "installation" and is, therefore, covered by the rule. As an example, several houses located on highway right-of-way that are all demolished as part of the same highway project would be considered an "installation," even when the houses are not proximate to each other. In this example, the houses are all under the control of the same owner or operator, the highway agency responsible for the highway project.

4.18 LOCATION AND ADDRESS

Comment: Commenter 15 requests that "location and address" as used in Section 61.145(b)(4)(vi) be defined to require the street number or the street the facility is on or the distance from the nearest crossroad if no street number exists. The commenter explains that some notifications only give a post office box number.

Response: The EPA agrees that location and address may not always be sufficient. Rather than defining these terms, EPA has revised Section 61.145(b)(4)(vi) to require more specific information.

4.19 MALFUNCTION

Comment: Commenter 93 requests revision of the definition of "malfunction" to reference American National Standards Institute (ANSI) specifications for operating local exhaust systems.

Response: The EPA is concerned with malfunctions of air pollution control equipment and process equipment and the failure of a process to operate in a normal manner such that increased asbestos emissions result. Poor maintenance and careless operation of equipment or process leading to failure are not considered malfunctions. The recommendation that the definition of malfunction reference the ANSI specifications for local exhaust systems could be construed as narrowing the definition to apply only to local exhaust systems and, for that reason, is not acceptable to EPA.

4.20 NATURAL BARRIER

Comment: Commenter 18 notes that, in the revisions proposed on January 10, 1989, "natural barrier" is identified as a revised term in instruction number 4 to Section 61.141, " Definitions," while it is actually a new term.

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Response: As this commenter correctly points out, "natural barrier" is a new term.

4.21 NONFRIABLE

Comment: Commenters 15 and 69 assert that the meaning of "nonfriable" is unclear because it was not defined in the revisions proposed on January 10, 1989. A problem may result if it is considered the opposite of friable. Commenter 39 also argues for a definition of "nonfriable" and asserts that, like "friable," the threshold of at least 1 percent by area should apply.

Response: The EPA agrees that the meaning of "nonfriable" is unclear. The EPA considers nonfriable asbestos material to be material containing more than 1 percent asbestos by area that cannot be broken, crumbled, pulverized, or reduced to powder by hand pressure, and has added a definition to that effect.

4.22 NONSCHEDULED RENOVATION OPERATION

Comment: 1. Commenters 9, 40, and 61 assert that the term "nonscheduled renovation operation" should be deleted or substantially modified to clarify its meaning within the context of the regulation. Commenter 9 believes, for example, that it is contradictory to state that "planned renovation operations" can involve individual nonscheduled operations when the definition of "nonscheduled renovation operation" means a renovation that is not planned. Commenter 61 states that it is not logical to require a prediction of a nonscheduled event. Commenter 73 points out that EPA does not discuss the meaning of "routine," which is used in the definition of "nonscheduled renovation operation."

2. Commenter 40 recommends that EPA revise the definition to include maintenance and preventive maintenance activities as well as actual failure of equipment.

Response: 1. Although the usage of the term "nonscheduled renovation operation" in the context of planned renovations may appear contradictory, the term applies to individual events that cannot be precisely predicted as to their specific nature and time of occurrence but, based on experience, will occur. For example, a petroleum refinery or chemical plant must routinely deal with faulty valves, pumps, and pipes and other failures that occur occasionally. Because such equipment failures have occurred in the past, plant operators know that similar problems will occur in the future, although the exact date and the exact location are unknown. But the plant operators

can be certain that they will occur and can plan accordingly. Similarly, the use of the word "routine" in the definition applies to equipment failures that, based on experience, can be predicted to occur; that is, they occur as a matter of routine, although the exact date and location cannot be predicted. Activities that do not occur routinely are not covered by this definition.

2. If the amount of asbestos that will be disturbed as part of a maintenance activity will exceed the threshold amounts and the activity can be planned (that is, the date and nature of the work to be done are known in advance), then the activity is a planned renovation subject to the requirements of Section 61.145(a)(4). Maintenance activities that occur as a result of the routine failure of equipment cannot be precisely predicted and would be included in the annual notification requirement for planned

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renovation operations involving individua l nonscheduled operations. A maintenance activity performed in connect ion with a sudden unexpected event, where the amount of asbestos affected exc eeds the thresholds, is considered an emergency renovation.

4.23 OUTSIDE AIR

Comment: 1. Commenter 49 states th at EPA is expanding the definition of "outside air."

2. Commenters 66, 77, and 84 sugges t that the definition of "outside air" should cover air external to the rem oval area, as well as outside glove boxes and containment areas, including ai r inside buildings.

Response: 1. The EPA is clarifying the definition and not expanding it, as suggested by the commenter. The revis ed language is not intended to alter the meaning of the definition, but rather to clear up any ambiguity regarding what EPA considers "outside air" to encom pass.

2. The EPA does not consider the sug gested change necessary because dusty conditions are an indication of work prac tice violations, and the owner/operator could be cited for these. The EPA does not want to be in the position of having to prove that any emis sions outside a work area actually contain asbestos; it is adequate to rely on the enforcement of work practices to ensure that asbestos emissions are kep t to a minimum. Furthermore, the suggested revision would alter the string ency of the regulation. Today's rulemaking is intended to promote complia nce and aid enforcement. The need for revisions that affect stringency may be considered at a later date.

4.24 OWNER OR OPERATOR OF A DEMOLITION O R RENOVATION ACTIVITY

Comment: 1. Commenter 13 argues tha t, once an abatement contractor leaves the site, he/she is no longer liab le because he/she is no longer "operating." Commenter 13 suggests rewor ding the definition to read as follows: "...in the case of multiple ope rators both the contractor and the asbestos abatement contractor are conside red as 'the operator' throughout the duration of activity at the site.

2. Commenter 33 states that the def inition appears to extend responsibility beyond owners and operator s. Given the people with various responsibilities at a project (such as in dustrial hygienists, engineers, architects), it would help to further def ine "operate," "control," and "supervise."

3. Several commenters think the def inition is confusing. Commenter 61 argues that the definition seems to indic ate that "owner" and "operator" are interchangeable, while the waste tracking form in figure 4 implies that operator refers to the removal contractor . Commenter 94 feels that separate definitions are needed for the facility o wner ("owner") and abatement contractor ("operator") to ensure that th ey both are held accountable. Commenter 55 states that the definition o f "owner or operator of a demolition or renovation activity" is confusing and that the "owner" should be the building owner and the "contractor" shoul d be defined as the one responsible for the asbestos abatement.

4. Commenter 83 endorses the additi on of the words "or both" to the definition of "owner or operator."

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5. Commenter 17 supports broadening the definition of "owner or operator of a demolition or renovation activity" to cover both the owner of the facility and the property owner.

Response: 1. The EPA disagrees with the commenter's assertion that the contractor cannot be held responsible after he/she has left the work site or after he/she had completed his/her work. Both the owner and operator can be held responsible. The EPA does not, therefore, believe it is necessary to revise the definition.

2. The definition was added to help clarify responsibility for compliance and includes the owner of the facility as well as the current owner of the property on which the facility is located. It also includes the person in charge of a demolition or renovation operation. The EPA believes that the definition is adequate and does not warrant being revised, but will provide additional information to be issued later to assist affected parties in implementing the revisions.

3. In response to the commenters who feel that the definition needs to be clarified, EPA has decided that the definition is adequate. Additional information will be provided to all affected parties at a later date to assist in the implementation of the revision.

4. No response is necessary.

5. The definition does not actually broaden the coverage of the rule, but helps to clarify the rule as it is currently interpreted.

4.25 PARTICULATE ASBESTOS MATERIAL

Comment: Commenter 93 recommends deleting the definition of "particulate asbestos material."

Response: This term is used several time in the regulation, for example, in Section 61.142(a), 61.144(b)(2), 61.147, and elsewhere. Because this term is not defined in the General Provisions, 40 CFR Part 61, Subpart A, EPA believes it is useful to define the term in this rule.

4.26 REMOVE

Comment: Commenter 70 argues that the definition of "remove" should be revised and suggests that it should be changed to include facility components that "contain" asbestos.

Response: Because it is EPA's intention to regulate any asbestos that is removed, the definition of "remove" has been modified to make it clear that asbestos-containing facility components are included.

4.27 RENOVATION

Comment: Commenter 63 feels that the definition of "renovation" should be revised to apply to nondemolition asbestos removal because many procedures involve asbestos removal but do not alter components. Commenter 89 is concerned that the definition of "renovation" is overly broad and could be

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interpreted to apply to the transfer of s tored shingles from one end of a warehouse to another.

Response: The EPA believes that the revised definition of "renovation" is clear in that any stripping or removal of asbestos-containing material is covered (unless it is a demolition). As written in the revised definition, stripping or removal of asbestos is a for m of alteration of facility components. Therefore, the commenters' c oncerns are covered by the definition of "renovation." The EPA disagrees that the definition is so broad that the movement of stored transit would be inter preted as a renovation; this has not been a problem with the definition previo usly, and with the reference to "the stripping or removal of ACM," the intende d meaning of "renovation" should be obvious.

4.28 ROADWAY

Comment: Commenter 89 asserts that the definition of "roadway" is not consistent with the discussion in the pre amble to the proposed revisions.

Response: After examining the full text of this comment and the affected parts of the regulation and preamble, it appears that the commenter has confused two separate aspects of the regu lation by matching the proposed definition of "roadway" with the preamble discussion of the provisions that restrict the use of asbestos material in roadway construction.

4.29 TRANSPORT

Comment: Commenter 15 asks that "tr ansport" be defined.

Response: The EPA believes that thi s is a commonly understood term that does not require defining.

4.30 VISIBLE EMISSIONS

Comment: 1. Commenters 12, 93, and 54 support the addition of "coming from asbestos-containing material" to the definition of "visible emissions."

2. Commenter 12 supports the exclus ion of condensed, uncombined water vapor, although no mention is made of tra ining to make such a determination. They feel persons certified for Method 9 are taught to make this distinction; therefore, observations should be made by a certified observer.

3. Commenters 22 and 23 suggests th at expanding the definition to include emissions that do not contain asb estos does not seem appropriate. Commenter 93 argues that deleting "contai ning particulate asbestos materials" from the definition expands coverage beyo nd just asbestos emissions. Commenter 20 recommends that the term "ge nerated from operations involving" be substituted for "coming from" in the defi nition. Commenter 84 objects to the term "coming from asbestos-containing material" and recommends that the definition in effect prior to the propose d revisions be retained. Commenters 28 and 58 argue that EPA should retain th e definition in effect prior to the proposed revisions, and they point out th at the assumption that visible emissions from asbestos-containing material contain asbestos does not apply to nonfriable material.

4. Commenter 70 asserts that the de finition should also include "from asbestos-containing waste materials," and should i nclude emissions "having

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come" from asbestos material, such as asb estos in amounts clearly visible on the ground.

5. Commenter 54 suggests that an ad ditional procedure be added to ensure proper removal techniques.

6. Commenter 80 believes that the d efinition is subjective and does not provide landfill operators with the neces sary guidance to comply; commenter 80 suggests that compliance be determined by air monitoring for asbestos.

7. Commenter 21 requests that EPA a mend the definition to include visible airborne dust, i.e., dust suspend ed in the atmosphere, which is being emitted to the outside air.

Response: 1. No response is necess ary.

2. In EPA's experience with the asb estos NESHAP, observers not certified for Method 9 are, nevertheless, able to d istinguish condensed, uncombined water vapor from other visible emissions. The EPA sees no need to add a certification requirement to the rule.

3. In the proposed revisions, the d efinition was changed so that EPA would not have to prove the presence of p articulate asbestos material in each plume observed, only that the visible emi ssion came from asbestos -containing material. In milling, manufacturing, and fabricating operations, where preventing a visible emission is one comp liance option, emissions from the processing of asbestos and asbestos -containing material are highly likely to contain asbestos. In this situation, the re is little need to sample and analyze emissions for asbestos. In demol ition and renovation activities, work practices are required, specifically, the adequate wetting of asbestos prior to stripping. In the definition of "adeq uately wet," the presence of visible emissions is used as an indicator of whet her or not the asbestos has been adequately wetted. The presence of asbes tos in the visible emission is not a issue; rather, the mere presence of a vis ible emission from a stripping operation is an indication that a require d work practice, i.e., wetting adequately, is not being performed proper ly. As a result, EPA does not consider this revision to be an expansion of the rule's coverage beyond asbestos. The suggested change in the wo rding of the definition does not appear to be substantively different than the language it would replace. If nonfriable asbestos -containing materials are crumbled, pulver ized, or reduced to powder in the course of demolition/ren ovation operations, visible emissions could under some circumstances result. H owever, in demolition and renovation, visible emissions are used only as an ind ication of whether the material has been adequately wetted.

4. "Visible emissions" means and ha s always meant emissions that are observed in the air by the naked eye. It has never meant asbestos laying on the ground. Asbestos -containing material observed on the groun d may under certain circumstances constitute a violat ion of those parts of the rule that deal with containment of waste, but would not be a violation of the no visible emissions requirements.

5. The NESHAP already requires that certain work practices be followed during asbestos removal operations. A re quirement of no visible emissions for demolition and renovation operations does not exist. Only where the standard

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allows the use of alternate controls proc edures (e.g., local exhaust ventilation) in lieu of wetting and durin g the collection and processing of waste at the site of generation is a visi ble emission limit an option.

6. Under the rule, landfill operato rs have the option of complying with either the no visible emission or the wor k practice requirements. The EPA considers determining whether an emission to the air is visible or not to be well within the capability of landfill op erators, whereas air monitoring would be more difficult and more costly. Furth ermore, standard procedures for monitoring asbestos concentrations in the air at landfills have not been established.

7. The emission limits contained in the NESHAP already apply to visible emissions to the outside air. The EPA al so believes that it is understood that visible emissions refer to airborne emissions.

4.31 WASTE GENERATOR

Comment: Commenter 55 states that t he definition of "waste generator" is confusing in that it is not clear whether the owner or the contractor is responsible for the asbestos waste.

Response: The EPA does not think th at the definition is confusing. The waste generator is the person or organiza tion whose actions produce the asbestos-containing waste material.

4.32 WASTE OIL

Comment: To clarify the term "waste oil," commenter 41 recommends that it be defined.

Response: The EPA agrees in princip le with the suggestion to define "waste oil," but prefers to clarify its m eaning where it appears in the regulation rather than adding a definitio n.

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5.0 MILLING, MANUFACTU RING, AND FABRICATING

5.1 COMPLIANCE

Comment: Two commenters question th e need for additional regulation of these industries. Commenter 10 states th at asbestos mining and manufacturing industries adhere to stringent work pract ices and regulations and are not in need of additional regulation. Commenter 28 argues that, given the high degree of compliance, the additional insp ections and recordkeeping requirements do not appear warranted.

Response: Although most of these so urces do monitor at least once a day for visible emissions and inspect baghous es frequently, EPA's enforcement experience has shown that some do not ope rate and maintain their equipment (including monitoring and inspections) to ensure the high degree of collection efficiency that is possible. Therefore, these requirements are necessary for those sources. Where these practices are already in place, any incurred costs will be minimal. For the few sources tha t do not already monitor and inspect and keep records for their collection dev ices, there will be an estimated annual cost per control device of $489 fo r daily visible emission monitoring and $2,283 for weekly inspections. Total recordkeeping and reporting costs including costs associated with waste tra cking will be an estimated $1.4 million/yr.

5.2 APPLICABILITY

Comment: Commenter 54 wants the pro vision deleted that currently exempts from the fabricating requirements "operat ions that primarily install asbestos friction materials on motor vehicles."

Response: The EPA based its exempti on of operations that primarily install asbestos-friction materials (i.e., brakes) on moto r vehicles on findings that indicate that these operati ons do not cause an atmospheric emission problem.1 In addition, OSHA no longer permits brakes to be blown out (unless enclosed), but requires the use o f wet rags or vacuum cleaners equipped with HEPA filters. These requir ements will further reduce emissions.

Most brake replacements are done usi ng brakes that are prefabricated so that any machining is kept to a minimum. Small garages and service stations that install brakes typically do not fabr icate brakes, due in part to the high capital and labor cost involved in brake fabrication, and are not considered a problem.

5.3 VISIBLE EMISSION MONITORING

Comment: The following comments wer e received on the subject of visible emissions monitoring.

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1. Three commenters 17, 18, and 54, were critical of the 15 -second monitoring requirement, claiming that 15 seconds is inadequate. They suggest that visible emissions should be monitore d more frequently, e.g., on an hourly basis or 1 percent of the operating time. The lack of visible emissions, according to commenter 54, is no guarante e of a properly operating control system.

2. Commenter 53 claims that the use of visible emissions monitoring is a subjective, nonspecific, and insensitive method to evaluate exposures to submicron asbestos fibers, and states tha t the National Institute for Occupational Safety and Health (NIOSH) su ggests that direct -reading instruments are objective and quantifiabl e methods for monitoring emissions. Commenter 93 suggests that EPA should con sider permitting use of 'broken bag detectors" in conjunction with the operat ion of baghouses.

3. According to commenter 88, daily monitoring and recordkeeping for visible emissions is burdensome without a ny significant environmental benefit.

4. Commenter 12 claims that additio nal information is required to facilitate enforcement of the visible emi ssion standard for milling, manufacturing, and fabricating. They ask what method is to be used, Method 22 or 9? They explain that Method 22 permit s the use of an uncertified reader without using opacity, but would allow a high bias in observation, while Method 9 used opacity, requires a certifi ed reader, and eliminates bias by specifying reader location.

5. Commenter 22 notes that Section 61.144(b)(3) and elsewhere refers to "asbestos emissions," a term that is not defined. Should it be visible emissions?

6. Commenter 18 argues that ambient air monitoring should be required because visible emissions cannot be monit ored at night.

Response: 1. The EPA believes that daily, 15-second monitoring of each control device for visible emissions and weekly inspection of each control device is sufficient to detect malfunctio ns. In addition, longer monitoring times would be costly and result in a sma ll, undetermined benefit. For example, visible emission monitoring for 6 minutes is estimated to cost an additional $840,000/yr. A source can cho ose to monitor for longer than the 15 seconds if their control system warrants a longer observation period. For baghouses where a visible emission might only occur when the malfunctioning section of the baghouse goes through a cl eaning cycle, it would be in the owner/operator's best interest to monitor for more than 15 seconds in order to avoid being found in violation during an inspection. In addition, the weekly control device inspection would discover any malfunctions so that, in most cases, a control device is unlikely to be malfunctioning for more than 1 week.

The EPA has measured emissions from a baghouse at a plant manufacturing asbestos-concrete products (RTI/432U -2874-5). The study measured the micrograms of asbestos per cubic meter of gas exiting the baghouse. Normal ambient levels of asbestos are in the nan ogram per cubic meter range.

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Although various means of monitoring thes e emissions may be more effective than visible emission monitoring, they ne ed to be tested and their utility determined.

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2. Visible emissions are usually an indication of a problem. Even when visible emissions are not observed, asbestos is still being emitted. This type of monitoring is easily accomplished and serves to detect significant emissions. Weekly inspection of control devices will identify many problems before visible emissions occur or when, due to low inlet gram loadings, visible emissions are unlikely.

A number of the comments suggested that the Auburn Triboflow particulate detector or the GCA fibrous aerosol monitor should be required in order to alert owners/operators of fabric filter leaks sooner and/or more effectively than reliance on visible emission observations. The Auburn Triboflow particulate detector does seem to have some potential for particulate monitoring applications in which the particle size distribution and mass emission rate do not fluctuate significantly. Similarly, the GCA fibrous aerosol monitor does seem to have some potential for applications in which the nonfibrous materials are not a significant portion of the emission stream and the rates do not overwhelm the monitor. Thus, both of these devices may be useful. However, neither of these devices has been evaluated for asbestos emission monitoring applications, and no performance specifications have been developed. Thus, EPA does not recommend that either be required by the asbestos NESHAP at this time. These and similar devices will have to be evaluated as part of a research and development and quality assurance project before they can be recommended for inclusion in the NESHAP.

3. Most milling, manufacturing, and fabricating operations already monitor daily for visible emissions and many maintain records of this activity. For those that will, for the first time, begin keeping records of these activities, cost will be small, about $2,000/yr per plant for developing a record system ($13,100/430 plants) and recording the information ($838,000/430 plants), based on an asbestos industry average of 2.5 control devices per plant. The EPA agrees that the benefit of these measures may not be great overall given that many plants already perform monitoring and recordkeeping. However, for plants that do not already perform daily visible emissions monitoring, these requirements will help to ensure operation of control devices at their highest efficiency with reduction in emissions proportional to the improvement in control device efficiency.

4. The EPA believes that a no visible emission requirement is more stringent than either an opacity requirement or a requirement that limits the duration of a visible emission. With the asbestos NESHAP requirement, there is, or there is not a visible emission. There is no requirement for, nor is there a need for, a certification requirement to determine if a visible emission is occurring.

5. "Asbestos emissions" is the current term. The EPA believes that this term, which refers to an emission containing asbestos, is commonly understood and does not need to be defined.

6. Most plants that operate at night also operate during daylight hours. Because the rule requires visible emission monitoring during daylight hours, visible emissions that occur at night are likely to also occur during the day when they would be discovered. In addition, the required weekly inspection is likely to identify any problem with the control device.

5.4 WEEKLY INSPECTIONS

Comment: 1. Commenters 17 and 29 support the weekly inspection of

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control equipment and the submittal of as sociated records, stating that self -monitor

2. Commenter 28 argues that EPA sho uld consider the cost of enforcing these requirements; specifically, EPA sho uld withhold these requirements until they determine the cost -to-benefit ratio.

Response: 1. No response is necess ary.

2. Examination of records to be mai ntained by the affected sources will occur incidentally as part of periodic in spections of sources, which are a part of an enforcement agency's overall c ompliance and enforcement program. The EPA believes that the time required t o determine that a source is maintaining records and to examine the re cords will not be overly burdensome.

5.5 COMPLIANCE OPTIONS

Comment: The following comments wer e received on the compliance options available to milling, manufacturing, and fabricating.

1. Commenter 12 queries that, where a source elects to use methods specified in Section 61.152 to clean emis sions rather than comply with the no visible emission standard, what visible e mission standard applies? Would general, State visible emission standards be applicable when the source complies with the equipment specification s?

2. Commenter 84 supports Section 61 .147(b)(1) which regulates emissions even though they may be emitted to the ai r inside structures or buildings.

3. Two commenters, 70 and 84, state that sources processing asbestos should have no visible emissions and comp ly with control equipment specifications.

Response: 1. When a source complie s with the equipment specifications of Section 61.152, the visible emission l imit does not apply. Any State limits on visible emissions would still b e applicable.

2. Section 61.147(b)(1) restricts v isible emissions to the outside air from operations inside buildings or from the building. If the emission is visible inside the building, but not visi ble in the outside air, it is not a violation.

3. To require compliance with the v isible emission provision and the equipment specifications of Section 61.15 2 would be an increase in the stringency of the regulation and therefor e subject to the rulings in the "vinyl chloride case" (NRDC v. EPA, 824 F . 2d 1146 [D.C. Cir. 1987]), which requires a two-step process in regulating hazardous air pollutants. These revisions make changes that do not affect stringency but clarify the rule, promote compliance, and aid in its enforc ement. These revisions were determined by EPA not to be subject to th e requirements of the vinyl chloride case. The need for revisions that affect stringency may be addressed at a later date.

5.6 MONITORING REPORTS

Comment: One comment on reporting a nd recordkeeping was received. Commenter 17 favors monthly instead of qu arterly reports.

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Response: Because these reports are all received after the fact, their purpose is to alert EPA to potential problem sources that can be corrected. Because visible emissions from milling, manufacturing, and fabricating occur infrequently, monthly reports would offer no real advantage over quarterly reports.

5.7 REFERENCE

1. U.S. Environmental Protection Agency. Background Information on National Emission Standards for Hazardous Air Pollutants--Proposed Amendments to Standards for Asbestos and Mercury. Office of Air Quality Planning and Standards. Research Triangle Park, NC. Publication No. EPA 450/2-74-009a. October 1974. 140 p.

6.0 ROADWAYS

6.1 USE OF TAILINGS

Comment: 1. According to commenter 2, the discussion on p. 921 of the Federal Register on the use of tailings on roadways is not clear.

2. Commenter 2 also believes that the standard for roadways should explicitly permit the use of asbestos tailings encapsulated in asphalt, as well as in other uses. Commenter 54 states that Section 61.143 should include a provision ensuring that tailings are encapsulated before they are used in roadway construction.

Response: 1. The discussion of tailings on p. 921 of the proposal preamble was an explanation of the requirements of Section 61.143, Standard for Roadways. This section allows unbound (not encapsulated) asbestos tailing to be used to construct or maintain a temporary roadway at an asbestos mine. If encapsulated in a resinous or bituminous binder, asbestos tailings can be used to construct or maintain a temporary road at the site of an asbestos mill, usually located in close proximity to the asbestos mine. Asbestos tailings can also be used in any road construction, as long as they are

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encapsulated in asphalt concrete meeting Federal Highway Administration construction specifications.

2. The EPA believes that Section 61.143 is clear in its requirement that, when asbestos tailings are used in roadways, other than those at asbestos mine sites, the tailings must be encapsulated prior to being placed in the roadway. Although EPA is confident that the limited uses specified in Section 61.143 for tailings are possible without significant emissions, it is not as confident that other uses, suggested by commenter 2, are advisable without more information on their fiber release potential.

6.2 USE OF ALL ASBESTOS-CONTAINING MATERIAL

Comment: Commenter 20 argues that, because commercial asbestos is allowed in asphalt concrete (Section 61.144(a)(11)) as are asbestos tailings, any asbestos-containing material should be allowed to be used in the manufacturing of asphalt concrete.

Response: In general, EPA prefers that no asbestos waste be used in road construction. However, asbestos tailings have special characteristics that make them suitable for road construction, including their aggregate characteristics and low asbestos content after milling. Furthermore, their use is permitted only in asphalt concrete meeting Federal Highway Administration specifications. It is unlikely that asphalt concrete to which asbestos-containing material, other than tailings or commercial asbestos, has been added would meet these specifications.

6.3 CONTAMINATED STONE

Comment: Commenter 55 asks that stone contaminated with asbestos be addressed in Section 61.143.

Response: The EPA has investigated the problem of using asbestos-contaminated distribution, EPA concluded that the use of asbestos-contaminated crushed stone on roads could best be dealt with by local authorities rather than through national regulations.

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7.0 DEMOLITION AND RENO VATION

7.1 APPLICABILITY

7.1.1 Asbestos -Containing Material

Comment: Numerous comments were rec eived on the definition of "asbestos -contai rules on demolition and renovation to non friable asbestos -containing materials. By far, most of the commenter s (42, 47, 69, 72, 86, 89, 93, 95, and 100) are concerned that EPA is expand ing the coverage of the NESHAP to include materials that, previously, EPA h ad expressly omitted from regulation under the NESHAP. Commenter 95, for exam ple, states that, without guidance or exemptions stated in the rule, the extens ion of the regulation to nonfriable materials represents a risk -based decision. According to commenter 7 2, such an extension would be contrary to the Adm inistrator's 1974 determination that nonfriable materials did not represent a threat to the public health. Commenter 69 points out that an increased number of facilities would be covered, including those where no friable asbestos is present. Commenters 42 and 62 state that the term "potentially" in the definition of ACM expanded coverage to nonfriable materials and shou ld be deleted. Commenter 30 states that, although this may be a positive cha nge in some cases, covering potentially friable materials could be ov erly restrictive and increase costs significantly where material such as A/C siding had to be removed prior to demolition. Commenters 47, 89, 93, and 9 5 explain that use of the term "broken" to describe materials that are s ubject to the rule is inconsistent with the current NESHAP and expands cover age of the NESHAP. These commenters state that merely breaking nonfriable mat erial does not equate to fiber release. One commenter, 89, notes that n oncompliance may increase where nonfriable material is broken during demo lition or renovation, but is not controlled or reported according to the N ESHAP.

Several comments were received that support the regulation of nonfriable materials. Commenters 2, 26, 57, 83, and 85 argue that all nonfriable material could be broken or crumbled and friable and should be regulated.

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Commenter 84 explains that certain nonfri able materials, e.g., asbestos flooring, packings, and gaskets, should b e regulated to protect building occupants. Commenter 53 cites a study th at showed that emissions from the removal of roof shingles exceeded the NIO SH-recommended exposure level and OSHA's PEL. Citing the need to be notifi ed of all demolitions, commenter 55 states that the exemption of nonfriable m aterials from the notification requirements should be deleted. While su pporting the expansion of coverage to nonfriable material, commenter 55 notes t hat building owners would need to be made aware of this new requirement.

Several commenters argue that the ru le should be modified to clarify that certain products are nonfriable and, ther efore, not regulated. A/C products, including transite and exterior shingles, should be included among nonfriable products according to commenters 49, 72, and 93. Asbestos-containing flooring products, such as tile and sheet vinyl fl ooring, are considered by several commenters (15, 47, 48, 55, 84, and 95) t o always be nonfriable and exempt

from the rule, with the exception of floo ring that was being sanded (47, 48). Commenters 47 and 95 also note that the p hrase "resilient floor covering" should be used throughout the rule becaus e it includes both tile and sheet vinyl flooring. Another commenter, 48, i n reference to asbestos roofing products, argues that there is no basis i n the record for saying that severely weathered asphaltic material could become brittle. Also, commenter 28 suggests that EPA change "asphalt roofing " to "bituminous resinous roofing systems." One commenter, 16, states that the proposed inclusion of nonfriable asbestos in the regulation might create e conomic and practical problems as it relates to the demolition of buildings co ntaining hard placate, ceiling and wall material; they suggest allowing demo lition of the building provided that these materials are thoroughly wetted dur ing the demolition. Commenters 21, 31, 48, 49, and 93 recommend that the rul e be clarified to exempt all nonfriable materials as the rule is curre ntly understood. Commenter 93 argues that in present day ACM the asbestos fibe rs are locked in cement or bituminous or resinous binders and that the material s can be removed and disposed of without any significant release to the en vironment. According to commenter 93, the proposed conditional language mak es determining applicability to ACM more difficult.

The EPA proposed to exclude from the rules certain nonfriable materials "in good condition." Commenters 28, 48, 59, 81, and 92 express a need for EPA to clarify the meaning of "in good condit ion." Commenter 93 notes that the qualifier "in good condition" was not in the EPA's 1974 determination on the nonfriable issue. Commenter 95 argues th at the exclusion from reporting floor covering in notifications for renovations , Section 61.145(a)(5), should also apply to demolitions. Commenter 21 expre sses support for establishing three categories of ACM, i.e., friable, nonfria ble but having the potential to release asbestos, and nonfriable material that cannot become friable or release fibers. According to commenters 26 and 88, the definition should specify an asbestos content limit.

Two comments were received on this d efinition that are editorial in nature. Commenter 29 suggests deleting t his definition and covering the "potentially friable" aspect in the defin ition of "friable asbestos material. Commenter 26 suggests modifying the defin ition of ACM by deleting the part describing nonfriable material that poten tially can be broken, etc., and adding it to the definition of "friable a sbestos material" with revisions that would make nonfriable material subject to the rules only if the nonfriable material became friable, i.e., crumbled, etc., by hand pressure. In addition, commenter 26 would add an asbestos conten t limit to the definition of ACM.

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Without these modifications, the term "potential" makes the rule more restrictive because nonfriable material with the potential to become friable is covered regardless of whether the material will become friable or not.

Response: In 1973 when the asbestos NESHAP rules were first promulgated for the demolition of buildings, EPA wanted to distinguish between materials that would readily release asbestos fibers when damaged or disturbed and those materials that were unlikely to result in the release of significant amounts of asbestos fibers. To accomplish this, EPA labeled as "friable" those materials that were likely to readily release fibers. Friable materials, when

dry, could easily be crushed using hand pressure. Later, EPA realized that, in some instances, nonfriable materials that were subjected to intense force such as the intense mechanical forces encountered during demolition, could be crumbled, pulverized, or reduced to powder. In these instances, certain nonfriable materials appeared capable of releasing to the atmosphere significant amounts of asbestos fibers. Examples of practices that were observed by EPA to reduce nonfriable asbestos material to dust capable of becoming airborne included the breaking of nonfriable asbestos/cement (A/C) panels with a demolition ball and removal of nonfriable insulation from steel beams by repeatedly running over the beams with a crawler tractor. In view of the damage done to these otherwise nonfriable materials and the resulting increased potential for fiber release, these and other similar practices involving nonfriable asbestos material were considered to render nonfriable ACM into dust capable of becoming airborne.

As a result, EPA issued a policy determination in 1985 regarding the removal of nonfriable asbestos material that was consistent with EPA's intent to distinguish between material that could release significant amounts of asbestos fibers during demolition and renovation operations. This policy determination stated in essence that friable material and nonfriable material that become (or are likely to become) crumbled, pulverized, or reduced to powder are covered. Specifically, the determination states that

> "...even though the regulations address only material that is presently friable, it does not limit itself to material that is friable at the time of notification. Rather, if at any point during the renovation or demolition, additional friable asbestos material is...created from nonfriable forms, then this additional friable material becomes subject to the regulations from the time of creation..."

The issuance of this determination did not alter the intent of the NESHAP, but was consistent with the intent of the standard that was written to prevent significant emissions of asbestos fibers. The intent of the policy determination was to apply narrowly to specific instances where otherwise nonfriable materials would be damaged during demolition or renovation to the extent that significant amounts of asbestos fibers would be released to the atmosphere. A statement in the determination to the effect that some nonfriable materials may remain nonfriable throughout demolition and renovation is evidence that this determination was intended to be narrowly interpreted and not used to require removal of all nonfriable materials. For example, materials such as resilient floor covering, asphalt roofing products packings, and gaskets would rarely, if ever, need to be removed because, even when broken or damaged, they would not release significant amounts of asbestos fibers. But, just as it is important to recognize that some nonfriable materials do not have to be removed prior to demolition, it is also important to recognize that some nonfriable materials should be removed prior to

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demolition if, as a result of the forces of demolition, nonfriable material is likely to become crumbled, pulverized, or reduced to powder. For example, the A/C siding on a building that is to be demolished using a wrecking ball is

very likely to be crumbled or pulverized with increased potential for the release of significant levels of asbestos fibers. Such material in this instance should be removed prior to demolition.

Since this policy determination was made, there has been confusion in its application. As a result, contractors operating in more than one enforcement jurisdiction have encountered different interpretations for similar demolition operations. For example, there have been instances in which contractors are required, prior to demolition, to remove floor tile in one enforcement jurisdiction but not in another. Contractors and/or building owners and operators are unsure as to what materials must be removed and what materials can be left in and are often hesitant to proceed without a ruling from EPA, which can involve significant delays.

As a consequence, EPA received a number of requests from State and regional enforcement agencies to clarify what is required under the NESHAP in dealing with nonfriable materials since the 1985 policy determination was issued. In response to these requests, a clarification of the nonfriable issue was included in the revisions proposed on January 10, 1989. These revisions are intended to clarify the intent of the original rule. Basically, EPA stated in the January 10, 1989, Federal Register notice, that certain nonfriable materials, such as floor tile, roofing products, and packings and gaskets that are in good condition, can be left in buildings being demolished because fiber release from these materials, even if the materials are damaged, is relatively small compared to the fiber release from friable materials. Other nonfriable products such as A/C products have a greater potential to release asbestos fibers when heavily damaged and may have to be removed prior to demolition.

In response to the revisions proposed on January 10, 1989, numerous comments were submitted to EPA. Most of the commenters argue that EPA was attempting to regulate nonfriable materials, which were explicitly exempted in previous asbestos NESHAP rulemakings. Many comments stated that the proposed revisions did not help to clarify EPA's position on nonfriable material and may have made matters worse.

In responding to the comments, a literature survey was conducted to determine if it was possible to quantify the fiber release potential of nonfriable materials when the materials are damaged during demolition. A limited amount of data was found for certain nonfriable materials, including floor tile, roofing products, gaskets, packings, and A/C products. In some instances, the fiber release data were measured during actual removal operations, while other data were from simulated removal activities in laboratory settings. For the materials evaluated, the potential for fiber release appeared minimal and substantially lower than for friable materials. These findings in fact support EPA's original argument that there is a basis for making a distinction between materials that readily release fibers and those that do not.

As a result of the comments received on this issue and the additional information gathered in response to comments, EPA has listed nonfriable ACM

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that does not have to be removed prior to demolition operations if the nonfriable ACM are not in poor condition. These nonfriable asbestos material have been classified as "Category I nonfriable ACM" for which a definition was added and are defined as resilient floor covering, asphalt roofing materials, packings, and gaskets. Resilient floor covering and asphalt roofing material are further defined to specify the products that are covered. The remaining nonfriable materials have been classified as "Category II nonfriable ACM," for which a definition was added. The need to remove Category II nonfriable ACM such as A/C materials, will continue to be evaluated on a case-by-case basis. For nonfriable materials such as A/C materials, which are likely to result in significant fiber release if not removed prior to demolition, alternate removal techniques will be permitted, as long as the material does not become crumbled, pulverized, or reduced to powder. For example, if A/C siding can be removed without seriously damaging the material, wetting the material would not be required. If at anytime any of the Category II nonfriable ACM is so severely damaged that it is likely to result in significant asbestos emissions, it must be treated as friable asbestos-containing material. The EPA considers the deliberate sanding, grinding, or abrading of all nonfriable materials, including resilient floor covering, asphalt roofing material, packings, and gaskets to be equivalent to disturbing friable ACM and, therefore, requires that these activities be controlled according to the NESHAP. Normally, these are activities that are associated with renovation as opposed to demolition. The EPA considers this revision to be consistent with its original policy regarding nonfriable asbestos material and its 1985 determination regarding nonfriable materials that become so extensively damaged that significant amounts of asbestos fibers may be released.

The EPA has made two additional changes to clarify the rule's intent regarding nonfriable materials. The EPA has revised the rule to make it clear that, when a building is burned intentionally, all asbestos-containing material must be removed prior to the burning. This covers those situations where, for example, a fire department plans to burn a building or allow it to be burned. Also, in the definitions of "asbestos-containing material," "asbestos-containing waste material," "friable asbestos material," and elsewhere, the word "broken" was deleted. Most nonfriable materials can be broken without releasing significant quantities of airborne asbestos fibers. It is only when the material is extensively damaged, that is, crumbled, pulverized, or reduced to powder, that the potential for significant fiber release is greatly increased. After considering this issue further, EPA agrees with commenters that retaining the word "broken" could be interpreted as substantially increasing the scope of the standard and, therefore, has omitted it. The EPA is planning to issue additional information in the future on this and other aspects of the NESHAP to both enforcement officials and the regulated community to help in the consistent interpretation and application of the NESHAP provisions.

7.1.2 Coverage Expanded to "Disturbed" Material

Comment: Several comments were concerned with revisions to Section 61.145(a)(4) and (c)(1) where the rule refers to asbestos material that is or would be disturbed by demolition or renovation. Commenter 84 asks if the

phrase "or otherwise disturb" in Section 61.145(a)(4) expanded the applicability of this standard. Commenter 86 states that use of the undefined term "disturb" and the broad definition of "renovation" raises the concern

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that many typical activities in the normal operation of a building that have not been subject to the NESHAP would now fall under the NESHAP. Commenters 49 and 50 argue that the revision make substantive changes, particularly the requirement to remove asbestos anytime it will be disturbed, and that these are subject to the vinyl chloride case. The EPA should define "otherwise disturbed" in Section 61.145(a)(4) in order to avoid jurisdictional difficulties in applying such a broad standard, and clarify "disturb" or replace with "break up" in Section 61.145 (c)(1).

Commenter 60 asks if EPA is advocating removal of ACM upon any disturbance of the material, contradicting EPA's previous position regarding the potential for increased exposure due to unnecessary or nonessential removals. Commenter 85 asks for clarification on how "disturbed" is to be interpreted. For example, would installing anchors for a new suspended ceiling in a 1,000 square foot roof deck covered with ACM constitute disturbing all 1,000 square feet, or should the actual amount scrubbed off under each anchor be added up to see if it totals at least 160 square feet?

Commenter 57 supports the proposed requirement that asbestos be removed before it is disturbed by demolition or renovation.

Response: As used in Section 61.145 (a)(4), the phrase "or otherwise disturb" was not intended to expand the applicability of the rule; rather, EPA intended it as a clarification only, believing it to more closely describe the original intent of the rule. Upon further consideration, EPA agrees with the commenter's concerns over misinterpreting the term "disturbed" and has modified the regulation to clarify the degree of disturbance that would result in significant fiber release and, therefore, be covered by the NESHAP provisions. In the example cited, if the actual area scrubbed off (disturbed) to install anchors for a ceiling is 160 square feet or more, then the activity is subject to the notification and work practice requirements. In the process of installing the anchors, if other parts of the ceiling are damaged such that asbestos would be released, then the area of the damaged ceiling would have to be included in determining if the NESHAP applies.

One additional change was made to paragraph (a)(4) to clarify at what point in a renovation the regulation applies. The Agency has always intended the asbestos NESHAP to apply from the beginning of the operation, to all renovations which involve at least the jurisdictional amount, and consequently to impose on the regulated community an obligation to determine the amount of asbestos which will be stripped or removed and whether the NESHAP applies, before commencing a renovation operation. The regulations are being revised to clarify their intent in order to address a recent court case decision which interpreted the former Section 61.145(d). U.S. v. Fiber Free Co., et al., No. A:89-0642 (S.D.W.V. July 31, 1990). The revision states that the NESHAP applies to renovations if the amount of asbestos "to be" stripped or removed exceeds the jurisdictional amount, thereby clarifying that the determination

of NESHAP applicability is to be made before the renovation operation begins. This change makes it clear, for example, that the first 159 square feet of asbestos stripped or removed in a renovation is subject to the NESHAP where the amount of asbestos ultimately affected exceeds the threshold.

7.1.3 No Asbestos

Comment: Most of the comments (15, 24, 27, 36, 37, 41, 43, 49, 51, 58, 63, 64, 69, 73, 74, 81, 88, 92, and 99) on the revision of Section

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61.145(a)(2), whereby the applicability of the demolition and renovation rules to demolitions where no asbestos is present is clarified, were unaware that this is already required. They consider it a new provision and express their reservations about this provision. While agreeing with the rationale to require notification for demolitions even when no asbestos is present, many of the commenters express concern that this rule will dilute the effectiveness of the NESHAP program. Most of the commenters argue the the provision is unnecessary, unworkable, and beyond the intent of Section 112. They note that, because EPA is already concerned that demolition projects involving asbestos are occurring without notification, adding reporting requirements for projects having no asbestos will add to EPA's burden and detract from enforcement of known asbestos activities. This will unnecessarily delay many demolitions. These commenters state the EPA should require notification for demolition only if the amount of asbestos is above a certain threshold, and not when no asbestos is present. Commenter 52 believes that this requirement makes the 308,000 person-hours burden for recordkeeping and reporting an underestimate. One commenter, 70, suggests that owners/operators keep records for 5 years of structures demolished where no asbestos is present. According to commenter 73, EPA is exceeding its statutory authority to regulate operations that are not a stationary source according 40 CFR 61.02. This commenter also cites case law, U.S. v. Ben's Truck and Equipment Inc., (DC E. Cal, 1986) 25 ERC 1295, which holds that a demolition must involve asbestos for a threshold requirement to apply.

Commenter 84 supports adding explicit wording to Section 61.145(a)(2) that this requirement applies even if no asbestos is known to be present; a specific provision for a negative declaration is recommended. Commenter 92 also suggests that, instead of notification when no asbestos is present, notification be required when asbestos is discovered in the course of demolition.

Several commenters (17, 29, and 30) support retention of the notification where no asbestos is involved because it helps to monitor demolition activity and allows confirmation that no asbestos is present.

Commenter 28 states that this was a rule change requested by enforcing agencies.

Response: Demolitions are final events, and buildings are usually demolished quickly. The EPA and delegated States do not have the resources necessary to inspect every building to be demolished prior to demolition;

therefore, the implementing agency prioritizes its inspections, concentrating its enforcement resources on the sites that are likely to result in significant emissions to the air if improperly demolished, as well as on those contractors who have not demonstrated a continuous compliance program.

In order to ensure that the building owner or demolition contractor has accurately evaluated and analyzed the site for the presence of asbestos, it is necessary that the implementing agency be notified prior to the onset of the demolition. The EPA has repeatedly discovered, after the demolition, that asbestos was present in spite of building owners' and contractors' claims to the contrary.

There is a strong economic incentive for building owners and also for contractors to claim less than the quantity cutoff levels. Therefore, if there is more than the quantity size cutoff level of friable asbestos material

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in the building, there is likely to be si gnificant emission of asbestos from the demolition. The EPA wants to be able to inspect these buildings to the extent possible to prevent this from beco ming a significant loophole in the rule.

A similar incentive to underreport (and to not inspect) would also exist if there were no reporting requirements f or facilities with no asbestos. As such, the purpose of the requirement to r eport even when no asbestos is found is not to identify the facilities with no asbestos; rather, it is to ensure that facilities are inspected for asbesto s and that removal is performed consistent with the standard.

A failure to notify, as required by the rule, is a violation, and EPA will vigorously enforce these requirement s. The asbestos NESHAP requires that each building be inspected prior to demol ition. The notification that is required if a building contains less than the quantity cutoff level is not extensive, and the cost is low compared t o the cost of inspecting the building for asbestos; therefore, we believe that this notification requirement is reasonable.

7.1.4 Applicability Threshold --Volume Equivalent

Comment: 1. Commenter 13 asks how 1 cubic meter can be measured when it is off a facility component; an estimate of bagged asbestos is inappropriate, and a landfill receipt might not work eit her.

2. Commenter 30 observed that the 3 5 cubic feet is based on 160 square feet and a 3 inch thickness; however, asb estos material is often thinner, so the volume should be lowered to 0.25 or 0 .5 cubic meter. Commenters 17 and 57, while supporting the volume equivalen t, expressed concern that the current 160 square feet and 260 feet should be de creased (similar to the Asbestos Hazard Emergency Response Act [AHERA] tri gger levels) in order to reduce public health threats caused by improper removal of these amounts or less.

3. Commenters 15, 17, 26, and 29 be lieve that the volume equivalent should be helpful.

4. Commenters 42, 49, 59, and 62 no te that, in some instances, the 35 cubic feet is a much smaller quantity tha n either of the present criteria and appears to increase stringency. Commente r 42 gives the example of a 260 foot long pipe with a 6 inch diameter and 2.5 inches of asbestos insulation that would just meet the current linear thresh old, although with a volume of 120 cubic feet it would far exceed the volume threshold. While meeting the current criteria, under the new, more str ingent threshold, this amount would be subject to the regulation. As a resul t of asbestos-contaminated clothing and equipment and variations in the amoun t of wetting, commenters 42, 43, 49, and 62 explain that the in-place volume and the volume of stripped a nd bagged material will be different. These commen ters argue that, if a volume is specified, it should be increased. Comme nters 50 and 58 feel the volume requirement is confusing and unnecessary. Commenter 49 explains that the volume of in-place material may be difficult to determ ine accurately without damaging the asbestos.

If the reason for the volume measure ment is for use in enforcement cases (54 FR 915), commenter 73 suggests increa sed enforcement efforts rather than additional reporting burdens for complyin g facilities. Commenter 73 also recommends that, if EPA does add a volume amount, a facility should have a choice of estimating either length, area, or volume.

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5. Commenter 83 expresses a need for a threshold limit that would accumulate the current linear and area thresholds in order to cover projects where, for example, 150 square feet and 250 linear feet of asbestos are involved; as currently written, such a project would be exempt.

6. Commenter 94 suggests that EPA consider using "units"; one unit, which is 260 feet, or 160 square feet, or 35 cubic feet, would trigger the NESHAP.

Response: The volume equivalent was added at the request of enforcement officials because they often arrive at an asbestos removal operation for which no notification was received and find that the asbestos has already been stripped or removed and placed in containers. At this point, it is often difficult to determine if the 160 square feet or 260 linear foot thresholds were exceeded. The volume of material can be determined by estimating the dimensions of or actually measuring the container. For bags, the amount of material will usually be less than the capacity of the bags because of the weight of wetted asbestos and the potential for tearing an overfilled bag. If the waste has been placed in rigid containers, the volume may also be less than the capacity of the container because a rigid container filled to capacity will probably be difficult to handle manually. If the asbestos material has fallen to the floor or has been stripped and left on the floor, it will probably be necessary to have the material collected and put in a container to determine volume, although in this situation it may be possible to determine the area of the surface or the length of the pipe that the asbestos came from. The EPA believes that the volume of material in containers can be closely estimated.

7 -9

2. The intent of the revisions proposed on January 10, 1989, was to clarify the NESHAP and to promote compliance, not to bring additional sources under NESHAP control by lowering the threshold for coverage. The EPA may consider changing the threshold for coverage by the NESHAP in future rulemakings.

3. No response is necessary.

4. It is EPA's intention that the volume measurement be applied to material after it has been placed in containers for disposal. In conversations with representatives of asbestos removal and demolition firms, the volume of material that has been stripped and bagged is usually about three times the volume of the in-place material as a result of voids in the material as well as other items such as clothing and rags. In arriving at the volume equivalent in the proposed rule, EPA estimated the volume of in-place pipe insulation on 260 feet of pipe and then allowed for the increase in volume after the material is disturbed and placed in containers along with other waste items.

5. The recommended change would constitute an increase in the stringency of the standard. The purpose of the revisions proposed on January 10, 1989, is to clarify the rule and to promote compliance. The EPA may consider the need for changes that affect the stringency of the NESHAP at a later date.

6. The EPA does not see any advantage to the suggested use of "units" to trigger the provisions of the NESHAP; therefore, EPA will retain the existing threshold amounts.

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7.1.5 Applicability Threshold --Exempted Operations

Comment: 1. Commenters 2 and 18 argue that all demolitions and renovations involving any amount of asbestos should be regulated. Commenter 18 also argues that, even if it is not possible to inspect all jobs, if the activity is regulated, the owners and operators are more likely to follow the work practices due to the threat of being cited for violation of the NESHAP. Commenters 54 and 70 argue that demolitions involving less than the threshold amounts of asbestos should at least be required to follow the work practices of Section 61.145(c) although notification may not be necessary. Commenters 29, 54, and 70 state that Section 61.145(a)(2) should be revised to require the proper removal of all asbestos, regardless of the amount, prior to demolition. Because of the public health threat from improper removals, commenter 17 urges EPA to eventually reduce the applicability thresholds.

2. Commenter 87 believes that Section 61.145(a)(2) contains contradictory requirements. In particular, they feel that (b)(3)(i) should be replaced by (b)(3)(iii), the provision requiring advance notice for government-ordered demolitions.

3. Commenter 30 agrees with 61.145(a)(1),(2) and (4) that material that has fallen off facility components be treated the same as stripped material.

Response: 1. The commenters' recommendations to require removal of all asbestos from all demolitions and renovations regardless of the amount would increase the stringency of the standard. The purpose of the revisions proposed on January 10, 1989, is to clarify the rule and promote compliance. The need for revisions that affect stringency may be considered at a later date.

2. The EPA reviewed Section 61.145(a)(2) and the references to paragraphs (b)(3)(i) and (iii). Commenter 87 believes that the reference to (b)(3)(i) should be replaced with (b)(3)(iii). After reviewing these paragraphs, EPA believes that they are correctly used in Section 61.145(a)(2). Paragraph (3)(b)(i) requires a 10-day notice prior to demolition for demolitions involving no asbestos, whereas paragraph (b)(3)(iii) is concerned with emergency renovations and government-ordered demolitions.

3. No response is necessary.

7.1.6 Affected Facilities

Comment: Three comments were received regarding types of facilities that are subject to the demolition and renovation provisions. Commenters 13 and 18 feel that single family dwellings should be included in the definition of a "facility" and, therefore, subject to the NESHAP.

Commenter 22 believes that asbestos mills should be excluded from regulation under the renovation rules because they have adequate experience in the safe handling of asbestos.

Response: Inclusion of single family dwellings in the definition of "facility" would expand the scope of the asbestos NESHAP. The purpose of the revisions proposed on January 10, 1989, is to clarify and promote compliance with the rule. The need for revisions that affect stringency, including expanding coverage of the rule, may be considered at a later date.

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In response to comment 22, EPA sees no reason for asbestos mills involved in renovating asbestos-containing buildings or equipment to not comply with the rules on renovation. From the standpoint of demolition and renovation, EPA makes no distinction between an asbestos mill and any other industrial complex.

7.1.7 Offsite Stripping

Comment: Commenter 57 expressed concern over operations where facility components are removed in units and stripped offsite. They argued that offsite stripping operations should be discussed explicitly in the rule to ensure that they do not escape coverage.

Response: The EPA agrees with the importance of controlling offsite stripping. However, offsite stripping is covered by the current rule; therefore, it is not necessary to revise the rule.

7.1.8 Roadways

Comment: Commenter 89 expresses concern over asbestos-containing roadways. They explain that notifications are not required when roadways constructed with asbestos tailings are demolished or rehabilitated (renovated), which may involve grinding of the road surface.

Response: Because of their aggregate nature, the use of asbestos tailings encapsulated in asphalt concrete is allowed in road construction. These tailings, because of the milling process, typically have a low asbestos content. The EPA has long allowed the use of commercial asbestos in the manufacture of asphalt concrete, although this practice is no longer common if it is used at all. Such materials were occasionally used for special applications including overlays on bridge and airport runway pavement. Because the asbestos fibers are encapsulated in an asphalt concrete mixture, there is little opportunity for fiber release even when the material is broken up.

7.1.9 Individual Nonscheduled Operations--Section 61.145(a)(4)(i)

Comment: 1. Commenter 3 states that clarification is needed as to how the amount of asbestos to be removed over a year is to be predicted. According to commenters 36, 37, and 75, it is impossible to accurately predict this amount. Commenter 76 explains that at very large facilities, such as a major steam-electric power plant, the amounts of asbestos removed during unscheduled maintenance can vary greatly from one year to the next. They state that the annual estimates of asbestos to be removed should be given wide latitude with respect to accuracy. Also, because there is no practical way to predict the part of the plant that will require unscheduled maintenance, EPA should clarify that estimates are facility-wide estimates. Because of the difficulties in predicting accurately the amounts, commenter 63 recommends making the notification any time during the year, but before the threshold quantities are exceeded for that year.

2. Commenters 27, 39, 49, and 61 prefer the current NESHAP wording, as the new wording would require information on facilities in other locations; "one or more facilities" is confusing and should be eliminated.

3. Commenter 28 states that Section 61.145(a)(4)(i) should be clarified

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to indicate that an individual renovation project involving amounts of asbestos greater than the threshold amounts in Section 61.145(a)(4) is not a planned renovation operation that would trigger the notification requirements of Section 61.145(b). Commenter 73 expresses concern over the treatment in the preamble concerning Section 61.145(a)(4)(i) that, "when individual renovations exceed the cutoff, a separate notification is required." They wonder if "cutoff" referred to the threshold amounts in Section 61.145(a) or to the amount predicted to be removed over the calendar year. A similar comment from commenter 63 states that this section should be clarified by explaining that renovations that are to have submitted an individual notification are not included among the individual nonscheduled operations.

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4. Commenter 17 views the proposed time period change for nonscheduled removals to be a relaxation and opposes it. Under the proposed revision, an owner/operator, e.g., 250 feet on three different occasions between July 1989 and December 1989; another 250 feet between January 1990 and May 1990. The current "1-year period" would apply as soon as the additive amount exceeded 260 feet. They would support the proposal if the current process were burdensome, but have not found the current process to be so.

5. Commenters 30 and 73 agree with the change to a calendar year.

6. Commenter 83 argues that these predictive notifications serve no useful purpose for the regulator because it is not known when such projects will actually occur. A regular accounting of amounts removed, e.g., on a quarterly basis, would provide more useful data.

Response: 1. The revisions to Section 61.146(a)(4)(i) proposed on January 10, 1989, did not substantially alter the provision that allows certain facilities that perform renovations frequently, such as twice a week, to avoid excessive notification requirements. The EPA does not expect predictions of the quantity of asbestos to be removed to be accurate. Such predictions are usually based on an owner/operator's experience with asbestos removal in previous years. If available, information on asbestos removals from other facilities can be used. In any case, the owner/operator should provide their best estimate of the amount of asbestos to be removed. The EPA understands the difficulty in predicting accurately the quantities that would be involved and does not expect a high degree of accuracy.

2. The EPA does not intend for a company that has facilities in different locations, e.g., in different cities or states, to include estimates of the amount of asbestos to be removed from the facilities in different locations in their notification for individual nonscheduled renovations. The phrase "one or more facilities" in Section 61.145(a)(4)(i) means one or more buildings or structures at a single location. The definition of "facility" refers to "...institutional, commercial, public, industrial, or residential structure, installation, or building...," whereas the term "installation" is defined to mean "...any building structure or any group of buildings or structures at a single demolition or renovation site that are under the control of a single entity..." The EPA does intend, for example, that a large industrial facility (e.g., a power plant) include in its prediction of the amount of asbestos to be removed as part of individual nonscheduled operations the quantities of asbestos likely to be removed from the entire facility, where a number of different buildings and structures will be involved. Because the definitions of "facility" and "installation" make it clear that Section 61.145(a)(4)(i) applies to buildings and structures at a single location, the phrase "one or more facilities" is unnecessary and has been

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deleted.

3. The EPA does not intend for scheduled renovations, such as those that are part of a scheduled maintenance activity, to be included in the predictions made for nonscheduled operations. A separate notification is required for a planned, scheduled renovation that will exceed the threshold

amounts for asbestos. Events that are to be included in the prediction made according to Section 61.145(a)(4)(i) include nonscheduled renovations, regardless of asbestos quantities, that are likely to occur, based on past experience, but for which the exact date of occurrence cannot be predicted. A nonscheduled renovation differs from an emergency renovation in that, while nonscheduled renovations can be anticipated based on experience, emergency renovations cannot be predicted. Commenter 73 correctly identifies the statement in the preamble calling for a separate notification whenever an individual renovation exceeds the cutoff as inconsistent with EPA's intent. This statement would apply to be planned, scheduled renovation exceeding the cutoff, but not to a nonscheduled renovation, regardless of the amount of asbestos involved.

4. Section 61.19 of the General Provisions was added previously to prevent this type of potential circumvention and to apply in general to circumvention of all standards promulgated under this subpart. In addition, even if exempted from the notification requirements because of the quantities involved, all renovations must comply with the OSHA work practices and engineering controls for asbestos removal.

5. No response is necessary.

6. The EPA does not believe that the advantage, if any, gained by a more frequent accounting of the quantities of asbestos removed is sufficient to warrant a change in the rule. Only by requiring separate, advance notifications would enforcement personnel know ahead of time of removals. However, by their very nature, nonscheduled renovations often preclude advance notice of specific dates of removal and a requirement to submit an individual notice for each renovation would be excessive for facilities where renovations occur very frequently.

7.1.10 Emergency Renovations --Section 61.145(a)(4)(ii)

Comment: According to commenter 20, Section 61.145(a)(4)(ii), as proposed, creates a loophole for emergency renovations that allows owner/operators to ignore the notification, control procedures, and disposal requirements even though they may be regulated under the planned renovation provision of (a)(4)(i). They recommend adding to (a)(4)(ii) "plus the additive amount estimated in paragraph (a)(4)i)."

Response: The commenter's statements are addressing an existing provision of the rule and not a revision proposed on January 10, 1989. The EPA stated previously (40 FR 48292, October 14, 1975) that the basic characteristic that distinguishes a planned renovation from an emergency renovation is the degree of predictability of their occurrence. In planned renovations, the amount of asbestos to be stripped or removed within a given period of time can be predicted, whereas no such prediction can be made for emergency renovations. Therefore, by their unexpected occurrence, emergency renovations cannot be included in notifications given for planned, individual, nonscheduled renovations.

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7.1.11 Format

Comment: In light of the other appl icability provisions of Section 61.145(a) and the requirements of Section 61.145(c)(1) to remove asbestos prior to demolition, commenter 28 questio ns the necessity of Section 61.145(a)(1).

Response: Although EPA agrees that Section 61.145(a)(1) may be somewhat redundant in light of the other applicabi lity provisions and 61.145(c)(1), EPA has retained Section 61.145(a)(1) to avoi d any confusion that might result from its absence and also to make clear t he coverage of the rule.

7.1.12 Building Survey

Comment: Three commenters argue tha t EPA should include in the rule mandatory asbestos surveys. Commenter 4 states that EPA should require surveys for all buildings prior to and se parate from any demolition or renovation activity for these buildings. Commenter 4 states that such building surveys could become part of a p ublic record and the absence of a survey would be a violation. They also c omment that, if the survey indicated that a structure was asbestos free, all n otification and enforcement costs would be eliminated. Also, commenter 4 e xplains that a demolition without proper notification could be easily estab lished later.

Commenters 57 and 84 state that EPA' s requirement to survey buildings prior to demolition and renovation is imp licit and should be explicitly required to be performed by an accredited asbestos inspector. Commenter 57 also notes that OSHA requires a building survey by a competent person and EPA should similarly require a site -specific survey before demolition, with details on how the building will be demol ished and how the asbestos will be controlled.

Response: The EPA currently require s that a facility be inspected for asbestos prior to demolition or renovatio n. As a result of the survey, information on the asbestos material pres ent, the nature of the demolition or renovation, and measures that will be tak en to control emissions of asbestos must be reported to EPA. Commenters 57 a nd 84 are correct in that it is an implicit requirement and not stated expli citly in the rule. The final rule expressly requires a facility survey for asbestos prior to demolition or renovation. Although previously implied, this revision clarifies EPA's position on the requirement to perform bu ilding surveys. The EPA also considered the suggestion to require that surveys be performed by an "accredited" inspector or by a "competent " person as required by OSHA. OSHA's requirement to have a competent person pe rform an engineering survey prior to demolition (29 CFR 1926.850) is to ensure that the structural integrity of a structure is sufficient to prevent worker injury caused by the unplanned collapse of any portion of the structure; a search for asbestos is not required. The EPA believes that it would be inappropriate in this rulemaking to require that an accredited inspector o r competent person perform the survey although the use of an accredited inspect or would help to ensure a proper inspection as would following AHERA inspe ction procedures.

Commenter 4's suggestion to require in advance of demolition or renovation the survey of all buildings wo uld increase the stringency of regulation by requiring all owners and op erators to survey their facilities

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for asbestos even when no demolition or r enovation operations were planned. The revisions proposed on January 10, 198 9, are intended to clarify the rule and promote compliance. The need for rev isions that affect stringency may be considered at a later date. Nor is it cl ear that, at a later time when a building was to be demolished or renovate d, an additional survey might not be required to confirm the earlier survey or gather additional information necessary for the demolition or renovatio n. This resurveying and retesting might be an unnecessary additional cost.

7.2 NOTIFICATION

7.2.1 General

Comment: Several commenters conside r the notification procedures to be burdensome. Commenter 26 argues that the notification requirements are too complex and only establish a paper progra m. Commenter 63 is troubled by the increased and more stringent notification requirements and believes that the lack of flexibility in notification requi rements will inhibit the ability to schedule outages for maintenance. They a rgue that the more stringent the requirements, the more likely it is that sources will not notify. Commenter 67 believes that the notification require ments are not flexible; emphasis should be on keeping EPA apprised, not on paperwork.

Commenter 23 states that the notific ation procedures should not be relaxed to encourage compliance, although a simpler notification process is needed. Commenters 28 and 63 claim that EPA failed to recognize the cost of project delays resulting from notificatio n requirements. The cost of purchased replacement power during projec t delays, and the ramifications if replacement power is not available, have not been evaluated.

Response: The EPA does not intend t hat the notification requirements for renovation result in disruption of import ant industrial processes such as power production, although EPA believes t hat in some instances, it is appropriate to stop certain activities to comply with the notification waiting period. When the removal is part of a pl anned and scheduled repair/maintenance activity, there should be no additional burden associated with notifying in advance because the ope ration was planned in advance. If a removal operation is necessitated by an u nscheduled and unplanned event, then the operation is covered by the emergency renovation provisions and is not subject to the same waiting period as a p lanned and scheduled event. Other removals are necessitated by unscheduled events that, although unscheduled, can be predicted from past experience and are to be reported to EPA in advance. Such reports estimate the amoun ts and nature of these unscheduled removals.

7.2.2 Reason for Updating Notices

Comment: Commenter 15 suggests that , to avoid being flooded with minor revisions to update notifications under S ection 61.145(b)(1), and a qualifier, e.g., "if amount changes by 20 percent."

Response: The EPA agrees with the c ommenter's suggestion and has modified the requirement to update notice s, requiring that an updated notice is required when the amount of asbestos i nvolved changes by 20 percent or

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more. The EPA notes that the current rul e is interpreted to require certain actions when there is a change in the app licability status of an operation. For example, a contractor that notified E PA of a demolition that involved quantities below the threshold, but later discovers additional asbestos that puts the operation over the threshold, mu st then update their notification and comply with the work practices' requireme nts.

7.2.3 Identifying Updated Notices

Comment: Commenter 15 suggests that the revised notices required by Sections 61.145(b)(1) and 61.145(b)(3)(iv) should be clearly identified as such.

Response: The EPA believes this is a good comment and has added a space on the example notification form to allow the notifier to indicate if the notice is an updated version.

7.2.4 Where to Send

Comment: Commenter 15 and 25 reques t clarification under Section 61.145(b)(2) on whether the notice has to be sent to both EPA and the delegated authority. If so, they argued that this was excessive.

Response: This can vary from region to region. The owner/operator should talk with the appropriate enforcem ent agency to see where they should send their notices.

7.2.5 Waiting Period Between Notificati on and Beginning Work -- 61.145(b)(3)(i)

Comment: 1. Commenter 21 supports EPA's revision to clarify the definition of the waiting period between notification and initiation of asbestos vs. nonasbestos work.

2. Commenter 46 suggests that EPA m ake it clear in the regulation that the preparation procedures that do not di sturb asbestos are exempt from the notification waiting period.

3. One commenter suggests replacing "and" with "or" in "(a)(1) and (4)," in Section 61.145.

4. Commenter 83 argues that activit ies that are an integral part of abatement, even if no asbestos is disturb ed, should not start before the scheduled start date.

Response: 1. No response is necess ary.

2. The EPA explained in the preambl e to the revisions proposed on January 10, 1989, that preparation activi ties that do not disturb asbestos are not included in the notification waiting period. The EPA believes that this point is clear and that it is unnecessary to revise the regulation.

3. The EPA agrees with the commente r and has made the change.

4. The EPA does not consider it nec essary or appropriate to require contractors to delay activities that do n ot disturb asbestos until the scheduled start date.

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7.2.6 Individual Nonscheduled Renovation --Section 61.145(b)(3)(ii)

Comment: 1. Commenter 40 requests that EPA address the procedure for complying with the Section 61.145(b)(3)(ii) annual notice requirement for the year that the rule goes into affect.

2. Commenters 41 and 43 ask whether a separate notice is required when an individual project exceeds the threshold and whether a notice is required for each project after the original estimate has been exceeded.

3. Commenter 63 recommends that the notification be submitted at any time during a calendar year, but before the notification quantities are exceeded for that year.

4. Commenter 77 recommends that EPA require prior telephone notice for each job with monthly, after-the-fact written accounts.

Response: 1. Commenter 40 raises a good point. The revised notification requirement for individual nonscheduled renovations would not apply until the calendar year following the year that these revisions take affect. Until then, the previous requirements would apply.

2. For each individual nonscheduled renovation that occurs, either after the threshold is reached or the original projected amount for the year is reached, a separate notification is not required. However, for any planned and scheduled renovation that exceeds the threshold amounts, a separate notification is required. In addition, a notification is required at any time during a calendar year that the threshold is exceeded even if the owner/operator did not expect to exceed the threshold and, therefore, did not submit an annual notification in advance.

3. If it is known that the amount of asbestos to be removed will, or is likely to, exceed the threshold amounts, EPA prefers to have the notifications at the beginning of the calendar year for planning purposes.

4. The EPA believes that some renovations would occur on weekends or holidays when it would not be possible to report by telephone before the project begins. Furthermore, many operations would consist of small repair or maintenance operations and would result in a large number of calls to EPA. For these reasons, EPA sees no advantage to a monthly, after-the-fact report over an advance notice.

7.2.7 Emergency Renovation --Section 61.145(b)(3)(iii)

Comment: The following comments were received on the notification requirements for emergency renovation.

1. Commenter 65 suggests that EPA allow telephone notification for emergency renovations as well as for notifying EPA of changes in work dates and work practices. Commenter 63 states that it may not be possible to make a complete and accurate notification within 1 working day and that the notification should be required within 5 working days after the emergency occurs. Or, as commenter 63 notes, an informal telephone notice would be given within 1 working day. Given the nature of most emergency removals, this change will not hinder enforcement. Also, delete the word "before" in the first line of paragraph (b)(3)(iii). Commenter 84 agrees that, for emergency renovations, notification by telephone (or fax copier) prior to removal be

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permitted, followed up in writing. This would allow enforcement agencies to determine if an inspection is necessary and eliminate questions on how to comply with emergency operations.

2. Commenter 41 questions the usefulness of notification after an emergency renovation and suggests that this information be kept on file at the site and available for inspection.

3. Commenter 63 states that the quantity of asbestos to be removed as part of emergency renovations cannot be estimated prior to their occurrence and so should not be included in the annual notification.

4. Commenter 31 requests that EPA clarify the requirements for emergency notifications; otherwise, contractors may take advantage of gray areas, making it difficult to have equitable bidding processes.

Response: 1. The EPA prefers a written notification and is prepared to accept and will take no action against an owner/operator who submits an incomplete notification of an emergency renovation postmarked not later than 1 working day after renovation begins and follows it up with a revised and complete notification. The EPA is of the opinion that facsimile technology (fax) is not yet sufficiently reliable to be considered an acceptable means for transmitting notifications.

2. The EPA does not agree that notification by the following working day for an emergency renovation serves no useful purpose. An emergency renovation can go on for days, even weeks or months, giving enforcement officials ample opportunity to inspect the operation.

3. The EPA does not require annual predictions of the quantities of asbestos to be removed as a result of emergency renovations. Annual predictions are required for individual nonscheduled renovations that can be predicted based on past experience. Emergency renovations are unexpected events that cannot be predicted.

4. While favoring equitable bidding, EPA has no authority to regulate business transactions.

7.2.8 Ordered Demolitions

Comment: Commenter 13 recommends that Section 61.145(b)(3)(iii) be revised to require a notification that is postmarked or received a working day prior to beginning the demolition of a facility ordered by a government authority. They argued that several days could conceivably lapse before EPA received notification of such a demolition, depriving EPA of the opportunity to monitor the demolition and confirm that the demolition was a building in danger of imminent collapse.

Response: Although EPA understands the concern expressed by this commenter, EPA believes that there are sufficient reasons to warrant these notification requirements in addition to safeguards to discourage abuse of this provision. Typically, a demolition is ordered when a building has been declared unsafe and in danger of collapse as a result of damage caused by fire. A representative from the fire department or a building inspector employed by the appropriate government agency makes this determination. These structures must typically be demolished immediately and cannot await an inspection by EPA. Furthermore, to discourage abuse of this provision, the

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notification that is submitted must identify the government representative who ordered the demolition and the date the order was issued and the date the demolition was ordered to begin.

7.2.9 Notification Period

Comment: 1. Commenter 15 argues that the 10-day notice for renovation will result in a significant increase in incomplete notifications or subsequent revisions with resulting confusion. This will be especially true for schools where final contractor selection is not made until a few days before the project starts; the contractor information on the form may be blank until a contractor is selected.

2. Due to numerous factors beyond the owner or operator's control, commenter 43 argues that the 10-day advance notice of the exact date of removal is an unnecessary administrative requirement that will severely impact the regulated community. Commenter 43 recommends that EPA allow owner/operators to furnish an approximate schedule with a specific date before which no removal activities can occur.

3. Commenter 63 explains that in the electric utility business emergency situations, such as equipment breakdowns and malfunctions, occur frequently.

In such unplanned situations, a 10-day notification waiting period is unreasonable; a notification as soon as possible, or 1 day before asbestos removal work begins, would be reasonable.

4. Given the urgency of some renovations, as in industrial settings, commenter 17 proposes an optional 5-day notification period for renovations as long as enforcement has time to monitor the project, in addition to the 10-day period. The 5-day notification would be allowed in areas covered by State or local agencies with a proven record of inspection.

5. Because of the time constraints of ships in for repairs as well as the lack of advance information on the nature of ship repair work, commenter 37 suggests allowing notification for shipyard renovations by telephone or fax "as early as possible, but no later than the following work day," similar to emergency renovations.

6. Commenter 76 requests that EPA waive the 10-day notification for situations in addition to emergency renovation, e.g., where unexpected asbestos is found, and allow notification by telephone or allow the provision for contingency plans to cover this situation; halting activities for 10 days could be a hardship.

7. Commenter 4 argues that the changes in the notification requirements will have significant adverse effects on small operators who do not have the latitude to move crews among several removal sites to satisfy notification requirements. They claim that the change from "calendar days" to "working days" increases the actual waiting time before a project can start. It is also very difficult, according to commenter 4, to predict in advance the exact starting date of a project. Commenter 4 questions whether it would be a violation if asbestos removal did not start on the exact date. They argue that small entities will be disproportionately impacted.

8. Commenter 23 requests that EPA consider ways to streamline the notification process.

9. According to commenter 94, circumstances beyond the control of the

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owner/operator make the 10-day notification unrealistic for renovation; "as early as possible..." has been sufficient for enforcement purposes.

10. Commenters 23, 26, 29, 30, 32, 73, and 81 support the 10-day written notification period for all planned demolitions and renovations.

11. Commenter 66 argues that EPA should require receipt of notification by correct office, instead of postmarked, 10 days prior to start of project because the contractor often mails the notice to the wrong office. Commenter 66 also recommends allowing the use of overnight mail service.

12, Commenter 84 argues that compliance should be based on receipt by the Administrator, not postmark.

13. In commenter 84's experience, 5 days is adequate notice before removal begins, which is normally 8 to 10 days prior to the actual stripping.

Response: 1. The EPA believes that proper planning should make 10 days an adequate amount of time without being overly burdensome. If, as commenter 15 suggests, the 10-day notification period will result in some incomplete notices, a revised notice should be submitted when the missing information is obtained.

2. Many renovations, such as renovations in schools, office buildings, commercial buildings, and industrial facilities, already provide advance notice for planned, scheduled renovations. If the renovation is not planned or is an individual nonscheduled renovation, then provisions other than the 10-day waiting period apply.

3. The type of situations described by commenter 63 would typically be covered by the provisions for emergency renovations; the 10-day waiting period would not apply.

4. The EPA adopted the 10-day notification period for national uniformity and because proper planning by owners and operators of demolition and renovation activities should make 10-day notice feasible. Also, most enforcement agencies need the 10-day notice.

5. Although ship repair activities do appear to present a different set of problems from other regulated sources under the NESHAP, EPA believes that the standard is adequate to deal with ship repair operations without making exceptions to the NESHAP. Shipyards can provide notifications in advance and update them when they have more complete information on the work to be performed.

6. If a notification was previously submitted and additional asbestos is discovered as part of a renovation, the owner/operator must submit only an updated notice without any additional waiting. If no notification was submitted for a renovation, the owner/operator must stop all asbestos-related activities and submit a notification and wait the required 10 days before resuming any activities that affect asbestos. The EPA believes, however, that because of the careful planning that usually precedes renovation, the discovery of unexpected asbestos is unlikely. In demolition, where the discovery of unexpected asbestos is a more common event, requirements were added in the notification and work practice revisions proposed on January 10, 1989, as well as in the waste disposal provisions that will help ensure the

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proper handling and disposal of asbestos that is unexpectedly found.

7. The EPA agrees that the change from "calendar" to "working" days will increase the actual waiting time before a project can start, and appreciates that this change may be troublesome for small operators. However, EPA does not believe that many small operators will be affected, and notes that the average firm size is getting larger and that more and more the asbestos removal work is done by specialized abatement contractors. The EPA acknowledges that it may at times be difficult to predict the exact starting

date of a project. The rule contains a provision for renotifying if there is a change in the start date. As long as asbestos removal did not begin before the date given on the notification, it would not be a violation, but failure to renotify of a changed start date would be a violation.

8. The revisions streamline the notification process by deleting the certified mail requirement and adding a provision for renotification utilizing a combination of telephone and overnight delivery in some instances without an additional waiting period. The EPA is interested in streamlining the notification process and will continue to seek opportunities to do so.

9. The EPA considers that in many instances it is possible to provide 10 working days' notice. The new provisions for renotification proposed on January 10, 1989, will make it easier for contractors to comply and lessen the adverse implications for contractors and EPA of giving a starting date on a notification that subsequently must be changed.

10. No response is necessary.

11. To require receipt of notice to demolish or renovate 10 days prior to removal operations instead of postmarked 10 days in advance would be equivalent to a 12 or 13 day prior notice. The EPA experience has been that, in most instances, the requirement for a notice postmarked 10 days prior to removal allows enforcement 5 to 7 days to inspect a removal operation, which has been adequate.

12. Most notifications are mailed to EPA. Because of some variability in the time required for notices to arrive at EPA's offices from the day mailed, it would be difficult to know when to mail a notice in order for it to arrive at EPA by the specified time.

13. No response is necessary,

7.2.10 Distinction Between Removal as Part of Demolition or Renovation

Comment: Commenter 18 asks if a building in which the asbestos is removed before being demolished is a renovation or a demolition, or both. Commenter 18 also asks if all the asbestos is removed as part of a renovation and then the building is demolished, is a 10-day notice for the demolition required?

Response: If the asbestos is being removed in order to demolish the building, the removal is considered part of the demolition operation. The asbestos could be removed as part of a renovation; at a later time and in an unrelated activity, the building could be demolished. In this situation, the asbestos removal would be part of a renovation activity. However, a notification would still be required for the demolition of the asbestos-free building to give EPA the opportunity to verify that all of the friable

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asbestos had been removed.

7.2.11 Renotification

Comment: Numerous comments were rec eived on the proposed renotification requirements. Although a few favored the requirements as proposed and a few thought the requirements should be more s tringent, most of the commenters thought they were burdensome and unworkab le as proposed. The comments are as follows:

1. Commenter 18 considers the renot ification requirements a relaxation of notice requirements that will cause di fficulty in scheduling inspections and could be used to circumvent the rule.

2. Commenter 18 suggests requiring a significant permit fee prior to allowing schedule revisions.

3. Commenter 28 disagrees with the NADC comment in the proposal preamble that renotification by telephone should b e allowed; commenter 28 recommends a 10-day notice for all projects.

4. Commenter 18 argues that resched uling should not be allowed if the contractor has never been inspected or if an unresolved enforcement action is pending.

5. Commenters 15 and 30 agree that pinpointing the start date should improve the effectiveness of enforcement programs. Commenters 15, 18, and 84 argue that the same requirement should al so apply to completion dates. For projects of long duration, commenter 84 r ecommends monthly or quarterly updates.

6. Commenter 21 suggests that the r enotification provisions be made more flexible by allowing the actual start dat e to vary by a couple of days for projects lasting longer than 5 days befor e requiring the owner/operator to renotify.

7. Commenters 21, 25, 26, 36, 37, 4 1, 42, 45, 46, 49, 50, 58, 59, 60, 61, 62, 65, 69, 71, 73, 74, 76, 87, 88, a nd 94 suggest the EPA allow the use of some other means besides certified mai l for renotification, such as same day telephone or telefax messages, when a 5-day written notice would further delay the project. This would be simpler and less time-consuming. Commenter 41 also suggests that, when it is feasibl e to provide a 5-day written notice, i.e., delays are known at least 5 days in advance, then such notice would be provided. Also, as commenters 46, 49, 50 , 58, 60, 62, 69, and 73 suggest, a telephone notice could be followed by a w ritten notice.

8. According to commenters 23, 24, 36, 37, 41, 42, 43, 45, 46, 49, 50, 51, 58, 59, 63, 64, 73, 75, 76, 78, 87, 8 8, and 94, there are numerous unforeseen factors, such as equipment mob ilization problems, personnel availability, weather, or other project d ifficulties, that can cause a removal project to start on a date other than the one submitted in the original notification. These commenters explain t hat the proposed renotification requirements, with their additional waiti ng requirements, could result in

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unreasonable project delays and significa ntly increased project costs. Several of these commenters and commenter 84 suggest that EPA allow a project to start within some reasonable period of time, such as a couple of days, of the original start date without having to renotify EPA in writing. The EPA should provide for some flexibility in pr edicting the exact start date. In the experience of one of the commenters, jobs usually start within a day or two of the scheduled date.

9. Commenters 23, 24, 27, 43, and 4 9 argue that the proposed renotification requirements will result i n additional burdensome paperwork for EPA and the owner/operator because of the need to submit extra forms with each change in start date.

10. Commenter 58 asks that EPA expli citly state that a delay in the start date is not a violation of the rule.

11. Commenter 69 notes that the prov ision in Section 61.145(b)(3) that prohibits removal work from starting on a ny day other than the one specified in the revised notice could be interprete d to prohibit starting work at any time if work cannot start on the new star t date.

12. Commenter 83 states that the wor ding of Section 61.145(b)(3) suggests that a project start date may only be cha nged once.

13. Commenter 84 is concerned that t he renotification provision will be used to circumvent the 10-day notification requirement by notifying EPA of a project far in advance, then renotifying upon assigning the contract 5 days or 3 working days in advance of the start da te.

14. Commenter 87 expresses doubt tha t the renotification requirements would aid compliance because commencing a sbestos removals before the startup date is currently a violation.

Response: 1. The EPA does not cons ider the renotification requirements to be a relaxation of the notification pr ovisions. Previously, an owner/operator would be complying with th e rule as long as a notification was sent the appropriate number of days in ad vance. They were not required to notify EPA of any change in start dates, occasionally resulting in an inspector arriving at a job that was fini shed or had not yet started.

2. As many commenters have noted, c hanges in start dates are common and often beyond the control of the owner/ope rator. The EPA simply wants to be kept informed of these changes so that th ey can inspect work sites while removal is taking place and not arrive at a site where the work has been completed or has not begun. The EPA does not see any advantage in requiring a fee each time there is a change in the st art date.

3. The EPA agrees that 10 days' not ification is appropriate for demolitions and renovations that can be p lanned for and scheduled. In some situations, however, such as emergency re novations or government-ordered

demolition of buildings that are in dange r of imminent collapse, EPA considers shorter notification periods appropriate. For renotification, a 10-day additional waiting period would be excess ively burdensome.

4. Changes in job start dates are a common occurrence in any construction activity, including asbestos abatement activities. The EPA does not intend to prohibit such changes, but wishes to be kept informed of change

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in order to efficiently schedule inspecti ons.

5. For the same reasons that start dates are often rescheduled, completion dates are also likely to chang e. Although EPA considers it important to be kept apprised of start da tes for removal operations, requiring owners/operators to continue to notify EP A throughout the project as to the expected completion date would be an exce ssive reporting requirement. The EPA should be able to use the information on the original notification to estimate the duration of a project in order to det ermine the new completion date based on the new start date.

Regarding the suggestion to require monthly or quarterly reports for removal jobs of long duration, EPA sees n o advantage to requiring such reports and believes that revisiting the site whi le the job is ongoing would be more useful.

6. Because the revised regulation w ill permit renotification by telephone followed by a written notice, E PA does not consider it necessary to allow the start date to vary by a couple of days, even for projects lasting longer than 5 days.

7. See response to comment 3.

8. See responses to comments 3 and 6.

9. The EPA acknowledges the fact th at the written renotification will require additional effort from the regula ted community. However, EPA considers this additional effort necessar y to enhance enforcement and improve compliance.

10. Commenter 58 is correct in the u nderstanding that a change in start date is not a violation of the rule. The EPA believes that this is commonly understood and does not think that is nec essary to state it in the rule.

11. It is our intention to limit to one the number of changes in start dates. The EPA considers such an interpr etation unlikely, but will consider discussing this in future information rel eases on the asbestos NESHAP.

12. See response to comment 11.

13. For operations where removal wil l begin earlier than the original start date, EPA has modified the provisio ns to require at least 10 -days notice in writing. In this situation, industry should not be unduly burdened and EPA will be assured of adequate advance notic e.

14. Previously, the rule only requir ed at least 10 days' advance notice. The owner/operator could notify EPA a mon th in advance to satisfy the requirement for at least 10 days' notice and then begin the project before the reported start date. The EPA considers t he revision proposed on January 10, 1989, necessary in order to correct that flaw in the NESHAP.

7.2.12 Notification Prior to Stripping

Comment: Commenter 15 agrees with t he clarification that notification is needed before asbestos stripping begins, versus before demolition, and including both dates in the notification is much needed.

Response: No response is necessary.

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7.2.13 Renotification/Updating

Comment: Commenter 28 recommends amending Section 61.145(b)(5) to require the use of a form similar to the notification form (figure 3) when amendments to the notification are submitted.

Response: The EPA agrees with the commenter's suggestion and has modified the rule to require the use of a form similar to the one contained in the revised rule whenever submitting a revised or updated notice. The EPA has also included on the example notification form a place to indicate that the notice being submitted is a revised notice.

7.2.14 Method of Notifying EPA --Section 61.145(b)(2)

Comment: Several comments were received on the requirement to use certified mail for notifying EPA. Most of the commenters object to the use of certified mail over other methods.

1. Commenters 23, 24, 25, 42, 78, 59, and 65 consider the certified mail requirement to be unnecessary for EPA to achieve the intended purpose of the notification process. It was stated that certified mail would require a trip to a post office, which is a deterrent to timely notifications. Commenters 23, 24, 41, and 78 argue that notification by telefax machine may be more practical than certified mail. Commenters 25, 65, and 83 suggest that notification by telephone or telefax be allowed, followed by a written notification. Commenters 24, 25, 42, and 65 observe that regular mailing of notices works satisfactorily and should be allowed. Commenters 28 and 66 favor allowing the use of overnight mail.

2. Commenter 59 argues that, if a State agency has jurisdiction, the method of notifying should be left up to the State agency.

3. Commenter 32 argues that all notifications should be in writing because telephone notification does not result in a legally enforceable written record. Also, commenter 32 states that allowing the use of telephone would promote schedule changes for minor reasons that would not otherwise be considered.

Response: 1. Several of the commenters object to the required use of certified mail even though EPA proposed the use of certified mail as a way of ensuring that owner/operators had proof of notification. In view of the negative comments and after reconsidering the issue, EPA has decided not to require certified mail although its use would be allowed. The use of the regular mail system, i.e., U.S. Postal Service, has worked satisfactorily in the past and will continue to be allowed. Also, because the rule specifies postmark "...or deliver...," private overnight mail delivery is permitted.

Regarding the use of telephone facsimile (fax) machines to transmit notices, EPA does not consider these systems to be sufficiently reliable, at this time, to allow their use. Often, it is difficult to know whether a transmission was successful. The EPA may consider the use of facsimile machines in the future when their reliability has been improved.

The EPA does not consider it necessary to allow the use of the telephone for the original notification of a demolition or renovation activity covered by this standard.

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2. Where States or local authoritie s enforce their own asbestos regulations, they may choose the notifica tion procedures. But if a State is delegated authority for enforcing the NES HAP, then they must adhere to the NESHAP's requirements.

3. The EPA is in agreement with the commenter who favors written notifications over telephone notification s and will continue to require the former.

7.2.15 Method of Notifying --Section 61.145(b)(3)

Comment: 1. Commenter 17 suggests that EPA omit all references to "postmarked" because the certified mail o ption will contain the information when the notice was received. Also, comm enter 17 thinks the postmark option is subject to abuse because a contractor could process several envelopes through a postage meter and then postpone actual delivery of the notices.

2. Commenters 29 and 30 support the use of certified mail.

3. Commenter 92 requests that recei pts be given for delivered notices.

Response: 1. The EPA believes it i s necessary to retain the postmark provision of the rule because, even thoug h it may be possible to have a notice postmarked 10 days prior to removal, it m ay not always be possible to ensure receipt of the notice by EPA 10 days befo re. Concerning the possible abuse of the postmark, a postmark is the official cancellation given to a piece of mail showing the post office and date of maili ng. A postmark is not the same as the markings made on mail by a postage me ter.

2. See the first response in Sectio n 7.2.14 of this BID.

3. The EPA agrees that a receipt sh ould be given for a hand-delivered notice. But rather than adding such a re quirement to the rule, EPA believes that the individual delivering the notice should simply request a receipt.

7.2.16 Information Required --General

Comment: 1. According to commenter 14, the proposed revisions requiring detailed information will result in a lar ge increase in incomplete and/or late notification, and will require increased enforcement efforts and additional staff.

2. Commenter 23 questions the need for the detailed information. The commenter questions the relevance of the information on the size and use of the facility.

3. Commenter 23 also argues that th e requirement for separate estimates of the amounts of friable and nonfriable asbestos makes the notification complicated; EPA should focus on the type of work to be performed and the general estimates of the amount of asbest os to be removed. They also argue that this information would provide compe titors with the ability to compare cost estimates.

Commenter 23 believes that it would be difficult in many cases to provide a full description of demolition or renov ation work and techniques as required because abatement contractors may not pos sess the information on the general,

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nonasbestos-related demolition and renovation procedu res.

Response: 1. Initially, an increas e in incomplete notification may occur. However, the number of incomplete notifications is expected to decline as the regulated community gains experien ce with the new requirements. A modest increase in or a reprogramming of enforcement effort may be required as a result of the revisions proposed on Jan uary 10, 1989.

2. The EPA considers the informatio n on size and use of a facility important because it may be useful to an inspector who is evaluating a notification from the aspect of whether o r not asbestos might be present and the amount potentially present.

3. The information on the amounts o f friable and nonfriable asbestos will be useful to an inspector who is pri oritizing inspections; facilities containing more nonfriable material may n ot be as high an inspection priority as a facility with more friable material. The EPA considers it unlikely that this information could be used to someone 's advantage any more than is currently done.

The EPA agrees that an abatement con tractor may not have information on general demolition or renovation procedur es. In those instances, the abatement contractor should note this on the notification.

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7.2.17 Information Required --Responsibility for Notification

Comment: To better inform building owners of the regulatory requirements, commenter 21 suggests requi ring building owners, or their representative, to sign and be identified on the demolition contractor's notification.

Commenter 36 requests that EPA make it clear that the independent abatement contractor can complete and sub mit all necessary forms.

Response: Regarding the commenter's suggestion to require the facility owner or operator to sign the notificatio n, EPA does not consider it necessary and notes that requiring both signatures may in some instances slow up the notification process. The fact that the building owner/operator has not signed the notification in no way alters their responsibility under the NESHAP.

The EPA agrees that the contractor d oing the asbestos removal can carry out the notification responsibilities and is perhaps is in the best position to do so. This does not, however, releas e the facility owner/operator from responsibility for ensuring that the remo val is performed in accordance with the NESHAP.

7.2.18 Information Required --Identification of Owner/Operator

Comment: Commenter 28 suggests incl uding "abatement contractor" in addition to the name of the owner or oper ator in Section 61.145(b)(4)(i). Commenter 54 recommends that, in addition to the facility owner/operator and abatement contractor, any other involved contractor/consultant should be identified.

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Commenter 61 suggests revising Section 61.145(b)(4)(i) to clarify whether "owner or operator" means that the notice is to be given by the facility owner or removal contractor.

Response: The definition of "owner or operator of a demolition or renovation activity" as proposed on January 10, 1989, encompasses not only the owner or operator of the building, but also the owner or operator of the demolition or renovation operation, and thus includes abatement contractors. However, for clarity, we have added to Section 61.145(b)(4)(i) a requirement to include information on the abatement contractor.

Section 61.145(b) states that notice shall be given by the "owner or operator." The EPA must receive notice from one of these parties but is not placing any restriction on which one actually provides the notice. In each individual case, there may be both an owner and an operator, or there may only be one or the other, thus EPA cannot be more specific about who should provide the notice.

7.2.19 Information Required --Description of Facility

Comment: 1. Commenter 61 recommends that Section 61.145(b)(4)(iii) be revised to clarify that, for renovations, the required description pertains only to the portion of the facility being altered.

2. According to commenter 28, the information on age, size, and prior use of a facility is of questionable enforcement value; because it has provided little useful information, it should be deleted and replaced with a term like "description," which will provide more useful information.

Response: 1. The EPA agrees and has modified the rule to require that, for renovations as well as for demolitions, the information on size, number of floors, age, and present or prior use applies only to the "affected" part of a facility when the entire facility is not involved.

2. The EPA believes that this information has been useful to enforcement officials in reviewing notifications. Information on type and age of facility may indicate the likelihood of asbestos being present. Information on the size of a facility can be used to evaluate the reported estimates of the amounts of asbestos in a facility.

7.2.20 Information Required --Asbestos Detection

Comment: 1. Commenter 4 asks what response other than "visual and bulk sample analysis" would be appropriate for the notification requirement to report the method of asbestos detection. Commenter 28 argues that the same answer would always be given, "building inspection," and should be deleted because it would be of little use.

2. Commenter 24 suggests that, for the method of asbestos detection as well as other information requirements, a one-time or annual submittal should be allowed instead of submitting the same information with each notification.

3. Commenter 30 supports the requirement to report the method of asbestos detection, stating that it would bolster their licensing requirements.

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4. Commenter 35 supports the requir ement, but suggests that the preamble to the final rule should clarify the leve l of detail intended.

5. Commenters 35 and 42 ask if a bu ilding owner could assume that certain material contains asbestos and tr eat it as such, or would bulk sampling always be required?

6. The requirement to report the me thod of detection is unnecessary, according to commenter 43. It is their o pinion that reporting the quantity of asbestos should be sufficient.

Response: 1. The EPA expects that, typically, polarized light microscopy (PLM) will be the method used to analyze bulk samples of suspect material. Other less reliable methods ar e available, and EPA would question

negative results using these methods. Th e availability of these other methods is the basis for requiring the informatio n on detection methods. To help clarify this requirement, EPA will modify the rule to require that the owner/operator report the method of detec tion "and analysis."

2. Because the response to this not ification requirement can usually be brief, EPA sees no reason why the informa tion cannot be submitted with each notification. Furthermore, a one -time report from a few owners/operators would be difficult to keep track of.

3. No response is necessary.

4. The EPA considers a brief answer adequate as long as the required information is reported.

5. An owner/operator may assume tha t suspect material is asbestos and treat it as such. On their notification, they should report that they "assumed the material to be asbestos."

6. See response no. 1.

7.2.21 Information Required --Quantity of Asbestos

Comment: Numerous comments were rec eived on the notification provisions in Section 61.145(b)(4)(v), particularly in regard to the requirement that the amounts of nonfriable and potentially fri able materials be reported in addition to the amount of friable materia l.

1. Commenter 28 argues that, becaus e most nonfriable material has the potential to be broken, crumbled, etc., t here is no need to provide separate estimates of the amounts of friable, nonf riable, and potentially friable materials. Therefore, commenter 28 sugge sts deleting the sentence calling for separate estimates. In a similar vein, c ommenter 64 explains that, because nonfriable material could become broken a nd, therefore, friable, it might be difficult to provide separate estimates o f the amount of friable material and the amount of nonfriable material. Comme nter 83 favors the reporting of nonfriable and potentially friable materi al regardless of the presence of friable asbestos.

2. Commenter 30 supports the requir ement to report the quantity of nonfriable material that may be significa ntly damaged.

3. Commenters 18 and 30 note that " reduce" in Section 61.145(b)(4)(v)

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should be "reduced."

4. Commenter 32 recommends that pipes be measured in linear units and surfaces in units of area; the commenter suggests that EPA clarify when asbestos quantities are to be reported in volume. Commenter 41 states that there was a need for consistency in the use of units in the applicability section, 61.145(a), and the notification section, 61.145(b). Commenters 41, 58, 59, 63, 64, and 73 argue that it would be more feasible to use one

measurement rather than continually calculating all three. Commenters 58, 62, and 75 explain that it was often difficult to determine the volume of in-place material. Commenter 62 believes this requirement will cause unnecessary exposure when workers attempt to determine the depth of the asbestos in order to determine volume. Commenter 32 and 59 agree that being able to report in units of volume was often beneficial.

5. Commenters 36, 37, 39, 41, 43, 46, 47, 48, 50, 58, 59, 61, 63, 65, 72, 74, 93, and 95 are critical of the requirement to report the quantity of material that is unlikely to become friable or crumbled, pulverized, or reduced to powder. The commenters consider this requirement inappropriate when there is little or no risk of significant fiber release from these materials. Several of these commenters argue that this requirement would not increase compliance or aid enforcement. Commenter 95 suggests that, if EPA persists in its belief that it needs information on nonfriable material that is unlikely to become friable or be crumbled, etc., it should only require an acknowledgement on the notification that such asbestos is present.

6. Commenter 42, 49, and 75 argue that the requirement to report materials that do not have the potential to be broken, crumbled, etc., is overly broad and would cover asbestos that will not be removed during a renovation project. They suggested that EPA should clarify that the estimate should only cover material that will be removed or disturbed during a renovation and not all the material in a facility.

7. According to commenter 45, the language of Section 61.145(b)(4)(v) and the definition of "renovation" require a notification to be sent for any modification to a facility, even when asbestos is not present.

8. Commenter 48 recommends that EPA clarify the notification requirements to avoid having renovations submit notifications when the only asbestos involved is nonfriable materials that will not become friable or be crumbled, etc.

9. Commenter 73 believes that it will be difficult and is unnecessary to provide estimates of the amounts that both have and will not have the potential to break down. This is particularly true when an estimate is being made of the amount of asbestos to be removed annually. Commenter 64 notes that removal of nonfriable material could be required under "certain conditions" that would cause it to become friable or release significant amounts of asbestos fibers. They argue that it would often be difficult ahead of time to know if these "certain conditions" exist before a removal project begins.

Response: 1. The EPA believes that some nonfriable materials do not become friable (crushable with hand pressure) or release significant levels of asbestos fibers even when left in buildings that are being demolished. The EPA believes these materials should be distinguished from those materials that

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are friable or are likely to release sign ificant levels of fibers when severely damaged.

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2. No response is necessary.

3. This paragraph has been modified , thereby removing the need to make this correction.

4. The EPA intended for linear and area units to be used for in -place materials and for volume to be used in th ose instances when the material is already off the facility components and t he in-place amounts are not known. This has occurred, for example, when an i nspector arrived at a removal site where no information was available on the amount of in -place asbestos and the inspector had to determine if the operati on is subject to the NESHAP. The EPA did not intend for asbestos quantities to be reported in volume in addition to linear and area units. The EPA has modif ied the rule to clarify this point.

5. The EPA has determined that the following asbestos -containing materials are normally nonfriable and und er most conditions, are exempt from the removal requirements prior to demolit ion: resilient floor covering, asphalt roofing material, packings, and g askets. If these materials are sanded, ground, or abraded, they must be treated according to the NESHAP. However, this does not eliminate the need to report in notification when prioritizing inspections of demolitions a nd renovations.

6. Only the asbestos that will be a ffected by the demolition of renovation must be reported. We have mod ified the rule to require the reporting of only that material that is i n the affected part of the facility.

7. Renovations where no asbestos is present are not subject to the notification requirements, unlike demolit ions involving no asbestos or amounts below the threshold. Renovations involvi ng nonfriable asbestos that is unlikely to become friable, and will not release significant amounts of asbestos fibers, are not subject to the N ESHAP, including the notification requirements. Renovations that are likel y to result in damage significant enough to cause the material to become fr iable, or release significant amounts of asbestos fibers to the air, are subjec t to the NESHAP. Because of these and other comments, the rule has been rev ised to clarify under what circumstances renovations, as well as dem olitions involving nonfriable asbestos, are subject to the rule.

8. See response no. 7.

9. The EPA has modified the rule to clarify under what circumstances renovations and demolitions involving non friable asbestos that is unlikely to become friable or release significant asb estos emissions when damaged, and nonfriable material that is likely to bec ome friable or release significant amounts of asbestos to the air, are subje ct to the rule. The EPA will also issue additional information at a later t ime to provide additional clarification.

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7.2.22 Information Required --Address--Section 61.145(b)(4)(vi)

Comment: Commenter 28 recommends re vising Section 61.145(b)(4)(vi) to require the city, street address, State, and county of the demolition or renovation activity.

Response: The EPA has clarified loc ation to include street address, city, county, and State where the demolit ion or renovation is taking place. We have also modified the rule to require information on building number or name and floor or room number, if appropr iate. This will help enforcement personnel locate the demolition or renova tion activity at facilities where there are numerous buildings, or within a building that contains numerous floors and rooms and only a single room i s involved.

7.2.23 Information Required --Dates--Section 61.145(b)(4)(vii)

Comment: Commenter 23 recommends el iminating the requirement in Section 61.145(b)(4)(vii) for scheduled starting and completion dates and allowing approximate dates with specific dates sup plied by telephone. Commenter 23 recommends the use of different notificat ion procedures depending on the size and time required to complete a job. Acc ording to commenters 24, 43, and 63, requiring information on the dates of dem olition or renovation, especially the completion dates, are unnecessary.

Commenter 28 argues that the dates o f demolition or renovation in Section 61.145(b)(4)(viii) are sufficient for enf orcement; the removal dates (Section 61.145(b)(4)(vii)) are unnecessary. Comm enter 29 supports requiring scheduled dates for both abatement work and demolit ion/renovation work.

Commenter 84 argues that information on the days of the week and hours of operation are important and should be req uired.

Response: The EPA needs the contrac tor's considered best estimate of the starting and completion dates in order to determine the duration of the job and plan inspection visits to the job sit e. By revising the rule to allow telephone renotification followed by a wr itten renotification of a change in start date without additional lengthy del ays, EPA has made renotification easier; hence, it should be less burdenso me for the regulated community. Rather than complicate matters, EPA prefe rs to use only one notification procedure. The EPA notes that asbestos r emoval operations may take place only during a small fraction of the time in wh ich a demolition or renovation is performed. For that reason, asbestos rem oval dates are a vital part of the information that EPA needs to plan for in spection visits. Only one commenter addresses the need for specifying days of the weeks and hours of the day on the notification. The EPA is aware that weekend and night removals do take place. Nevertheless, EPA does not consid er it necessary to require that such specific information be provided in the n otification.

7.2.24 Information Required --Dates for Individual Nonscheduled Renovat ions--Section 61.145(b)(4)(vii)

Comment: Commenter 20 recommends th at EPA revise Section 61.145(b)(4)(vii) by adding "for notifica tions submitted under paragraph (b)(3)(ii) of this section, include the b eginning and ending dates of the

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report period" in place of "planned renov ation operations involving..." They explain that this change would help clari fy that an annual notification is required and that separate notification i s required on actual projects.

Response: The EPA allows facilities to submit an annual notification for individual nonscheduled renovations. For planned renovations that are scheduled and that involve quantities of asbestos above the threshold, separate notifications are required for e ach project. Separate notifications are not required for individual nonschedu led renovations, even if the amount of asbestos exceeds the threshold.

7.2.25 Information Required --Methods--Section 61.145(b)(4)(ix)

Comment: Commenter 15 states that t he "methods to be employed" information required in Section 61.145(b) (4)(ix) needs to be clearly described, i.e., cutting, scraping, wires cut and carefully lowered, etc. They explain that "nature and methods" ha s always been unclear. Commenter 28 argues that this information is usually t he same brief answer; therefore, delete Section 61.145(b)(4)(ix) and (x). Similarly, commenter 43 argues that providing a description of procedures to prevent nonfriable materials from becoming friable is unnecessary and shoul d be deleted. Commenter 25 explains that their description of methods and pro cedures was very lengthy and the same for each job; they feel that EPA should a llow them to file this information once and refer to it in each notice.

Response: In Section 61.145(b)(4)(i x), "methods" refers to demolition/renovation procedures. Inform ation on methods, even if brief in nature, is of use to EPA. For example, i f the response to the demolition/renovation procedure is implos ion versus floor-by-floor demolition, even such a brief response will help an i nspector prioritize inspections.

The EPA needs enough information on the methods to judge whether or not it appears likely that the removal will b e done in compliance with the NESHAP, and information on procedures to prevent nonfriable materials from becoming friable is necessary in order to make suc h a judgment. Although EPA believes it is appropriate and beneficial for an o wner/operator to have a detailed procedure for their abatement activities, it is not necessary for EPA to have such a detailed accounting of the procedu res.

7.2.26 Information Required --Trained Supervisor--Section 61.145(b)(4)(xii)

Comment: 1. Commenters 49 and 62 r ecommend that the notice not require the name of the trained on-site supervisor because they may have sev eral that are qualified and not know ahead of time which one will supervise the job; a certification that a trained individual w ill be used should be sufficient.

2. Commenters 73 and 84 believe tha t the new training requirement may create some problems and confusion. They argue that EPA should clarify that a contractor's trained supervisor or a duly authorized representative of the owner/operator should be able to supervis e the demolition or renovation, and that a facility owner does not need to pr ovide such expertise.

3. Commenter 66 recommends expandin g notification information to include the contractor's state registration numbe r and the training experience of an on-site supervisor(s).

4. Commenter 63 explains that a fac ility owner may not know the name of the trained on-site supervisor when he/she notifies EPA for the contractor.

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In this case, the owner should be allowed to certify on the notification that the removal contract specifies that the contractor's on-site supervisor be trained.

Response: 1. The EPA agrees with the commenters that a certification to the affect that a job will be appropriately supervised is adequate. In fact, Section 61.145(b)(4)(xii) requires only such a certification; the form in Figure 3 contains a statement calling for the trained person's name. The EPA has revised the example form to be consistent with the requirement in Section 61.145(b)(4)(xii).

2. The EPA agrees and has modified the rule to require that a trained person supervise removal operations, and not just the owner or operator of the demolition or renovation.

3. Because the differences among States and Regions and where notifications are sent and because, in some instances, facility owners may be submitting the notifications, EPA feels that a national regulation requiring State registration numbers would be confusing to many regulated sources and would not necessarily aid enforcement or increase compliance. Regarding the commenter's recommendation to include information on training experience, EPA feels that the requirement to certify training in the NESHAP carries sufficient legal authority without requiring details of the training.

4. See response no. 1.

7.2.27 Information Required --Ordered Demolition--Section 61.145(b)(4)(xiii)

Comment: Commenter 30 supports the requirement to include the date that the order to demolish was issued and the date that the demolition was ordered to begin.

Response: No response is necessary.

7.2.28 Information Required --Emergency Renovations --Section 61.145(b)(4)(xiv)

Comment: 1. Commenter 28 recommends a format change; they suggest that Section 61.145(b)(4)(xiv), the emergency renovation information, be renumbered as Section 61.145(d).

2. Commenter 29 supports the proposed notification requirements for emergency renovations; it allows the owner/operator to address the real environmental problem and then worry about the paperwork.

3. Two commenters note that Section 61.145(b)(4)(xiv) did not include the nonroutine failure of equipment as a reason for performing an emergency renovation. Commenter 59 states that Section 61.145(b)(4)(xiv) should be revised to allow an emergency renovation for nonroutine failures of equipment to be consistent with the definition of "emergency renovation." Commenter 62 states that this provision should be revised by adding "or disruption of normal industrial operations" to be consistent with the definition of "emergency renovation" and Figure 3.

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Response: 1. The EPA sees no advan tage in creating a new paragraph (d) for the emergency renovation information that is required in the notification. The EPA considers it more appropriate to keep this information requirement with the rest of the notification require ments.

2. No response is necessary.

3. The EPA agrees with the commente rs that, as proposed, an apparent inconsistency exists between the definiti on of "emergency renovation," the notification requirements of Section 61.1 45(b)(4)(xiv), and item XIV in Figure 3. After further considering the problem, EPA believes that to allow nonroutine failures involving only unsafe conditions to qualify as an emergency renovation would impose an unre asonable financial burden on those sources that experience a sudden, unexpec ted equipment failure and would be required to provide 10 days' notice. The EPA believes it is necessary to provide greater flexibility for renovatio ns necessitated by sudden, unexpected events. Therefore, the asbestos revision s also consider a renovation necessitated by the sudden, unexpected di sruption of normal industrial operations to be an emergency renovation.

7.2.29 Information Required --Discovery of Unexpected Asbestos --Section 61.145(b)(4)(xv)

Several comments were received regar ding the notification requirements for the discovery of unexpected asbestos.

1. Commenters 13 and 84 argue that this revision will provide a loophole to avoid following other work practices. Commenter 13 notes that unacceptable actions could result and cause needless w ork in contacting contractors and revised notices. This commenter recommen ds that EPA require work to stop immediately, followed by written notice b efore starting work again. Commenter

84 suggests that it be handled with a tel ephone notice followed by a written notice. Commenter 92 also favors adding a notification requirement for the discovery of unexpected asbestos.

2. Commenter 17 suggests that EPA r equire the owner/operator to report if such contingency plans were ever imple mented.

3. Commenters 17 and 76 support the requirement for owners/operators to have a contingency plan in the event unex pected asbestos is discovered. Commenter 68 believes that the requiremen t for contingency plans should alleviate some of the concern among demol ition contractors about being found in violation when new or additional asbes tos is discovered.

4. Commenter 30 recommends that som e provisions be added to control the runoff of asbestos-contaminated water resulting from the wet ting procedure required to keep newly discovered asbesto s wet.

5. Commenter 4 wonders what other r esponse would ever be provided besides "stop demolition and abate newly exposed asbestos." Commenter 28 favors deleting this requirement as usele ss because the response would always be the same, "wet down the material." Co mmenters 43 and 79 consider the requirement unnecessary and state that it should be deleted. Commenter 79 explains that the existing provisions are adequate to handle the discovery of unexpected asbestos.

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6. Commenters 24 and 87 recommend that EPA allow a one-time submittal or an annual submittal rather than submitting the plan with each notification. Commenter 42 argues that, because such contingency plans would be voluminous, EPA should allow the plans to be kept at the work site, and be available for inspection, rather than submitting the plans with each notification.

7. Commenter 55 explains that an owner/operator would have to provide EPA with a manual of procedures for all response actions because it is not always possible to know in advance what will be encountered. They argue that this is not practical. Nor is it practical, according to commenter 55, to wait 10 days for renotification while a hazardous condition remains unabated, or a building is left vacant, which is costly for the owner.

8. Commenters 59 and 83 state that contingency plans should not be part of the notification. Commenter 59 argues that contingency planning for the discovery of unexpected asbestos should be part of supervisor training and not a plan submitted with every notification. They explain that, for a contractor, contingency plans could change from job to job, while a facility like an electric generating plant would have the same contingency plans.

9. Commenters 62 and 87 question the ability to give a detailed abatement plan for an unknown situation. Commenter 62 suggests that the provision should be revised to require use of the original plan to the maximum extent possible, while commenter 87 suggests allowing a general statement of plans to satisfy the requirement. Commenters 73 and 87 support the requirement for contingency plans, but recommend that EPA not require

submission of elaborate plans. Commenter 73 notes that the discovery of additional asbestos materials will probably result in the same demolition or renovation methods being used as described in the original notification, and they suggest allowing a simple reference to this fact in the notification.

Response: 1. This provision provides owners/operators with an alternative procedure in the event that asbestos is unexpectedly discovered or nonfriable material becomes friable. Previously, EPA would have required that the demolition or renovation be halted and EPA be notified if no notification had been sent in the case of renovation or, in the case of demolition, a notification was sent to EPA that reported the amount of asbestos as being below the threshold. Such delays can be very costly for facility owners/operators as well as for contractors. Under the asbestos revisions, the owner/operator must have a contingency plan in the event that unexpected asbestos is discovered; moreover, rather than halting operations to notify EPA, the owner/operator may continue the operation and remove the newly discovered asbestos without delaying the project. An amended notification or a new notification must be submitted, but there is no waiting period before continuing operations or removing the asbestos. If the newly discovered asbestos cannot be safely removed, the asbestos-containing material must be kept wet and the entire asbestos-contaminated wastepile (or the portion that is contaminated) disposed of as asbestos-containing waste material. The EPA believes that the cost of the requirement to dispose of the contaminated wastepile as asbestos will discourage contractors from using this as a way to avoid removing asbestos.

2. Because a revised notification would have to be submitted if a significant additional amount of asbestos is discovered, EPA will be made aware of instances where new asbestos is discovered. This will serve the same purpose as the report that commenter 17 recommends.

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3. No response is necessary.

4. The Clean Air Act does not confe r the authority to address runoff problems. However, the rule does require leak-tight containers that will help restrict the movement of asbestos -contaminated water. Additionally, if the wetting is too carelessly performed and l arge amounts of contaminated runoff result, the operator may be in violation of the requirement to properly contain waste. In some locations, operat ors will have to comply with State and local regulations.

5. The EPA considers this provision an important part of the notification because it will force owners /operators to consider how they will deal with unexpected asbestos or previous ly nonfriable material before the fact. Further it is not clear to EPA tha t the response would always be the same.

6. The plan that EPA is requesting as part of the notification should provide general information on procedures to deal with unexpected asbestos or previously nonfriable asbestos material t hat becomes broken, crumbled,

pulverized, or reduced to powder; very de tailed and voluminous descriptions are not expected. The EPA does expect a plan to be submitted with each notification, however. Owners/operators, of course, may prepare plans at any level of detail for their own use.

7. Regarding the second part of com ment no. 7, under this provision, the owner/operator does not have to notify an d wait before continuing the demolition or renovation.

8. The EPA intends that the require d training on the asbestos NESHAP cover the notification requirements, incl uding the need for contingency plans.

9. The EPA's intention in requiring information in the notification on a contingency plan is to ensure that owners /operators have considered this possibility. The EPA understands that th e exact nature of each situation in which unexpected asbestos is discovered c annot be known in advance. The required contingency plans do not necessa rily have to be detailed and elaborate plans. Rather, they can be a g eneral plan or approach in the event that new asbestos is discovered, includin g the intent to remove the asbestos according to the procedures outlined in t he original notification, if appropriate.

7.2.30 Notification Form

Comment: Several comments were rece ived on the sample notification form, Figure 3 in the proposed revisions. Most of the commenters consider the form too detailed and confusing. The followin g comments were received.

1. Commenters 15, 54, and 57 think the form was difficult to read and confusing. Commenter 15 also states that the form did not allow enough space for recording information. Commenter 54 states that there appeared to be an inconsistency between the information req uired by Section 61.145(b) and that required in Figure 3. While supporting t he requirement for a more detailed notification, commenter 57 thinks the lan guage was confusing and needs to be simplified. They suggest that the additi on of a table summarizing trigger levels and their notification deadlines w ould be helpful. They state that

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cross-references to other provisions using sect ion numbers was confusing.

2. Commenters 23, 28, 39, 49, 62, a nd 76 state that the notification form was too detailed and required unnece ssary information. Commenter 28 states that, because government -ordered demolitions and emergency renovat ion occurred so infrequently, the items reque sting such information should be deleted from the form--a simple letter of explanation would suff ice in those instances. In addition, commenter 28 agr ees that EPA should provide a form that could be used to standardize notific ations, but states that a simpler form is needed--the proposed version would take too much time to complete. Commenters 39, 49, and 62 argue that ther e is no basis for requiring owners and operators to supply the information r equested on controls to be used at disposal sites. Commenter 49 also thinks the requirement to report quantities

of nonfriable material may exceed EPA's a uthority. Commenters 15, 23, and 28 provide examples of notification forms th ey thought to be simpler than that proposed while containing adequate inform ation.

3. Commenter 63 supports the use of a form "similar" to that presented in Figure 3 because this allows facilitie s to create their own form on a word processor, which will expedite notificati on preparation. Commenter 75 things that, in general, the form in Figure 3 is useful but should be provided as a single, one-page form that could be photocopied for u se. Commenter 76 requests a multicopy form that could be u sed to notify EPA and serve as a waste tracking form. They explain that t his would simplify the process and probably enhance compliance.

Response: 1. In response to the co mments that the form was hard to read, the form is presented in the asbest os revisions as a form that can be photocopied for use if so desired. The t ypesetting process used in the January 10, 1989, proposal did not permit the display of the information as it is in the final rule. In addition, revis ions have been made to simplify the form and make it more understandable.

In response to the comment that ther e appeared to be inconsistencies between the information required in Secti on 61.145(b)(4) and Figure 3, EPA has made minor modifications to the form to b ring Section 61.145(b)(4) and Figure 3 more in line with each other. It shoul d be noted that the form in Figure 3 is a suggested form; as long as the infor mation requirements of Section 61.145(b)(4) are met, different formats f or presenting the information are permissible. It is the intent of EPA tha t the use of a format similar to that in Figure 3 will help to standardize the information submitted in notifications to EPA.

The EPA agrees with the suggestion t hat a table that summarizes trigger levels and notification deadlines might b e helpful in clarifying the applicability and notification requiremen ts. The EPA believes this information is more appropriately suited for inclusion in an information release that would assist enforcement off icials and the regulated community in applying the rule to their specific situa tions. The EPA is planning to issue additional information about the rule sho rtly after promulgation and will consider adding such a table.

2. Note that EPA is requiring a for m "similar" to the form in Figure 3. Persons may modify the form to fit their individual needs, as long as they supply the required information. However , in response to comments that the form is too detailed and contains necessa ry information, the form in Figure 3 has been modified. The item that request ed information on the waste disposal

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practices was removed from the form in response to the three commenters who feel it is inappropriate to request this information from owners and operators of demolition and renovation operations. The EPA has decided to retain the information on the form pertaining to ordered demolitions and emergency renovations even though, according to one commenter, a very small percentage of the notifications are for these kinds of operations. Because these are

example forms, individuals may choose not to include a place for that information on the form, choosing instead to submit this information separately when necessary.

In response to the comment that disagreed with the requirement to supply information on the quantity of nonfriable material, see Section 7.2.21 of this BID.

3. In response to commenter 75's requests, the example form is presented as a single page form. In response to commenter 76's request for a form that can be used both for notification and as a waste tracking form, EPA has considered such a form but rejected the idea. One reason for not having a combined form is the amount of information that would have to be on a single form. The EPA prefers having as simple a form as is possible that provides the necessary information. The EPA does not believe a combined form is in keeping with this objective. Another disadvantage of the combined form is that, while owners and operators of demolitions and renovations will be submitting a notification and using a waste tracking form, other sources such as milling, manufacturing, and fabricating only have a need for a waste tracking form. A combined form is not necessary for these sources and may be confusing.

7.2.31 Lack of Notifications as Basis for Estimate of Noncompliance

Comment: Commenter 9 notes that in Region VIII, the lack of notifications being sent to EPA is due to the fact that they are being sent to the local or State authority instead of to EPA.

Response: The EPA's estimate of 50 percent noncompliance for the requirement to notify, which served as the basis for estimating noncompliance with removal and waste disposal requirements, was based on the situation in one Region. The EPA intends to improve the estimate of noncompliance as information becomes available in a future rulemaking to revise the asbestos NESHAP.

7.2.32 Periodic Reports

Comment: Commenter 18 recommends that, in Section 61.145(b)(3)(ii), EPA should require reports at least once a year, preferably quarterly, on demolition/renovation activities covered by annual notices submitted for individual nonscheduled renovation.

Response: The EPA does not see any advantage in requiring periodic updates from owners/operators who submit an annual notification for individual nonscheduled operations.

7.2.33 Notification for Individual Nonscheduled Operations

Comment: Commenter 20 recommends that Section 61.145(b)(3)(iii) be revised to require notification as early as possible before or at least by the following working day for individual nonscheduled renovations. As proposed,

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the commenter argues that the rule encour ages circumvention by emergency and nonscheduled renovations. Commenter 20 a lso states that, because nonscheduled renovations above the cutoff must provide a separate notification apart from the long-term notification required in Section 61. 145(b)(3)(ii), a reasonable notification period must be specified.

Response: The EPA does not intend f or owners or operators of facilities, such as large industrial facilities that perform renovations on a very frequent basis, to provide a separate not ice for each renovation. Such a requirement would result in an excessive number of notifications that would be burdensome to both industry and enforceme nt agencies. These facilities are permitted to predict the amount of asbest os that will be removed over a long period of time as a result of individual nonscheduled renovations. Scheduled renovations involving amounts of asbestos above the threshold amounts must provide EPA with a separate notification for these. Regarding the commenter's concern over notifications for emergency renovations, the asbestos revisions require notification as early as possible or by the following working day, which EPA believes is an appropriate requ irement.

7.3 CONTROLS

7.3.1 Exemption from Removal

Comment: 1. Commenter 18 argues th at Section 61.145(c)(1)(i) provides too large a loophole because it does not specify the amount of concrete or other similarly hard material that must b e present to exempt removal prior to demolition. Concrete -based paint or another hard material coul d be used to encase asbestos -containing materials to take advantage of this rule. This commenter states that Section 61.145(c)(1)(i) should be modified to require that the encasing material be of such str ength and thickness that asbestos fibers could not be released during demol ition or renovation. Commenter 18 also questions the reason behind requirin g wetting of encased materials if the release of asbestos is not expected.

Commenter 84 recommends that the exe mption from removal prior to demolition in Section 61.145(c)(1)(i) sho uld be provided only when the encasing material is a structural compone nt, or when removal presents an unreasonable safety hazard.

2. Commenter 93 wants the exemption of Section 61.145(c)(1) to apply to renovation in addition to demolition. Al so, commenter 93 recommends that Section 61.145(c)(1)(iii) by revised be d eleting the phrase "during demolition and renovation," and changing the rest of the paragraph to read "...such as, asbestos packings and gaskets, asbestos c omment materials, asbestos bituminous or resinous roofing felts and coatings, a nd vinyl flooring."

Response: 1. The exemption for fac ility components encased in concrete is not a new provision and is intended an d typically interpreted to apply to instances where, because of the hardness of the encasing material, it would be extremely difficult to get to the asbesto s in order to remove it. In addition, EPA believes that, when asbesto s encased in concrete is left in a

facility that is demolished, the opportun ity for fiber release is quite small. The requirement to wet such material when exposed is a precaution required in the event that the underlying asbestos wo uld become exposed. The EPA is not

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aware of any instances where this provisi on was used in order to circumvent the requirement to remove asbestos before demolition. If, however, information is brought to EPA's attention that this provision is being used to circumvent the regulation, EPA may consid er the need to revise the regulation, including this paragraph, at a later date . The revisions proposed on January 10, 1989, address nonrisk -based revisions to clarify and promote compliance with the NESHAP. Similarly, c ommenter 84's recommendation to exempt only structural components would a lter stringency. The need for revisions affecting stringency will be co nsidered at a later date.

2. After considering the request by commenter 83 to include renovation in the exemption from removal in Section 61.145(c)(1) in addition to demolition, EPA believes that is not nece ssary to make the recommended change. Because of differences between a facility that is to be demolished and one that is to be renovated, EPA believes tha t situations that would require such a decision are not as likely to be associ ated with situations involving renovation.

Regarding the request by commenter 9 3 to delete the phrase "during demolition or renovation," EPA has revise d this paragraph to explicitly exempt certain nonfriable materials. The EPA be lieves that the exemptions will most often apply to demolitions, where an enti re structure is being dismantled or wrecked. In renovation, the process is u sually much more controlled, and ACM is being intentionally removed or strippe d. The EPA thinks that the need for exemption from removal as part of a renov ation will not occur frequently.

The EPA takes issues with part of th e suggested change to the nonfriable materials listed in Section 61.145(c)(1)(iii). In particular, EPA rejects the addition of "asbestos -cement materials" to the list. It is EPA 's position that asbestos-cement materials have the potential to re lease significant amounts of asbestos fibers if severely da maged or fractured. The decision to allow these materials to remain in a faci lity to be demolished should be made on a case-by-case basis, taking into account the type of asbestos-cement material, the type of demolition, and any other relevant factors. The other suggested changes to the list of material s in Section 61.145(v)(1)(iii) involved modification of the terminology used to indicate the affected nonfriable materials. As a result of thi s comment and others that suggest the use of different terms, EPA has modified the terms used to describe the nonfriable asbestos.

7.3.2 Work Practices --Clearance Inspection/Cleanup

Comment: Commenter 15 states that E PA should add a work practice requiring the owner or operator to conduc t a clearance inspection to ensure that all debris is wetted and collected f or disposal. Commenter 77 recommends that EPA set clearance standards as 0.01 f/cc.

Response: A clearance requirement m ay be appropriate for facilities that have undergone an abatement and will be r eoccupied, however, it is not clear that under the Clean Air Act such a requi rement could be added.

7.3.3 Work Practices --Waste Storage

Comment: 1. Commenter 18 suggests that Section 61.145(c) require that after ACM is removed, it is placed in lea k-tight containers and stored in a secure, covered, and enclosed area until disposed of.

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2. Commenter 87 notes that, in the introductory paragraph of Section 61.145(c), "section" should be "paragraph ."

Response: 1. The rule requires tha t all asbestos from a demolition or renovation be kept wet until collected fo r disposal (Section 61.145(c)(6)). Waste must be put into leak -tight containers for disposal (Section 61.150(a)(1)(iii)). Although the rule do es not explicitly regulate storage, any waste that is stored on -site must be in leak-tight bags. Waste generators are responsible for taking their waste to a disposal site as soon as it is practical to do so (Section 61.150(b)).

Revisions requiring additional stora ge work practices would alter the stringency of the rule. Because the purp ose of the revisions proposed on January 10, 1989, is to clarify the NESHA P and promote compliance, revisions that would alter the stringency of the ru le are not being considered. The need for revisions that would affect stri ngency may be considered at a later date.

2. The EPA agrees and will change " section" to paragraph.

7.3.4 Work Practices --General

Comment: Two commenters recommend t hat EPA adopt work practices similar to those required by OSHA, and EPA under AHERA. Commenter 50 argues that, because removals may increase risk, EPA s hould implement work practices consistent with OSHA and AHERA to protect workers and building occupants. Commenter 57 states that EPA should requi re that work areas be restricted and signs posted similar to OSHA and AHERA re gulations. Commenter 54 argues the the absence of visible emissions does not guarantee that safe removal practices are being used; proper removal techniques should be required.

Response: Because the purpose of th is rulemaking is to clarify the current rule and promote compliance, revi sions that would alter stringency, such as the additional work practices rec ommended by these commenters, cannot be considered at this time. The need for revisions that alter stringency may be considered at a later date. It should be noted that removal operations covered by the asbestos NESHAP are also s ubject to the OSHA regulations, and removal operations at schools are subject to the NESHAP in addition to OSHA and AHERA rules. These regulations do no t contradict each other.

In response to commenter 54's recomm endation to require work practices on removal jobs in place of a visible emissi on limitation, EPA does not have a visible emission requirement for asbestos stripping and removal operation. Work practices are required in all cases. The only time a visible emission requirement applies is during the collect ion and processing of waste for disposal (Section 61.150). Section 61.15 0 allows a choice between complying with work practices or meeting the visibl e emission requirement.

7.3.5 Work Practices --Section 61.145(c)(3)

Comment: 1. According to commenter 27, there seems to be a conflict between Section 61.145(c)(3) and the prea mble explaining this section. Commenter 27 explains that the regulation does not contain any provision for an inspector to reinterpret the decision of the Administrator for the use of alternate methods, while the preamble imp lies that he is given the authority.

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Commenter 27 asks EPA to clarify this pro vision and preclude a reevaluation of the method so long as the work is being d one in accordance with the procedures identified in the request for variance.

2. Commenter 89 argues that, in Sec tion 61.145(c)(3), the phrase "in a facility" is redundant and should be dele ted.

Response: 1. The EPA reviewed the proposed revisions to Section 61.145(c)(3)(ii), which allows EPA approv al of alternate methods, and Section 61.145(c)(3)(iii), which requires that a copy of the EPA's approval of the alternate method be kept at the site avai lable for inspection. The EPA also reviewed the discussion of this provision in the preamble (54 FR 917, 3rd column). The preamble discussion states that, "so that inspectors can readily determine if alternative methods have rec eived Administrator approval, a copy of the approval is required to be kept at the demolition or renovation site for inspection." Neither Section 61.145(c)(3)(ii) and (iii) nor the preamble allow an inspector to alter or reinterpre t an approval given by the Administrator. The EPA does not intend f or inspectors to be able to reinterpret or nullify an approval given by the Administrator.

2. As used in Section 61.145(c)(3), the phrase "in a facility" is not redundant because it deals with stripping asbestos-containing materials from facility components while they are still in the facility. The asbestos revisions will make this clear.

7.3.6 Work Practices --Section 61.145(c)(2), (c)(3), (c)(4), and (c)(6)

Comment: 1. Commenter 20 makes sev eral recommendations for changes to the work practice provisions in Section 6 1.145(c)(2), (c)(3) and (c)(4). They suggest requiring no visible emissions in addition to the existing wetting requirements in Section 61.145(c)(2) and (3). In Section 61.145(c)(4), they recommend requiring both wetting and the use of local exhaust ventilation during stripping in addition to no visibl e emissions.

2. Commenter 94 states that, assumi ng "material contained in leak-tight wrapping (Section 61.145(c)(6)(iv)) refer s to the existing cover prior to removal, EPA recommends that all exposed asbestos be adequately wet or encapsulated.

Response: 1. The recommended work practice revisions would be a change in the stringency of the regulation. The purpose of the revisions proposed on January 10, 1989, is to clarify the rule and promote compliance. The need for revisions that would alter stringency may be considered at a later date.

2. The leak-tight wrapping in Section 61.145(c)(6)(iv) does not refer to the existing material covering the in-place asbestos. For example, it does not include a metal jacket covering asbes tos pipe insulation. "Leak-tight wrapping" refers to material, such as pla stic sheet, wrapped around an asbestos-covered facility component prior to or af ter the component is removed in fact from a facility. However, as the commenter recommends, any exposed asbestos must be kept wet because it is n ot yet in a leak-tight container.

7.3.7 Work Practices --Section 61.145(c)(5)

Comment: The following comments wer e received on the removal and reuse

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of large, asbestos-covered facility components.

1. Commenter 20 suggests that a provision be added to prohibit visible emissions during the removal, transport, storage, or reuse of asbestos-covered facility components.

2. Commenter 30 is concerned that some problems may arise from the removal of large pieces of asbestos-covered equipment that become damaged during transport and contaminate the new area.

3. Commenter 33 notes that this provision seems contrary to EPA's efforts to tighten controls on asbestos and also seems contrary to the insulation provision, Section 61.148.

4. Commenter 84 wants EPA to remove the word "stored" from Section 61.145(c)(5)(i) because it opens the opportunity for permanent storage or disposal. Commenter 99 recommends that additional measures, including periodic inspection, reincapsulation, relabeling, and removing loose asbestos, are needed to prevent the deterioration of asbestos on equipment that is stored for an indefinite period.

5. Commenter 70 recommends that labels be retained on large facility components covered with asbestos after they are removed to alert subsequent owners to the presence of asbestos. These components are often demolished, salvaged, or sold and then renovated, stripped, or salvaged.

6. Commenter 99 asserts that this provision does not address decommissioned equipment that remains in place, where the asbestos deteriorates.

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Response: 1. The EPA rejects the suggestion to prohibit visible emissions from the removal, transport, storage, and reuse of large asbestos-covered renovation controls.

2. If the component cannot be moved and reused without disturbing the asbestos, then it must be stripped of its asbestos (Section 61.145(c)(5)(i)).

3. The EPA sees no contradiction in adding this provision because several requirements must be met that ensure that the reuse of such components does not constitute a threat to public health. In addition, the provisions of Section 61.148 (insulating materials) apply to the use or reuse of the insulating materials that are friable. Attempts to reuse friable asbestos material are much more likely to release significant amounts of asbestos when compared to the reuse of a facility component where several precautions must be taken to avoid the release of asbestos.

4. The EPA considers storage to be a procedure that is already allowed by the NESHAP. Inclusion of storage in Section 61.145(c)(5) was done to ensure that this activity is properly regulated. Regarding the recommendation for additional requirements to prevent the deterioration of asbestos on stored equipment, EPA believes the regulation adequately prevents this from occurring. Material that is damaged or disturbed (and EPA considers this to include material, for example, that has deteriorated to the extent of falling off the equipment) must be stripped. Stored equipment must also be labeled and remain in a leak-tight container or wrapping.

5. In that the asbestos revisions require large facility components to be labeled during storage, EPA considers the comment to have already been

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addressed.

6. The EPA agrees with the comment that the rule does not address decommissioned equipment that remains in place. If, however, the asbestos is disturbed or is stripped, or the componen t is removed from the facility, the owner/operator must comply with other pro visions of the rule.

7.3.8 Work Practices --Section 61.145(c)(6)

Comment: 1. Commenter 84 recommend s to EPA that the types or sizes of components allowed to be disposed of dry in Section 61.145(c)(6)(iv) should be limited. Leak-tight wrappings as defined would be anyth ing from canvas jacketing to metal shielding. Commenter 84 recommends that EPA specify a minimum acceptable wrapping.

2. Commenter 80 asks EPA to clarify the requirements for wetting asbestos materials to prohibit the use of liquids that would be deemed RCRA hazardous waste or Toxic Substances Contr ol Act (TSCA) restricted wastes. They also suggest that EPA require waste generators to certify that they have complied with this prohibition by a certi fication on the waste shipment record.

Response: 1. As long as materials can be handled and disposed of according to the NESHAP, EPA sees no reas on to restrict either the types or sizes of facility components that can be handled according to Section 61.145(c)(b)(iv). Nor does EPA see any r eason for concern over the types of leak-tight containers if they are truly leak -tight for all waste under all handling situations.

2. There are a number of commercial wetting agents available, and EPA expects that the vast majority of contrac tors will use one of them along with water to wet asbestos-containing material. In the training req uired by this rule, contractor personnel will be instru cted in proper wetting techniques and materials. Although there may be a few i solated instances of wetting ACM with RCRA hazardous waste or TSCA restricted w aste, EPA does not expect that such practices will become general and does no t consider it necessary to revise the rule to address this possibility at this time.

7.3.9 Work Practices --Chutes--Section 61.145(c)(6)(iii)

Comment: The following four comment s were received on the use of chutes during demolition and renovation.

1. Commenter 54 observes that Secti on 61.145(c)(6)(iii) does not address what happens to asbestos material enterin g or exiting chutes used in removal, nor what happens to the chute when it is no longer needed.

2. Commenters 57 and 87 argue for r educing the height at which chutes must be used. Commenter 87 suggests they be used at a height of 15 feet, while commenter 57 suggests that EPA shou ld require dust-tight chutes at heights of 10 feet or more as some States do.

3. Commenter 84 recommends that the chute requirements be updated to allow for technological advances, e.g., t ruck-mounted vacuum systems, and include performance, inspection, and main tenance standards for such systems.

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Response: 1. Asbestos material entering chutes must be adequately wetted, and material exiting chutes must be placed in leak-tight containers. The EPA will review the matter of the disposition of chutes when they are no longer needed and may consider addressing it in a future rulemaking if it appears to be a significant issue.

2. The suggested change in heights at which chutes must be used would alter the stringency of the regulation; this rulemaking is intended to clarify and promote compliance with the NESHAP. The need for revisions that would alter stringency may be considered at a later date.

3. The NESHAP does not prohibit the use of truck-or-trailer-mounted vacuum systems as long as the other requirements are met, such as the wetting requirements and containment in leak-tight containers for disposal. However, at this time, EPA is not establishing requirements for these kinds of material handling or vacuum systems. Performance and design standards could be considered later as part of a later rulemaking to consider additional, more stringent revisions.

7.3.10 Work Practices--Section 61.145(c)(7)

Comment: The following comments were received regarding the requirements for demolitions occurring in freezing weather.

1. Commenter 79 requests that EPA define "to the maximum extent possible" as used in Section 61.145(c)(7)(ii) in order to clarify the responsibilities of the owner or operator regarding the removal of facility components in units or sections.

2. Commenter 87 suggests that EPA reduce the number of temperature readings to a minimum of one per day. When it is obvious or weather forecasts call for below freezing temperatures all day, this would reduce the costs of a requirement that has doubtful environmental benefits.

3. Because of day-to-day fluctuations in temperatures in many parts of the country, a notification informing EPA of the intent to suspend wetting for freezing temperatures may not be very useful by the time EPA would receive it. In a demolition or renovation that is going to occur during a period that is likely to be below freezing for the entire period of part of the period, the owner or operator can include on the currently required notification that wetting may be suspended and describe the precautions that will be taken in lieu of wetting.

7.3.11 Work Practices--Exterior Nonfriable Products

Comment: Commenter 72 recommends that EPA work with the building industry to establish work practices for handling exterior nonfriable products, such as asbestos cement shingles. Currently, the National Institute of Building Science is developing such work practices that will be available to the public.

Response: The EPA will look forward to reviewing the work practices developed by the National Institute of Building Science.

7.3.12 Work Practices--Waste Water

Comment: Commenter 30 requests that EPA address the process of filtering shower water prior to disposal. Commenter 57 argues that strict controls need to be specified for handling wastewater from wetting operations. They note

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that water that runs off or evaporates on the site could leave asbestos-containing d

Response: The suggested revisions would alter the stringency of the regulation. The purpose of the revisions proposed on January 10, 1989, is to clarify and promote compliance with the rule. The need for revisions that alter stringency may be considered at a later date.

7.3.13 Exemption from Removal--Section 61.145(c)(1)

Comment: The following comments were received regarding the exemption from the requirements to remove asbestos prior to demolition.

1. According to commenters 18 and 20, Section 61.145(c)(1)(ii) will make enforcement actions difficult because it will probably be used by persons who failed to give notice and were caught demolishing a building. Commenter 18 suggests that the rule should be changed to be limited to situations where asbestos could not have reasonably been anticipated to be present. Commenter 18 also suggests listing in the regulation where asbestos may be found. Commenter 20 argues that this provision will encourage contractors to not identify the friable asbestos prior to demolition. Commenter 20 recommends deleting this provision.

2. For consistency with the preamble and other parts of the rule, commenter 35 states that Section 61.145(c)(1)(iii) should be revised to require that, when the listed nonfriable materials (packings, gaskets, asphalt roofing, and vinyl floor tile in good condition) become friable, then they must be removed.

3. Commenter 49 suggests that EPA promulgate rules to cover situations where unexpected asbestos is found in amounts that will trigger the notification requirements.

4. Commenters 57 and 66 recommend that EPA set standards for the handling and removal of nonfriable materials to ensure that the material does not become friable. Commenter 57 argues that nonfriable material should not be completely exempted from the rule, especially with regard to demolition, because all material can become friable during demolition or renovation.

Response: 1. In response to commenter 18's point that Section 61.145(c)(1)(ii) would be used as an excuse for not giving notice, EPA is modifying the rule to clarify the requirements for notification when no asbestos is present; i.e., notification is required prior to demolition regardless of the amount or presence of asbestos. When asbestos is discovered after the demolition, the asbestos must be removed if it is safe to do so. If not, the asbestos material and contaminated debris must be kept wet and disposed of in a landfill. Given the higher cost of disposing of asbestos, EPA believes these requirements will discourage persons from trying to use this provision to avoid removing asbestos prior to demolition.

2. See 7.1.1, Asbestos-Containing Material.

3. Procedures are contained in the asbestos revisions to cover the discovery of unexpected asbestos, including removal, if possible, and wetting and disposal of the asbestos and asbestos-contaminated debris. In addition,

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the notification provisions require the p rocedures and developed prior to demolition in the event that asbestos is discovered unexpectedly.

4. See 7.1.1, Asbestos -Containing Material.

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7.3.14 Wetting Exemption for Renovation --Section 61.145(c)(3)

Comment: The following comments wer e received on the exemption from wetting in renovations in Section 61.145(c)(3)(i).

1. Commenter 23 supports safety as a basis for an exemption from the wetting requirements.

2. Commenter 28 recommends that, in Section 61.145(c)(3)(i)(B)(2), the word "capture" be changed to "contain" to differentiate from emission control using local exhaust ventilation.

3. Commenter 41 recommends that, be cause the Administrator would obviously be overburdened by requests for approval to use removal methods that do not involve wetting, the rule should p rovide for approval from the Administrator "or his designated represen tative."

4. Commenters 41, 42, 65, 63, 65 ar gue that Administrator approval of the listed methods, Section 61.145(c)(3)(i)(B)(1)(3), should be unnecessary as long as one of the three is used. They s uggest that EPA use OSHA's approach and determine under what conditions wet m ethods are not appropriate, such as work on live electrical equipment. It wo uld be the responsibility of the owner or operator to demonstrate that the other method(s) was necessary if requested to do so by EPA. Commenter 42 recommends that, once an approval to use alternatives to wetting is obtained b y an owner/operator for a specified type of work, it should remain effective for all such work without requesting additional approval each time. Commenter 63 suggests that EPA allow the use of the alternative procedures and that th ey be reported in the notification, which would allow EPA 10 days to review t he information and contact the owner/operator if a problem is expected; they estimate that otherwise, it would take a minimum of 30 days to get a response from the Administrator.

5. Commenter 84 recommends that, in addition to the request for a determination that wetting is not feasibl e, EPA should require the owner/operator to also submit supplementa ry information on the method(s) to be use to minimize emissions. The Administr ator could then stipulate the controls to be used.

6. Commenter 84 asks if the approva l of an alternative method as allowed in Section 61.145(c)(3)(ii) was to be on a case-by-case, project-specific basis, or on an unlimited basis for a par ticular control technology. They encourage EPA to promulgate a rule that r ecognizes engineering solutions and emission control devices. Air cleaning e quipment that is recognized as effective and is maintained could be used in place of wetting.

7. Commenter 87 suggests that EPA e stablish a limit for airborne asbestos concentration, such as 0.2 f/cc, and leave the technique of meeting the limit up to the owner/operator.

8. Commenter 65 states that, becaus e a glove-bag system, leak-tight wrapping and local exhaust ventilation ar e all acceptable means of control for

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stripping asbestos from components that h ave been removed, it is reasonable to presume that these same methods would be acceptable for use inside a facility.

9. Commenters 77 and 79 suggest tha t EPA develop a procedure under Section 61.145(c)(3)(i) and (ii) to exped ite the process whereby an owner/operator requests and receives Admi nistrator approval to use a method other than wetting in order to avoid dela ying projects that may be urgent but are not emergencies.

10. Commenter 62 argues that EPA sho uld allow the use of nonstandard abatement methods, other than dry removal , subject to the Administrator's approval. They state that this would all ow full compliance with the no visible emission requirement at a reasona ble cost for those jobs where standard techniques would be too costly a nd time-consuming. Commenter 67 requests that EPA allow for alternatives to the emission controls in Section 61.145 and notes that they were cooperati ng in an informal interagency group to evaluate cost-effective ways to perform roof removals.

11. Commenter 59 suggests that radio logical contamination should be added as another reason for not wetting asbesto s. They note that they had received exemptions previously in order to dispose of the radiologically contaminated asbestos waste in a waste disposal facili ty for radioactive waste. The radioactivity in the asbestos cannot be m onitored because of the beta radiation attenuation that results from w etting.

12. Commenter 21 encourages EPA to r equire prior approval in writing for exemptions from wetting in Section 61.145 (c)(3).

13. Commenter 30 agrees with the req uirement in Section 61.145(c)(3) to keep the Administrator's written approval on-site for inspection.

14. Commenter 84 argues that EPA sho uld increase the stringency of the provisions that allow dry removal; EPA sh ould require, for example, air-tight enclosures kept under negative pressure a nd ventilated through a HEPA filter.

Response: 1. No response is necess ary.

2. The EPA agrees that "contains" i s a more appropriate term and will substitute if for "capture."

3. The definition of "Administrator " in Section 61.02 of the General Provisions (Subpart A), which also applie s to Subpart M--National Emission Standard for Asbestos, includes the Admin istrator of EPA or "his authorized representative."

4. The EPA considers wetting to be the most effective method of preventing asbestos fibers from becoming airborne. The EPA agrees with OSHA in that the instances in which wetting ca nnot be used are very limited. The EPA wants to retain the responsibility fo r determining whether wetting would damage equipment of pose a hazard. The E PA does not approve which of the three methods canrbe used; that is the ow ner/operator's decision to make. It

should also be noted that EPA, like OSHA, intends for glove bags to be used with wet removal methods inside the glove bag, if possible.

5. The EPA believes that supplement ary information on the controls is not warranted if the owner/operator will be using local exhaust ventilation, a glove bag system, or leak-tight wrapping. If, however, the owner/o perator

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wants to use a method other than these th ree or wetting, then, as commenter 84 suggests, EPA must receive additional inf ormation on the proposed controls before issuing a decision approving or di sapproving the alternate method. The procedure for this is contained in Sectio n 61.145(c)(3)(ii) of the asbestos revisions.

6. The EPA has and will continue to approve alternative methods according to Section 61.145(c)(3)(ii) on a case-by-case basis. The EPA believes that such a case-by-case approach is warranted given that the unique conditions that prevail at each demolitio n operation often warrant different controls.

7. In principle, EPA agrees with th e commenter's suggestion of establishing an endpoint, such as airborn e asbestos concentration, and letting the owner/operator select the method for achieving the limit. The EPA has set such performance standards for the contro l of several pollutants and realizes that OSHA has established an airborne asb estos level to protect workers. At the present time, however, EPA does not h ave sufficient information to decide if such a limit is appropriate for safegu arding the public health or at what level such a limit should be set. Many q uestions must first be addressed before EPA would consider such a performa nce standard over the existing regulatory approach, i.e., the use of wor k practices. Wetting, the principal work practice required by the NESHAP, has proven effective in significantly reducing airborne asbestos levels when do ne correctly. The EPA may consider conducting a research effort at some time in the future to address the use of airborne fiber levels as in indication of the adequacy of certain work practices, such as wetting.

8. The EPA believes commenter 65 mi sunderstood Section 61.145(c)(3)(i) as it applies to listed alternative metho ds. This paragraph allows their use regardless of whether the facility compon ents have been removed or are still in the facility as long as the Administra tor has determined that wetting would unavoidably damage equipment or present a safety hazard.

9. The EPA agrees with the commente r's concern over avoiding lengthy delays in projects while awaiting approva l to use a method other than wetting. The EPA believes that, if the owner/opera tor submits the necessary information along with the notification 10 days in ad vance of removal work, EPA will provide a response by the day removal is scheduled to begin. If the owner/operator believes they will need a response earlier in order to plan their removal, they should submit the nec essary information further in advance of the removal start date.

10. As noted before, EPA believes th at wet removal methods are consistently the most effective means of reducing airborne emission levels and

intends that, except under certain prescr ibed circumstances, wetting always be used, whether alone or in conjunction wit h another abatement technique. Section 61.145(c)(3) describes the circum stances under which wetting may not be required in a renovation, Section 61.1 45(c)(7) describes the circumstances under which wetting may not be required i n a renovation, and Section 61.145(c) describes the conditions under which dry removal is allowed. In response to commenters 67's note regarding the study of alternatives to roof removal, as they noted, EPA will be involved and hope s to use the information from the tests in future rulemakings on the asbest os NESHAP.

Commenter 62 makes reference to comp lying with EPA's no visible emission limit under Section 61.145, the standards for demolition and renovation. Visible emission limits do not apply to o perations regulated by Section

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61.145; work practices are required. However, in Section 61.150, the waste disposal requirements have the no visible emission limit as an alternative to work practices.

11. The EPA believes such an exemption could be made for safety reasons.

12. The EPA does require that the owner/operator must have received the "written" approval of the Administrator to suspend wetting.

13. No response is necessary.

14. The revisions suggested by commenter 84 would increase the stringency of the rule. The purpose of the revision proposed January 10, 1989, is to clarify and promote compliance with the rule. The need for revisions to alter stringency may be considered at a later date.

7.3.15 Wetting Exemptions in Freezing Weather--Section 61.145(c)(7)

Comment: The following comments were received on the provisions that suspend wetting in freezing weather.

1. Commenter 20 recommends that facility components removed in units or sections (Section 61.145(c)(7)(ii)) be removed in accordance with the requirements of Section 61.145(c)(3)(i)(B), which requires alternative control to wetting. Commenter 20 argues that this provision encourages the scheduling of work during colder parts of the year to avoid the wetting requirements.

2. Commenter 57 suggests narrowing the exemption from wetting by requiring the use of surfactants that would reduce the freezing point of water. Also, they and commenter 84 recommend that other work practices be used and that the required temperature readings be taken in the work area.

Response: 1. Although EPA generally agrees with the suggested revision, it would alter the stringency of this rule. The purpose of these revisions is to clarify and promote compliance with the NESHAP. The need for revisions that would alter stringency may be considered at a later date.

2. The EPA agrees with the suggestion to require that the temperature readings be taken in the work area and has modified the rule accordingly. Response no. 1 above would also apply to the other suggestions for more stringent work practices and the use of surfactants.

7.3.16 Adequately Wet

Comment: Numerous comments (3, 18, 21, 23, 25, 28, 33, 35, 42, 49, 50, 55, 58, 62, 63, 68, 73, 83, 84, 93, and 94) were received on the subject of adequate wetting. Several commenters call for a more objective method for determining when something is "adequately wet." For example, it is suggested that an airborne concentration could be established. The definition is confusing to others and, it is suggested, should state that where water droplets are visible on the material and no visible emission is present, the material is adequately wet. Commenters explain that some materials should be allowed to be coated with a liquid. A simple moisture determination test is also suggested. Commenters argue that EPA should retain the existing definition of "adequately wet" because the revision does little to improve the definition. Dropping the last sentence is also recommended.

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The EPA is urged to expand the defin ition of "Adequately wet" to clarify that large pieces of bagged asbestos to n ot have to be reduced to small pieces to be wet and that bags do not have to co ntain standing water.

Response: In the definition proposed on January 10, 1989, EPA used the term "particulates" to be more precise th an "dust," although they have essentially the same meaning. The observ ation of particulates is an indication that friable ACM is not being adequately wetted. Dust or particulates do not have to be shown to c ontain asbestos; they are merely an indication that the material is not wet e nough to prevent airborne dust or particulate emissions when handled.

In the definition, the phrase "mixed or coated" was replaced by "mix or penetrate." This was again an attempt to be more precise in defining the end -point. "penetrate the surface" on molded insulat ion and ceiling tile. For packaging of waste such as molded pipe insulation o r ceiling tile, where the asbestos is not required to be wetted throughout prio r to removal (scraping/stripping) for effective control of asbestos emissions, additional wetting may be needed to prevent emissions if the container was in advertently broken. In this case, the additional application of water or aq ueous solution appears to be more effective if applied during packaging of the waste rather than when it was in place.

Several commenters suggest that one way of helping to define adequately wetted would be to use some means of quan tifying the condition of being "adequately wet," for example, a moisture measurement method or a method to measure airborne fiber concentrations. A screening study of the feasibility of developing more objective measures to determine adequate wetting was performed. It appears that a moisture me asurement method and device for

determining "adequately wet" have not bee n established. Development of a test method would require the time and resourc es associated with a research effort. The EPA notes that the current approach w orks and that EPA plans to stick with it until something better becomes availab le.

The use of TEM or optical fiber coun ts to determine whether proper procedures are being used to remove the a sbestos has been suggested. The options that are possible using the monit oring of fiber concentrations are:

1. To use airborne fiber concentrat ion (either TEM or optical) to determine the acceptable endpoin t. In this case, EPA would not care how the asbestos is removed as l ong as the fiber concentration limit is met.

2. To use fiber concentrations to s how that the required procedures (wetting, packaging, etc.) are b eing used correctly. Some questions that need to be answered are:

   - Should TEM or optical methods be used?
   - Should passive or aggressive sampling b e done?
   - Should samples be long-term (8 hour) or should they be short -term (15 minutes)
   - How should specific activities be sampl ed?
   - Are there data correlating the use of p roper wetting procedures with fiber concentrations?

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Although measuring fiber concentrations would be a departure from EPA's requirements of using procedures that reduce fiber concentrations during removals, EPA is recommending that a feasibility study be performed to address the above questions. Such a study may eventually provide useful information. The EPA agrees that any approach that is selected needs to solve the problem that removal contractors are now raising --on a real-time basis as the work proceeds, the contractor needs to know when his wetting needs to be improved so that he/she can take the necessary action to comply with the NESHAP rule.

In summary, EPA has decided to retain the definition proposed on January 10, 1989, and will develop and circulate additional information on acceptable wetting methods.

7.3.17 Glove Bags

Comment: The following comments were received on allowing the use of glove bags.

1. Commenters 23 and 30 support allowing the use of glove bags and leak-tight where the Administrator determines that the use of wetting in a renovation is not possible.

2. Commenter 21 explains that there is a contradiction in the OSHA and EPA requirements on glove bag use; where EPA's position has been that a glove bag is a small total enclosure and a substitute for total room enclosure using plastic sheets, they claim that OSHA has been interpreting its rule that glove bags are an additional control device, to be used inside a contained area while the contained area is under negative pressure. They suggest that this interpretation almost precludes the use of glove bags. Commenter 21 recommends that EPA's requirement be consistent with OSHA and that EPA and OSHA come to an agreement on the use of glove bags and publish their agreement in conjunction with the proposed revision to Section 61.145(c)(4) permitting the Administrator to approve controls equivalent to wetting, e.g., glove bags, etc.

3. Commenter 21 disagrees with the proposal preamble statement that glove bags can be used with dry removal and urges EPA to discourage this practice because such practices are likely to result in significant contamination outside the glove bag. Proper care and training in glove bag use is needed; a 3- or 4- day course is inadequate.

Response: 1. No response is necessary.

2. Differences in EPA and OSHA requirements stem largely from the different objectives of the two agencies. The OSHA is responsible for controlling exposure of workers removing asbestos as well as other workers who may not be directly involved in asbestos removal but (because they are working nearby) may be exposed if certain precautions are not taken. The EPA, under Section 112 of the Clean Air Act, is responsible for controlling air pollution to the extent necessary to protect the public health with an ample margin of safety. Therefore, although glove bags may be adequate for EPA's purposes, OSHA objectives may require additional controls because of the proximity to the exposure source of the population they are responsible for protecting. The EPA generally agrees with the commenter, however, that EPA and OSHA should at some time meet jointly to address the use of glove bags, although it cannot

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be a part of this rulemaking. The goals and products of such a meeting would have to be worked out between the two agencies if and when they agree to consider this issue.

3. The EPA intends for wet removal methods to be used with glove bags as stated in the preamble. This intent is further emphasized by referencing OSHA glove bag procedures, which including wetting, in the definition of glove bags.

7.3.18 Technology vs. Paperwork

Comment: Commenter 9 argues that, in the interest of protecting human health and the environment, it would be more appropriate to focus on advances in technology, e.g., glove bags, instead of on paperwork exercises of dubious public benefit. They claim that their asbestos compliance program is continuously frustrated by regulations that change frequently at the State and Federal level.

Response: The revisions are intended to enhance enforcement and improve compliance, while remaining neutral on stringency. The EPA may consider the need for revisions, including changes that incorporate advances in technology, that would alter the stringency of the standards at a later date. The EPA recognizes that the asbestos revisions require additional recordkeeping and reporting; however, EPA is requiring only the additional amount needed to enhance enforcement and improve compliance.

7.3.19 HEPA Filters

Comment: Commenters 18 and 84 recommend that EPA require all local exhaust ventilation (LEV) systems to be equipped with the HEPA filters.

Response: The EPA allows the use of HEPA filters with LEV systems, and many LEV systems incorporate HEPA filters, but EPA does not require their use. LEV systems may be operated without producing visible emissions or must meet the air cleaning requirements of Sections 61.152, which include design and operating specifications for fabric filters, scrubbers, and HEPA filters. To require that HEPA filters be used would increase the stringency of the rule. The purpose of these revisions is to clarify and promote compliance with the rule. The need for revisions that would alter stringency may be considered at a later date.

7.3.20 Negative Pressure System

Comment: The following comments were received regarding the use of negative pressure systems. Commenter 28 suggests revising the NESHAP to allow the use of negative pressure systems in lieu of wetting. They cite the use of higher efficiency HEPA filters in conjunction with negative pressure systems that would reduce emissions to the outside air; they also cite the fact that, in order to comply with the OSHA standard, employees would use wet methods anyway. In addition to negative pressure systems, commenter 77 recommends the use of airlocked decontamination units where glove bags are not used and the adoption of clearance standards, such as 0.01 f/cc.

Response: Wetting is an effective method for preventing asbestos from becoming airborne. Studies have shown that wetting with plain water can reduce airborne fiber concentrations by about 60 percent and wetting with amended water can reduce concentrations by about 90 percent. Negative

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pressure systems use dilution to reduce t he workplace airborne asbestos concentration rather than preventing the release of fibers. Wet removal followed by prompt collection and bagging of waste is a proven procedure for minimizing asbestos concentrations.

In response to commenter 77, the rec ommended revisions would increase stringency. The purpose of the revision proposed January 10, 1989, is to clarify and promote compliance. The need for revisions to alter stringency may be considered at a later date.

7.3.21 Restrict Access to Work Areas

Comment: Commenter 57 suggests that EPA require that work areas be restricted and signs posted to prevent un authorized entry during renovation and demolition.

Response: The EPA agrees with the n eed to restrict access to asbestos removal work areas but believes that the OSHA rules (Section 1926.58(e)) adequately restrict access.

7.3.22 Control Options --No Visible Emissions vs. Equipment Specif ications

Comment: Regarding Section 61.145(c)(3)(i)(A)(1) and (4)(ii), commenter 18 does not want to allow an option of co mplying with equipment specifications for air pollution control devices or meet ing the no visible emission limit.

Response: Requiring compliance with the equipment specifications and the no visible emission limit would increase the stringency of the rule. The purpose of the revisions proposed on Janu ary 10, 1989, is to clarify and promote compliance with the rule. The ne ed for revisions to alter stringency may be considered at a later date.

7.3.23 Training

Comment: Numerous comments were rec eived on the provisions to require a trained, on-site supervisor at all demolition and ren ovation operations.

1. Commenters 17, 18, 26, 83, and 9 2 support the training provision, but would prefer that the trained person be o n-site during all phases of the asbestos abatement operation.

2. Commenters 23, 54, 59, and 84 su pport the requirement for at least one trained on-site supervisor. Commenter 4 supports un iform training criteria acceptable to both EPA and OSHA. Commenter 83 states that the training requirements should be consisten t in the NESHAP, OSHA, and AHERA regulations.

3. Commenter 28 states that the dem olition contractors they have talked with do not agree with the NADC recommend ation that each on-site supervisor be trained. Commenter 28 explains that most contractors have one supervisor who is responsible for several simultaneous d emolitions and to hire and train additional ones would be cost prohibitive .

4. As proposed, commenter 39 explai ns that Section 61.145(b)(4)(xii) requires a certification that an "owner o r operator" trained in the NESHAP

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supervise the removal operation. They ar gue that this could be interpreted to prohibit the industrial hygienist from su pervising the operation because he/she might not be the "owner or operato r of a demolition or renovation activity." For consistency, commenter 39 wants Section 61.145(c)(8) revised to read "... with at least one on-site person trained in the provisions of this regulation..." Commenters 58 and 75 support the training requirement as

long as the trained person can be one of their employees or an employee of the contractor.

5. Commenters 50 and 68 recommend t hat asbestos project designers and abatement workers be trained in order to ensure the quality of the asbestos work, while commenter 54 states a need fo r planners and managers to be trained. Commenters 26 and 83 suggest th at the "trained person" should be an AHERA accredited contractor/supervisor; i n addition, the workers should be accredited. Commenter 76 states that all workers must be familiar with safe work practices and relevant rules and, th erefore, the training requirements are unnecessary and should be deleted. C ommenter 57 recommends that both supervisors and workers be trained.

Commenter 66 recommends that an EPA-established curriculum be used. Commenters 18 and 66 recommend that a ref resher course be attended every 2 years. Commenters recommend that the EPA training center submit to EPA a list of persons passing the course and EPA sho uld issue a dated certificate to be kept at the job site.

6. Commenter 21 recommends that per sons providing the training be EPA/AHERA accredited.

7. Without a quality assurance prog ram and a means of enforcement, commenter 28 argues, the training require ment will have minimal results and should be deleted. The commenter suggest s shifting resources to assist States in developing their own licensure program s. They also argue that additional resources would be needed to monitor the courses and certifications. Commenter 28 also states that a training requirement should be delayed until EPA can quantify the benefit of training and has established a contractor training program.

8. Commenter 28 argues that, if con tractors need training, then so do waste haulers and disposal site operators .

9. Commenter 32 recommends that EPA specify what evidence of training is required.

10. Commenter 23 states that there a ppears to be some duplication between the proposed training requirements and OS HA training requirements, which also cover health effects and worker protectio n. They recommend that EPA specify the incorporation of the proposed trainin g within existing training programs. Commenters 49, 58, and 62 recommend that EPA make clear that either AHERA or OSHA training and certification are adequ ate to comply with the NESHAP.

11. Commenter 80 recommends that EPA include training in the recognition of RCRA hazardous waste and TSCA-restricted wastes, which might otherwise be used for wetting.

12. Commenters 57 and 66 recommend t hat EPA require certification of training. Commenter 66 recommends keepin g such certification at the job site.

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13. Commenter 57 argues that the tra ining requirement should be effective immediately rather than 1 year after prom ulgation, while commenter 18 suggests that the effective date should be 6 month s after promulgation instead of 1 year.

14. Commenter 76 agrees that removal work should be done under the supervision of a qualified individual, bu t that it is not necessary for that person to be at the job site in order for a project to be under his/her supervision. Regular contacts between wo rkers and their supervisor (and if the supervisor is kept informed) are suff icient to ensure that work is done in a responsible manner.

15. Commenter 83 states that, it was their understanding that a statement certifying that at least one on -site representative was trained in the NE SHAP will satisfy the NESHAP --no other certifications were necessary.

16. Commenter 92 suggests that EPA c onsider a training requirement for the individual who prepares the new and e xpansive notification or at the least the critical elements of the notification , such as Section 61.145(b)(4)(iv), (v), (x), and (xv).

17. Commenter 63 explains that, as a result of the increased need for training resulting from the NESHAP, EPA o r the States should establish a training program in each State and develo p a training schedule available to the public. They recommend that the requ irement for a trained on -site supervisor should become effective 1 year after the training programs are established.

Response: 1. The EPA believes that the role of the trained supervisor is to be on-site often enough to ensure that workers understand and are using procedures for complying with the NESHAP and to provide occasional instruction if necessary. The EPA does not consider it necessary for the trained individual to constantly monitor abatemen t procedures. Furthermore, the same supervisor is often responsible for more than one job. It would be very costly if additional persons had to be hi red and trained in order to have a trained supervisor full -time at each job.

2. The EPA does not intend for this training to replace other training requirements; in fact, many of the existi ng training programs already include material on the NESHAP and would satisfy Section 61.145(c)(8). With minor additions, EPA believes that the OSHA tra ining requirement would satisfy the NESHAP.

3. Because EPA is not requiring the trained on-site supervisor to be at the site at all times, EPA does not think that there will many instances where additional supervisors will have to be hi red. Where a currently employed supervisor must receive training, the cos ts of attending a 3 - or 4- day course are not excessive.

4. The EPA does not intend to restr ict the trained on -site representative to just the owner or opera tor of the demolition or renovation activity. It is the intent of this requi rement that other trained persons can

be used as long as they have the authorit y to effect changes in the demolition or renovation necessary to comply with th e NESHAP. As a result of this comment, EPA has modified Section 61.145(b)(4)(xii) to be consistent with the intent of this provision.

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5. In response to the commenters who recommend that project designers, planners, managers, and workers all receive training, EPA believes that having at least one trained individual on-site is the most economical and effective approach to obtaining compliance with the NESHAP. The EPA agrees that having a trained individual involved in designing the project would help to ensure compliance, although it is EPA's opinion that whoever the trained on-site supervisor is will likely be involved in planning the abatement project.

In response to comments that the trained person should be an AHERA-accredited p requirement, EPA does not feel that it is necessary to have such training to ensure compliance with the NESHAP.

In response to commenter 76, EPA agrees that all workers should be familiar with safe work practices and relevant rules, but this is not sufficient reason to delete the training requirement. Even workers who know safe work practices and are familiar with the relevant regulations often disregard rules for a variety of reasons. A trained on-site supervisor can help to reduce the frequency of these infractions.

In response to commenter 66, EPA will be developing training materials that can be used alone or in conjunction with existing training programs. Regarding the commenters who recommend that refresher courses be taken every 2 years, EPA agrees and has modified the rule to require refresher courses. The EPA considers such additional training important to maintain familiarity with the NESHAP as well as to keep abreast of any changes in the NESHAP.

In response to the commenter who suggests that training be done at EPA training centers and that a list of persons passing the course be distributed: because EPA intends to allow training by other sources in addition to that provided at EPA-supported training centers, a list of persons who pass the EPA center courses would not include persons receiving their training elsewhere.

6. The EPA does not believe that it is necessary for the instructor to be AHERA-accredited. This would exclude many qualified instructors.

7. The EPA disagrees that the training requirement will be ineffective without a quality assurance program. The owner/operator will still be responsible for compliance with the NESHAP and is not likely to accept blindly what is offered in the training as everything required by the NESHAP. The EPA believes that being exposed to what the NESHAP requires has the potential to improve compliance among those who intend to comply. The EPA believes that promulgating the training requirements, and not waiting to justify the provision by a cost-benefit analysis, will do much to promote compliance.

8. The EPA believes that by educating demolition and renovation owners and operators, compliance with the other relevant provisions, especially waste disposal, will be improved. The EPA will be developing guidance, including guidance on waste disposal, that will be useful to all persons affected by the NESHAP.

9. Many asbestos training courses provide a certificate or diploma to individuals who successfully complete the training. These would suffice as evidence of training.

10. Commenters 49, 58, and 62 are correct in their understanding that either AHERA or OSHA training would suffice as long as the NESHAP provisions

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are included in those training programs. The EPA agrees with commenter 23's suggestion that it is appropriate to inco rporate the NESHAP training into existing training programs.

11. To the extent that the training covers wetting and wetting agents, improper wetting techniques and agents wi ll be addressed. The EPA anticipates that the vast majority of contractors wil l use commercially available wetting agents and does not foresee problems due to use of hazardous wastes or restricted wastes for wetting.

12. The EPA requires a certification on the notification that an on-site representative has received training in t he NESHAP. In addition, the rule requires that evidence of this training b e kept at the job site and be available for inspection.

13. Given the potentially large numb er of persons who may need to attend a training course as well as the time nee ded to add NESHAP materials to some training programs, EPA believes that 1 ye ar is appropriate.

14. No response is necessary.

15. This is correct.

16. The EPA will develop additional information to assist in the implementation of the NESHAP, including g uidance on complying with the notification provisions.

17. As mentioned above, EPA consider s existing training programs that incorporate materials on the NESHAP suffi cient to meet the training requirements. While favoring the establi shment of training programs in each State, EPA does not believe it is necessa ry to wait for them before requiring trained on-site supervisors at all asbestos demoliti on and renovation sites.

7.3.24 Work Permit

Comment: Commenter 57 recommends th at a work permit system be required in all asbestos-containing buildings to ensure that asbes tos is not disturbed improperly. Such a system normally entai ls work permits issued by a building manager or asbestos coordinator before an yone does work in the building.

Response: The EPA generally agrees with the commenter that it is important to monitor and control all acti vities in a building that might disturb asbestos material. For such a sy stem to be effective, the building must have first been thoroughly inspected to identify all of the asbestos material. Although, at this time, EPA is not considering a provision to require all buildings to be inspected, or a permit system prior to disturbing asbestos, these or similar provisions may be considered as part of a later rulemaking to improve compliance.

7.3.25 General

Comment: Commenter 4 states that th e revisions currently proposed offer significant improvements, that it is impe rative that additional revisions be made to the notification requirements at this time, and that other changes could offer very desirable improvements.

Response: The EPA agrees that the p roposed revisions offer significant improvements. Regarding notification req uirements, EPA notes that the final

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rule does provide for telephone renotific ation of a change in the start date of a demolition or renovation followed by a written notification, and no longer requires a contractor to wait 5 da ys to begin a removal job. The EPA will consider other changes in a future r ulemaking.

7.3.26 Stringency/Compliance

Comment: Several comments were rece ived on stringency/compliance as they relate to revision of the demolition and renovation section.

1. Commenter 4 prefers more effecti ve regulations, not necessarily less stringent ones.

2. Commenter 4 asserts that any reg ulation that increases the cost of compliance tends to encourage violation.

3. Commenter 28 questions the NADC assertion that simplification would promote compliance.

4. Commenter 49 states that flexibl e and clear regulations will encourage compliance.

Response: 1. The EPA also prefers more effective regulations, and considers this proposal to be a step in t hat direction.

2. The EPA agrees that excessively costly regulations might cause some to ignore the rules. However, EPA consid ers the costs associated with the proposed revisions to represent a small i ncrease in the costs of demolitions and renovations.

3. Although EPA is sympathetic to t he idea of simplification and attempts to make its rules as simple and clear possible, it also rejects the

blanket suggestion that simplification pr omotes compliance. To the extent that simplification increases understandi ng on the part of the regulated, it may make compliance easier.

4. The EPA considers the proposed r egulations to be flexible in that owners and operators are provided options to choose from in determining how they will comply with the regulations. T he EPA agrees that clarity in the rules, to the extent that it increases un derstanding, may facilitate compliance.

7.3.27 Unnecessary Burden

Comment: Several comments of a gene ral nature addressing the burden that would be imposed by the proposed revision s were received.

1. Commenters 4, 41, 42, and 43 sta te their belief that the standard would impose a significant and unnecessar y burden on the economy.

2. Commenter 4 argues that focusing on friable materials in industrial applications would reduce costs, control most emission sources, and promote compliance.

3. Commenter 28 agrees with the NAD C assertion that more stringent regulations may cause compliance to decre ase where enforcement resources are inadequate.

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4. Commenter 28 asserts that a few clarifying amendments would accomplish more than the proposed revisions and that enforcement is the key.

5. Commenter 35 says many contractors do not have highly technical backgrounds and will have difficulty complying with the technical details of the NESHAP, which continue to be confusing.

6. Commenter 95 believes the revisions will have a significant impact on building owners.

7. Commenter 36 asserts that members of the Specialty Steel Industry of the United States will be adversely affected by the proposed asbestos NESHAP amendments.

8. Commenter 37 states that members of the Shipbuilders Council of America will not be able to comply with certain proposed requirements because they fail to take into account the mobile nature of ships and the fact that ships only are at a shipyard for a limited period of time.

Response: 1. The EPA has examined the costs associated with the proposed revisions and found them to be small. The recordkeeping and reporting costs are included in the impacts of the reporting requirements. Offsetting this small increased costs are the potential benefits in terms of reduced emissions that will result from improved compliance.

2. The EPA's responsibility to protect the public health requires it to regulate all asbestos removal activities that meet the applicability requirements of the NESHAP.

3. The EPA considers the proposed revisions necessary in order to improve compliance with the NESHAP and rejects the suggestion of possible decreased compliance as sufficient reason to modify or withdraw the proposed revisions. The EPA believes that owners and operators who comply with the NESHAP currently in force will also comply with a revised NESHAP and that the proposed revisions will make enforcement easier.

4. The EPA is sympathetic with the suggestion that enforcement is the key to compliance. However, EPA disagrees with the assertion that a few clarifying amendments would suffice and considers the revisions essential to enhance enforcement and improve compliance.

5. The EPA is aware that the regulation is complex and sometimes difficult to follow. The training required by this proposal will increase contractor knowledge of the NESHAP requirements and should facilitate compliance with them.

6. The EPA agrees that owners of buildings being demolished or renovated may pay a small additional amount for contractor services as a result of the proposed revision. However, the overwhelming part of demolition/renovation costs is not chargeable to the proposed revisions to the NESHAP.

7. The EPA does not consider the comments submitted evidence that specialty steel makers will be adversely affected by the proposed revisions in any significant way beyond inconvenience.

8. The problem appears to be notification. See comment and response no. 5 under Section 7.2.9 of the BID.

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7.3.28 Overall Regulation of Asbestos Ab atement

Comment: Two comments on the regula tion of asbestos abatement were received.

1. Commenter 29 states that asbesto s abatement should be regulated by one Federal agency with one comprehensive Federal regulation.

2. Commenter 57 argues that a far m ore comprehensive regulation is needed to address the complexity of large -scale demolition or renovation work.

Response: 1. Although it might be desirable to have one comprehensive regulation enforced by one Agency, the st atutory authority to regulate asbestos is provided by several separate Acts and is assigned to several agencies. The commenter's suggestion wou ld require a change in the laws for it to be implemented.

2. The EPA considers the comprehens iveness of the asbestos revision to be appropriate for the control of air pol lution by asbestos.

7.3.29 Objective Measures of Compliance

Comment: Two comments on the subjec t of objective measures of compliance were received. Commenter 23 believes tha t overall performance and regulatory compliance can be improved through quanti tative, objective measurements rather than vague or subjective observations. C ommenter 33 states that, because EPA is interested in fiber release, EPA shoul d set a numerical emission standard to that end.

Response: The EPA is not aware that methods of measuring asbestos concentrations in ambient air are availab le at an acceptable cost for routine monitoring purposes.

7.3.30 Uncertainty in Level of Complianc e

Comment: Commenter 9 says that, giv en the degree of uncertainty EPA claims is associated with the levels of c ompliance and noncompliance and the agree to which emissions will be reduced by the proposed amendments, it is questionable whether a sound basis exists for creating additional regulations.

Response: Although EPA cannot quant ify the exact level of noncompliance, it has no doubt that there is significant noncompliance with the NESHAP. The EPA believes that the revisions proposed on January 10, 1989, will promote compliance with the NESHAP and, as a resu lt, reduce asbestos emissions.

7.3.31 NADC Claims

Comment: Four comments were receive d on the subject of the National Association of Demolition Contractors' cl aims.

1. Commenters 17 and 54 take except ion to the claim that stringent regulation promotes noncompliance.

2. Commenter 72 concurs with the NA DC claims that increasingly strict regulations increase noncompliance.

3. Commenter 9 disagrees that regul ations need to be relaxed to increase compliance.

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4. Commenter 75 states that certain individuals will not comply with regulations no matter their strengths or weaknesses.

Response:

1. The EPA takes exception to that claim.

2. The EPA does not agree with the claim that strict regulations increase noncompliance.

3. The EPA rejects the suggestion t hat regulations be relaxed to increase compliance.

4. The EPA agrees with the commente r and makes the observation that such individuals should be cited and prosecute d for violations of the NESHAP.

7.3.32 Emission Sources

Comment: Commenter 4 states that, a lthough violations may be common at commercial and residential demolition ope rations (which are numerous and short term), it is the long-term, industrial jobs that account for mo re than 90 percent of asbestos removal.

Response: The EPA is interested in improving its estimates of noncompliance and will consider this comm ent and other related comments regarding compliance levels in refining i ts estimate. However, the widespread perception of noncompliance among EPA, St ate, and local enforcement agencies reinforces the need for this rulemaking.

7.3.33 Level of Compliance and Emissions

Comment: Commenter 23 states that t hey were not aware of any information to support the estimate of 50 percent non compliance with notification requirements. To the contrary, commenter 23 claims that the contractors they know comply uniformly with EPA requiremen ts. They argue that the volume of work represented by nonnotifiers is small , probably less than 20 percent and possibly as little as 10 percent. Commen ter 49 agrees with EPA that asbestos emissions from renovations are likely to be well controlled even without the NESHAP, and argues that compliance among utility companies is high, much higher than the EPA estimate.

7.3.34 Emission Estimates

Comment: Two comments on the subjec t of emission estimates were received.

1. Commenter 4 notes that OSHA's ne w worker exposure limit results in low airborne asbestos fiber concentration s and states that EPA should review its emission estimates for demolition and renovation in light of the new exposure limit.

2. Commenter 72 argues that the per mits for the emission estimates, i.e., all asbestos removed and disposed o f is the same, whether friable or nonfriable, is false and the estimates ar e, therefore, inaccurate.

Response:

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1. The EPA will review its emission estimates and recalculate the numbers.

2. The commenter is not correct bec ause only friable asbestos was included in the emission estimates.

7.3.35 Violations

Comment: Several comments were rece ived on an EPA's procedure for dealing with unintentional violations. C ommenters 23, 30, 49, and 63 recommend that EPA establish a position f or dealing with unintentional violations, e.g., the unintentional omiss ion of certain information on the notification, and at the very least, shou ld provide guidance in this area. Commenter 28 argues that the severity of a penalty should relate to the severity of the violation. In regards to NADC's suggestion in the proposal preamble concerning the need for a proced ure to correct unintentional violations, commenter 28 suggests that NA DC should instruct its members to always ask if asbestos is present and to always notify in order to avoid unintentional violation because it is har d to determine if a violation is unintentional. In response to NADC's sug gestion for quick correction of unintentional violations, commenter 54 st ates that a competent contractor or consultant should be hired to correct the violations. In addition, commenter 54 recommends that EPA should incorporate contractor certification requirements similar to the AHERA program .

Response: The EPA has established a position for handling violations based on their severity. The new asbesto s severity penalty treats violations differently based on the severity of the infraction.

Regarding commenter 54's recommendat ion of AHERA-like certification requirements, it is not clear that the AH ERA contractor certification requirements are needed to train a person in the requirements of the NESHAP, but EPA may consider this if it is decide d later that another rulemaking is necessary.

7.3.36 Fees

Comment: Commenter 18 asserts that the proposed regulations should require the EPA or delegated authority to collect permit fees to cover costs of inspections of demolition and renovati on jobs conducted in their jurisdiction.

Response: The EPA has no plans to c harge for inspection of demolition and renovation jobs. However, there is n othing in the proposed rulemaking that would preclude a State from imposing a permit fee consistent with applicable State law.

7.3.37 Format

Comment: Eight commenters submitted comments on the subject of separate standards for demolition and regulation.

1. Commenters 18, 29, 63, and 87 ar gue for clarity an ease of use in separate demolition and renovation requir ements and separate requirements for each type of facility.

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2. Commenters 21, 30, 62, and 68 do not agree with the suggestion that separate standards are needed for demolit ion and renovation.

3. Commenter 21 supports containing applicability, notification, and control procedures into a single standard .

Response: 1. The EPA considers the many similarities in demolition and renovation operations such that dealing w ith them as separate standards would result in undesirable and unnecessary red undancy in the NESHAP. Where separate treatment is desirable, e.g., no tification, EPA deals separately with the unique requirements of demolition and renovation.

2. The EPA agrees with these commen ters.

3. The EPA agrees with commenter 21 .

7.3.38 Occupant Protection -Schools

Comment: Commenter 11 states that t he proposed rule protects asbestos workers, but does not protect children oc cupying a school while a renovation is taking place. All removal work should be done while school is not in session. Air sampling should be done to ensure the safety of areas adjacent to the work area as well as the work area s before the building is reoccupied by school children. Rules for protecting children should be different than those where adults are affected because o f difference in how they are affected by their environment.

Response: The concerns expressed by the commenter are covered by rules made pursuant to authorities contained in AHERA. The Clean Air Act does not confer the authority to deal with indoor exposures.

7.3.39 Risk-Based Review

Comment: Commenter 50 asserts that, given the new information on asbestos levels in buildings following re moval and the associated health risk, EPA should embark on a new risk -based review of the current standard.

Response: The EPA is considering pl ans to conduct a review of the NESHAP, but with a view to protecting pub lic health through more stringent control of ambient air exposures not prot ecting building occupants from exposures indoors. The Clean Air Act und er which the NESHAP is promulgated does not confer authority to regulate ind oor exposures.

7.3.40 NARS

Comment: Commenter 23 states that i t is important that the National Asbestos Registry System (NARS) data for a reporting period contain enough information to ensure that it is not misi nterpreted.

Response: The proposed rulemaking d oes not address NARS.

8.0 SPRAYING

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Comment: Two commenters would like to have all spraying of asbestos prohibited. Commenter 54 states that spray-on application of a material that contains asbestos should be prohibited, but would allow exceptions with prior written approval if no alternative material exists. Commenter 84 observes that spray-on application is prohibited by other regulations and proposes to simply ban asbestos-containing, spray-on materials.

Commenter 57 would like EPA to ban the spraying of any products containing more than 1 percent asbestos, which is consistent with EPA's ban on all asbestos-containing products.

Response: Adopting these comments would increase the stringency of the standard. Revisions that would increase the stringency of the standard were not considered for this proposal. As stated in the preamble of the proposed revisions, EPA is merely revising portions of the standard to clarify their intent and to facilitate their enforcement. The need for a review of control stringency may be considered at a later date.

Comment: Commenter 18 asks that Section 61.146 be modified to require the same notice to EPA of the delegated authority if any asbestos materials are to be sprayed.

Response: Incorporating this comment into the standard would require owners and operators spraying asbestos encapsulated with a bituminous or resinous binder to notify the Administrator of their intent to spray such materials. In 1978, the EPA exempted materials, in which asbestos fibers are encapsulated by a bituminous or resinous binder and that are not friable after drying, from the provisions of Section 61.22(e) because there did not appear to be acceptable substitutes available and any beneficial environmental impact resulting from the prohibition of this use of asbestos would be negligible. The EPA is not aware of any evidence that would call into question its 1978 determination that negligible benefits would result from prohibiting the use of encapsulated spray-on materials. Hence, there does not appear to be any compelling reason to require notification for the spraying of asbestos encapsulated in bituminous or resinous materials.

9.0 INSULATING MATERIALS

Comment: Commenter 57 wants containers of insulating materials labeled to show the percent asbestos of the contents. This commenter suggests that this would provide additional useful information to users while requiring only minor modification of the labels already required by OSHA and/or the Consumer

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Products Safety Commission (CPSC).

Response: The EPA believes that the OSHA labeling requirements meet the needs of enforcement personnel.

Comment: Commenter 75 supports the Agency's regulation of the manufacture and sale of asbestos -containing products under TSCA and believ es further reduction in the availability of asbestos-containing products is warranted.

Response: No response is required.

10.0 WASTE DISPOSAL FOR ASBE STOS MILLS

10.1 EMISSION STANDARD

Comment: Commenter 22 states that c ontrol device asbestos waste is not transferred to the tailings conveyor at h is facility and suggests that the phrase "to the tailings conveyor" be dele ted from Section 61.149(b).

Response: This provision is not a n ew requirement. The NESHAP does not require the use of a tailings conveyor. Rather, it prohibits the discharge of visible emissions to the outside air when and if control device asbestos waste is transferred to a tailings conveyor. H ence, there is no need to delete the

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phrase from Section 61.149(b).

10.2 WASTE TRANSPORT

Comment: Two commenters are concern ed with placarding and other requirements of Section 61.149(d). Comme nter 22 states that his company moves tailings from the mill by dump truck or e arth-moving equipment to a disposal site on company property and would like t he requirements for placards, etc., in Section 61.149(d) changed so that it w ould apply only to transport to an offsite disposal facility.

Commenter 93 also suggests that the requirements of Section 61.149(d) should apply only to vehicles transferrin g waste offsite.

Response: Although company personne l may not require warning that asbestos waste is being transported, othe rs who are on-site and who are not company employees, e.g., vendor and const ruction personnel, clearly do. Further, OSHA requires that workers be in formed of hazards to which they are exposed. Accordingly, EPA believes the p rovisions of Section 61.149(d) are appropriate as proposed and should not be changed as suggested.

10.3 EXEMPTION FROM WETTING

Comment: Commenter 41 suggests that EPA clarify what the disposer of asbestos waste is to do when he/she elect s to suspend wetting when the temperature is less than -9.5 øC (15 øF) beyond recording temperature on an hourly basis.

Response: The disposer may continue to operate without wetting the asbestos waste as long as the temperature is less than -9.5 øC (15 øF) and as long as the disposer measures and records the temperature at least at hourly intervals to demonstrate that it is below the threshold for the wetting exemption. The records of temperature me asurements must be retained for at least 2 years in a form suitable for insp ection.

10.4 ALTERNATIVE TREATMENT METHOD

Comment: Commenter 41 notes that EP A has substituted the word "treatment" for "disposal method" in Sect ion 61.149(c)(2), and encourages the

EPA to return to it original wording. Th is commenter also notes that criterion (2)(iv) does not include air po llution.

Response: The intent of Section 61. 149(c)(2) is to provide a mechanism for the approval of alternatives to the m ethods of emission control specifically identified in the section. The EPA believes that use of the term "treatment" is an improvement because it more correctly describes the activities contemplated that does "dispos al method." Although EPA believes that it would be incorrect to return to t he original wording, EPA has modified (c)(2)(iv) to more clearly describe what is meant by treatment by referring to "emission control and waste treatment met hods" in place of "treatment."

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11.0 WASTE DISPOSAL FOR MANUFACTUR ING, FABRICATING, DEMOLITION, RENOVATION, AND SPRAY ING OPERATIONS

11.1 APPLICABILITY

Comment: Several comments on the ap plicability of Section 61.150 were received. Commenter 2 asserts that asbes tos-containing waste should be subject to the same regulations whether f rom school buildings or other buildings. Commenter 8 asks if a vocatio nal-technical instructor teaching clutch and brake service is considered a waste generator, and if the conduct of such instructional programs makes the schools subject to AHERA and the proposed NESHAP amendments. Commenter 15 states that transporters of waste should be accountable for compliance with the NESHAP. Commenter 47 wants the waste disposal requirements revised to cl early exempt resilient floor tile unless it is sanded. Commenter 63 argues that Section 61.150 should be revised to make clear that the provisions apply to waste shipment and disposal offsite, not to temporary on -site storage awaiting shipment.

Response: Asbestos -containing waste is subject to the same c ontrols regardless of whether it originates in sc hools or in other buildings because the requirements of AHERA and the NESHAP are identical. Controls for waste originating in schools were proposed unde r AHERA in order to satisfy AHERA requirements. The instructor teaching cl utch and brake repair is not considered a waste generator in the propo sed revisions, and neither the

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instructor nor the school in which the su bject is taught is subject to the rule because of the instructional activit ies. Section 112 of the Clean Air Act, the authority for the proposed revis ions, does not provide for the regulation of mobile sources, and asbesto s waste in transport to a disposal site is considered to be a mobile source. The EPA's intent is to treat resilient floor tile as nonfriable materi al unless it is sanded, and the NESHAP identifies vinyl floor tile as non friable and exempts vinyl floor tile from removal prior to demolition. The NE SHAP applies to waste shipment and disposal either on-site or offsite. Waste in temporary stor age awaiting shipment to a disposal site must be store d in leak-tight containers.

11.2 PLACARDS

Comment: The following comments wer e received on the subject of placards.

1. Five commenters (25, 58, 84, 89, and 98) point out that the Department of Transportation (DOT) does n ot require placards on trucks carrying asbestos waste.

2. Two commenters (25 and 59) comme nt that placarding is unnecessary because individual containers are labeled .

3. Commenter 30 expresses the view that placards would have little effect on accidental exposures, but that they cannot hurt.

4. Commenter 45 believes EPA intend s the placards to be in place during transport, but is not sure.

5. Two commenters (49 and 69) cite the need for consistency with DOT requirements.

6. Commenters 61 and 98 assert that the term "placard" is inappropriate because it has a specific application und er DOT regulations for hazardous waste transport, and that the proposal sh ould be revised to maintain the distinction between "marking" and "placar ding" as was done in RCRA and TSCA rulemakings.

7. Commenter 65 says that placards would alarm motorists.

8. Commenter 80 agrees with the pro posal, but asks which party is responsible for compliance.

9. Commenter 88 wants the requireme nts revised to exclude in-plant vehicles from the placarding requirement.

10. Commenter 94 states that placing names, locations, and dates on containers is a good idea.

Response: 1. It is correct that DO T does not require placards on trucks carrying asbestos waste. However, DOT do es require a marking that, in principle, is similar to a placard.

2. The EPA considers warning signs a useful means of warning the public that asbestos waste is being loaded or un loaded. The labels on containers would not accomplish that objective as ef fectively because they are not as

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easily seen from a distance.

3. Placards or markings on a vehicl e involved in an accident would serve to alert emergency personnel and others o f a potential asbestos exposure hazard and would allow them to take measu res to minimize their exposure.

4. Under Section 112 of the Clean A ir Act, EPA has no authority to regulate mobile sources. Therefore, the proposal requires markings during loading and unloading, but not during tra nsport. The EPA would not object, however, if transporters chose to leave t he markings on the vehicles during transport.

5. The EPA has discussed its plans for the use of markings with DOT and does not consider its proposed use of mar kings to be in conflict with DOT requirements.

6. The EPA has modified the regulat ion to replace the term "placard," a term used by the DOT in its regulation of the transportation of hazardous materials, with the term "mark" as sugges ted by the commenters. This should help avoid confusing DOT requirements wit h requirements under the NESHAP.

7. The EPA believes that motorists would appreciate being informed about the contents of vehicles that share the r oads with them.

8. The waste generator is responsib le for complying with the requirements for marking vehicles.

9. Because in-plant vehicles transporting asbestos wast e are not immune to accidents and spills, EPA considers ma rkings to be an appropriate means of warning people and intends for in-plant vehicles transporting asbestos wast e to be marked.

10. The EPA does not consider it nec essary to include dates on container labels because the waste tracking system and records include the date shipped and the date received at a disposal site for individual waste shipments.

11.3 LABELING

Comment: Commenters 2 and 94 favor, while commenter 30 opposes as overkill, the requirement to label all wa ste containers with the name and location of the waste generator to elimin ate illegal disposal of asbestos-containing name on the label should be the building owner or the contractor. Another commenter asserts that labels should incl ude the EPA identification number of the generator. Still another argues that requiring location is burdensome.

Commenter 12 states that the labelin g requirement for containers will only burden legitimate operations. Comme nters 12 and 28 assert that illegal operators will not identify the source of asbestos waste, and that this provision would require them to have seve ral different labels for the many facilities they have requiring occasional abatement work. Commenter 14 argues that labeling is unnecessary where the ge nerator and disposal facility are the same. Commenters 7, 4, 3, 59, and 62 ass ert that it would be unnecessary to label containers of waste with generator information (Section 61.150(a)(1)(v)) if a waste tracking form is used.

Commenters 18, 28, 41, and 84 recomm end that EPA in Section 61.150 and perhaps elsewhere, cite only OSHA labels and delete references to other

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labels.

Response: The EPA considers the proposal to label waste containers with the name and location of the generator to be a constructive approach to improving compliance with the waste disposal regulation, to be appropriate to the magnitude of the asbestos waste disposal problem, and to not be burdensome. The name on the label should be that of the generator who may be either the facility owner (or operator) of the contractor. Upon further consideration, EPA has determined that the use of an EPA identification number is unnecessary and that the name and location of the generator will meet EPA needs for information.

The EPA acknowledges that labeling containers will place a small, additional burden on legitimate operators, but considers the ability to know

the source of asbestos waste to be extremely important and sufficient justification for the requirement. The EPA agrees that labeling of name and location of generator is inappropriate when the generator and disposal facility are one and the same and has revised the NESHAP accordingly. The waste tracking forms accompanying a shipment consisting of asbestos waste from several sources would not enable enforcement personnel to determine the source of improperly contained waste if the containers were not labeled with generator name and location.

The EPA agrees with the commenters who suggest that only OSHA labels be required on containers and has revised the regulation accordingly.

11.4 WASTE TRACKING FORM

11.4.1 Uniformity of Existing Systems

Comment: Commenter 4 endorses the recordkeeping and waste tracking systems as does commenter 84, while noting that it is more detailed than necessary.

Commenter 4 asserts that, for uniformity, the RCRA Uniform Hazardous Waste Manifest should be used for tracking asbestos waste. Commenter 4 would change the record retention time to 3 years instead of 2 years to be consistent with RCRA (same comment applies to Section 61.149). Commenters 46, 58, and 83 would waive the requirement for a NESHAP waste shipment record in those States utilizing the Uniform Hazardous Waste Manifest for asbestos tracking. Commenter 49 argues that the NESHAP regulations on shipping records should be consistent with DOT.

Response: The EPA considers the level of detail in the tracking form to be commensurate with the need for information. Asbestos has not been designated a RCRA hazardous waste; the Uniform Hazardous Waste Manifest is used to follow the movement of hazardous waste regulated under RCRA. The form shown in Figure 4 is illustrative, and other forms that provide essentially the same information would be acceptable. A 2-year time for retention of records was selected as reasonable and of sufficient duration for purposes of enforcement. Retaining the records for an additional year would serve no useful purpose.

Where States have their own regulation and already track asbestos as a hazardous waste using the Uniform Hazardous Waste Manifest, EPA would not expect them to make a separate NESHAP waste shipment record. DOT categorizes asbestos waste as an Other Regulated Materials (ORM) waste, and the amount of

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information provided on the DOT -required shipping record is not sufficien t for EPA purposes.

11.4.2 Information Required

Comment: Commenter 21 asks EPA to i dentify the degree of accuracy necessary in establishing the volume of f riable materials as required by Section 61.150(d)(1)(ii), and must nonfri able estimates be volumetric or will

length or area suffice? Commenter 28 wou ld require that only the "quantity of waste delivered" be recorded because the disposal vehicle is usually weighed at the landfill to determine the disposal charge. Commenter 28 has argued to delete Section 61.150(d)(1)(iii) because the disposal site information can be obtained from the notification. Commente r 28 wants the physical location of the disposal site specified in Section 61 .150(d)(1)(iv) and would delete the requirements to maintain records, Section 61.150(d)(2) and (3), because they would be difficult to enforce. Commenter 28 states that the format and content for Figure 4, Waste Tracking Form , should be revised.

Commenter 4 says the requirement to document the number of containers in a waste shipment is costly, burdensome, c an easily be circumvented, and may expose disposal site employees trying to confirm the number of containers.

Response: The EPA considers an esti mate of the volume of friable material to be sufficient and does not ex pect owners/operators to go to unusual lengths to determine the volume. For example, knowing that a 20 cubic yard truck is half full, 10 cubic yards c an be estimated; or, if an owner/operator knows the he/she has 50 ba gs containing about 2 cubic feet, 100 cubic feet or approximately 3.7 cubic yar ds can be estimated. If components of friable or nonfriable asbestos materia l are removed and wrapped and delivered to a disposal site, they can ab e reported as length or area, as appropriate. If only the "quantity of wa ste delivered" were reported, EPA would be deprived of vital information to characterize the waste stream. Although disposal site information as req uired by Section 61.150(d)(1)(iii) could be obtained from the notification, it should also be available on the tracking form accompanying the waste ship ment. The physical site location would be a useful addition to the informa tion sought in Section 61.150(d)(1)(iv); EPA will revise the reg ulation to ask for physical site location. The EPA considers it most impo rtant that waste shipment records be available for inspection by enforcement p ersonnel. The format of the waste tracking form illustrated in Figure 4 wil l be revised in the final rule.

The requirement to document the numb er of containers in a waste shipment requires that the disposal site operator count and record only the number of containers that are labeled as or are sai d to be asbestos. The EPA does not intend that the operator open containers to determine the presence of asbestos. The EPA does not consider the requirement especially costly or burdensome, nor does it consider that cou nting containers would result in employee exposures.

11.5 REPORTING, RECORDKEEPING

11.5.1 General

Comment: Commenters 24, 41, and 49 take the position that the additional recordkeeping and reporting provisions wi ll require additional manpower and expenses without commensurate environment al benefits. Commenter 24 states that, if asbestos is hazardous, it should be listed as a hazardous waste and regulated under RCRA.

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Response: The EPA acknowledges that the additional recordkeeping and reporting provisions will require additio nal labor; however, it takes exception to the assertion that the envir onmental benefits will not be commensurate with the additional labor. The EPA believes that the proposed recordkeeping and reporting provisions wi ll increase the effectiveness of enforcement efforts and, thereby, reduce asbestos emissions.

There is no question that asbestos i s hazardous. It was not listed as a RCRA hazardous waste because EPA determin ed that it could better regulate asbestos waste under the Clean Air Act at this time. At some future date, however, EPA may decide to list asbestos as a hazardous waste under RCRA.

11.5.2 Semiannual Reports

Comment: Commenter 4 opposes semian nual reporting by generators or disposal sites but recommend exception re porting by both. Commenter 9 notes that semiannual reporting is also redunda nt in view of the Superfund Amendments and Reauthorization Act (SARA) Title III regulations. Commenters 28, 39, 41, 75, and 83 assert that EPA sh ould delete the semiannual reporting requirement in Section 61.150(d)(4) --it is redundant and will just add more paperwork because the information is also provided on the waste tracking form.

Commenters 24, 61, and 62 note that most waste shipment reporting now occurs on an annual basis and that they p refer annual over semiannual reporting. Commenter 41 recommends that EPA adopt the biennial reporting used by EPA's Office of Solid Waste (OSW). Co mmenter 65 says that, if necessary, EPA should supplement the existing bienni al RCRA report.

Commenter 63 asserts that it is unne cessary for the generator to submit semiannual waste disposal reports. Comme nter 81 states that the proposal imposes redundant reporting requirements on owners/operators due to Section 61.150(c)(4).

Commenter 15 asserts that the semian nual reports required in Section 61.150(d) should be submitted by specific dates, e.g., January 31, and July 1.

Commenter 15 believes the records sh ould include business address as well as name of transporter.

Commenter 94 fears that small, rural landfills will use proposed recordkeeping requirements as an excuse t o refuse to accept asbestos waste, which would increase illegal dumping. Th e regulation in affect prior to the January 10, 1989, proposal should be reta ined.

Commenter 51 argues that industrial landfills on-site that are subject to RCRA and State statutes should be exempt from the reporting and recordkeeping requirements of Section 61.150(d). Comme nter 55 says that paragraph 61.150(d) does not define adequately who keeps disp osal records and who submits semiannual reports. Commenter 55 feels t hat building owners are unfamiliar with the report called for in Section 61. 150(d)(4).

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Response: The EPA has reconsidered the matter of semiannual reports and had determined that, because it is unlike ly that the enforcement resources

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needed to make effective use of a semiann ual reporting system will be available in the near future, this part o f the proposal should be withdrawn. Enforcement agencies will still be able t o identify violators by comparing the waste records required to be maintained a t the generator and disposal sites.

11.6 EPA IDENTIFICATION NUMBER

Comment: Several comments addressed the proposal to assign identification numbers to generators of a sbestos waste. Most of the commenters find the requirement confusing . Commenters 9 and 49 state that the system of using EPA identification number s is confusing and misleading and should be subject to public comment rathe r than tacked onto the final version of the amendments. Commenter 25 wonders how the system is to operate and would they use the number they already ha ve for hazardous waste. Commenter 26 is unclear as to who the generator would be and suggests that the abatement contractors should be considered the gene rator. Commenter 28 thinks that this requirement would generate a list of one -time generators, and that it should be deferred for further study. Commenter 41 asks if RCRA hazardous waste identification numbers were going to be a ssigned to asbestos waste generators. As explained by commenter 61, not all gen erators will have an EPA identification number as required in Sect ion 61.150(d)(1)(i) and (4)(i). Commenters 62 and 63 express confusion ov er the proposed identification number and urge that a single number be assigned to an entire company, rather than to each building or facility. Commenter 18 asks how the identification numbers are to be determined and assigned; is it to be done now; and, if the program is delegated to a State or local program, would this require a State identification number?

Response: Because of the confusion expressed by all the commenters over how a system of assigning identification numbers to asbestos waste generators would work, EPA has reconsidered this pro vision and has decided to delete this requirement. The EPA is confident that, even without such a unique numbering system, it will be possible to track wast e shipments for the purpose of pursuing enforcement actions.

11.7 BROKEN, NONFRIABLE MATERIAL --SECTION 61.150(A)(3)

Comment: The following comments on broken, nonfriable material were received.

1. The EPA has estimated that fiber emissions from broken asbestos cement products are significant, while th e National Association of Demolition Contractors (NADC) has estimated that the y are not. A simple, economical test is needed to determine the significance o f asbestos emissions from broken asbestos-cement products.

2. Commenters 5 and 27 state that t reating broken, nonfriable material as friable asbestos will significantly in crease the costs of demolitions.

These additional costs should be specific ally addressed before the regulation is finalized.

3. Commenter 30 days that the deter mination of what broken, nonfriable material should be treated as friable sho uld be left to the discretion of the inspector.

4. Commenter 47 argues that Section 61.150(a)(3), the requirement to

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treat broken, nonfriable material, should be revised to state that it does not apply to resilient floor covering unless sanding occurs. Commenter 49 wants the list of materials in Section 61.145(a)(5) that cannot become friable expanded to include transite and asbestos-cement products.

5. Commenter 93 asserts that product edges are essentially the same for nonfriable ACM whether broken or not.

Response: 1. The EPA continues to consider asbestos-cement products to be a potentially significant source of fiber release under circumstances that lead to its being crumbled, pulverized, or reduced to powder (e.g., being hit with a wrecking ball). The EPA agrees that a test to determine the significance of such emissions is needed. However, such a test is not available at this time, nor is EPA aware of such a test that is forthcoming in the near future.

2. The EPA is aware that nonfriable ACM that is broken is not necessarily a significant source of asbestos fiber release. To avoid the confusion that would likely be caused by use of the term "broken," EPA has deleted it from the regulation. Furthermore, in clarifying its position on the handling and treatment of nonfriable asbestos material, EPA requires that all ACM be removed prior to demolition. Certain nonfriable materials, such as resilient floor covering are exempt from this requirement. Other nonfriable materials that are likely to become crumbled, pulverized, or reduced to powder during a demolition, including nonfriable materials, Section 61.150(a)(3), the provision to treat the broken edges of nonfriable materials, was deleted. The EPA believes this revision will help to clarify the regulation and is consistent with its policy regarding nonfriable materials.

3. To the extent that it can do so, EPA intends to explicitly exempt from the rule certain nonfriable materials, such as asphalt roofing and floor tile. The need to remove and dispose of other nonfriable materials will continue to be determined on a case-by-case basis.

4. It is the EPA's intent to exempt nonfriable resilient floor tile that is in good condition from the NESHAP requirements for demolition and renovation, including waste disposal, unless it is sanded or abraded. The EPA considers transite and asbestos-cement products as nonfriable materials that are potential sources of asbestos emissions when they are crumbled, pulverized, or reduced to powder in the course of demolition and renovation operations; they are not exempt from the demolition and renovation provisions. (See 7.1.1, Asbestos-Containing Material.)

5. Use of term "broken" has led to some confusion over EPA's policy regarding nonfriable materials. The EPA intends to cover material that would be crumbled, pulverized, or reduced to powder during demolition or renovation. The EPA agrees with the commenter, and the term "broken" has been deleted from the regulation.

11.8 ASBESTOS-CONTAINING WASTE MATERIAL

Comment: The following comments on asbestos-containing waste material were received.

1. Commenters 2 and 10 observe that all nonfriable materials can be broken, crumbled, pulverized, or reduced to powder in the course of operations regulated by this subpart, and commenter 2 says that the definition of

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asbestos-containing materials should be modified a ccordingly.

2. Commenter 47 would like to exclu de resilient floor covering from the definition of asbestos -containing waste material unless it is sa nded.

3. Commenter 95 believes that the e xceptions at Section 61.150(b)(3) of the proposed revisions to the regulation apply to resilient tile unless it is sanded.

4. Commenter 93 would like Section 61.150(b) revised to eliminate language that is redundant with the propo sed definition of asbestos -containing waste materials.

5. Commenter 79 states that the app lication of Section 61.150(b) to asbestos-containing waste from natural draft cooli ng towers in the electric utility industry would represent a signif icant burden. In periods between maintenance, some of the several thousand asbestos-cement boards that make up the tower become damaged, and pieces fall into the base of the tower and become mixed with the soil. It is not po ssible to determine what portions of the soil do or do not contain asbestos, a nd it would be necessary to treat it all-several thousand cubic yards --as asbestos-containing waste material. Commenter 79 expresses concern that they will use up too much landfill capacity. The commenter recommends that EPA review this issue in greater detail, provide a mechanism by which the regulated community can demonstrate that this material does not pose a threat to the environment, and allow an exemption from Section 61.150(b).

Response: 1. The EPA agrees that i n theory all nonfriable materials can be broken, crushed, etc. As a practical matter, however, some asbestos -containing m damaged during demolition that they would release significant levels of asbestos fibers. To accommodate such exc eptions, EPA has revised the definition of asbestos -containing waste material to exempt nonfr iable resilient floor covering, asphalt roofing , packings, and gaskets that are from demolition and renovation operations.

2. The EPA agrees and the definitio n of asbestos -containing waste material has been revised to clarify its intent not to regulate certain nonfriable materials.

3. The EPA agrees with the commente r.

4. The EPA agrees that Section 61.1 50(b) is redundant in that it repeats some part of the definition of asbestos -containing waste material and has revised the paragraph accordingly.

5. The asbestos -cement pieces that break off the boards a nd fall into the base of the tower in periods between maintenance are not subject to the NESHAP and can remain there indefinitely. The EPA would consider maintenance, in which cement boards are replaced, a re novation, and any asbestos -cement material removed on such occasions would have to be handled in accordance with the provisions of this rule. Also, EPA w ould consider removal of the asbestos-contaminated soil sediment a renovation s ubject to the provisions of this rule.

11.9 WORK PRACTICES

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11.9.1 Asbestos Not Removed Prior to Dem olition

Comment: Two comments were received on the subject of handling asbestos not removed prior to demolition.

1. Commenter 68 believe Section 61. 150(a)(4) should require asbestos waste from demolitions involving facility components encased in concrete, areas not accessible prior to demolition, and facilities demolished under government orders to be packaged in leak -tight containers.

2. Commenter 20 recommends that the reference to Section 61.145(c)(1)(ii) (materials not accessibl e prior to demolition) be deleted from Section 61.150(a)(4).

Response: 1. The EPA requires asbes tos waste not removed prior to demolition to be wetted, it cannot be rem oved. Following demolition, the volumes of asbestos -containing waste are expected to be quite large because the asbestos will be mixed with large amo unt of debris. The EPA considers the amounts of asbestos -containing waste to be too large to requi re the use of leak-proof containers.

2. Materials not accessible prior t o demolition must be adequately wetted. The EPA sees no reason to delete the reference to inaccessible material in the waste disposal provisions of Section 61.150(a), which specifies procedures for handling and tre ating asbestos that was left in a facility during demolition.

11.9.2 Waste Containers

Comment: Commenter 41 notes that th e leak-tight bags required by Section 61.150 are often torn open at the disposa l site while being covered and concludes that bags are, therefore, impra ctical and inconsistent with safe waste disposal.

Response: The revisions do not requ ire bags; they require leak -tight containers, which may be bags. When prop erly handled and treated with reasonable care, bags are appropriate con tainers. After disposal, any container will deteriorate.

11.9.3 Wetting Process

Comment: 1. Commenter 4 asks that the revisions clarify that material contained in leak -tight wrapping does not need to be opened or unwrapped and wetted.

2. Commenter 28 would revise Sectio n 61.150(a)(3) to require that nonfriable asbestos waste material be ade quately wetted while being loaded for transport to a disposal site.

Response: 1. Section 61.145(c)(6)(iv) already addresses this point. The EPA will also prepare additional info rmation on this to assist all affected parties.

2. In an effort to clarify how EPA intends for nonfriable materials to

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be handled and disposed of, the regulatio n has been revised at several places. Some of these revisions have already been discussed. For example, the definitions of "asbestos -containing material" and "asbestos -containing waste material" were revised to clarify that no nfriable resilient floor covering, roofing, packings, and gaskets that are n ot in poor condition are exempt from the removal and waste disposal requiremen ts. Also, EPA has deleted from the regulation the word "broken" where it was used to explain under what conditions nonfriable materials were cove red. The EPA has also modified the regulation stating that actions are neces sary if nonfriable material (other than those exempted nonfriable materials) are left in a facility that is demolished and the material becomes crumb led, pulverized, or reduced to powder by the demolition. In this case, the mat erial would have to be removed and treated as friable asbestos, if possible, or the entire pile of debris contaminated with asbestos would have to be kept wet and disposed of in an acceptable landfill. These revisions wil l help to clarify the requirements of Section 61.150(a)(3).

11.9.4 Transport of Waste

Comment: Three comments on transpor t of waste were received.

1. Commenter 2 says that the NESHAP should be amended to adopt DOT rules for transporting asbestos -containing waste, i.e., fully enclosed dr opboxes and no open truck hauling.

2. Commenter 26 says that it would be beneficial to specify the type of vehicle used for hauling asbestos waste, such as a covered roll -off container or an enclosed truck.

3. Commenter 2 would like the pract ice of uncontrolled dumping of small loads of asbestos waste into a larger veh icle at transfer stations banned immediately.

Response: 1. The EPA is not aware of such DOT regulations for asbestos waste.

2. The recommended revision would a ffect stringency. The purpose of this rulemaking is to clarify and promote compliance with the rule. The need for revisions that alter stringency may b e considered at a later date.

3. Transfer stations were outside t he scope of this rulemaking. They may be considered during future rulemakin gs.

11.9.5 Processing Waste

Comment: Three comments on the subj ect of processing waste were received.

1. Commenter 18 says that, unless d emolition/renovation waste is processed into nonfriable forms, Section 61.150(a)(2) should be deleted from the proposal. Commenter 65 considers the requirement to process asbestos waste into nonfriable material (Section 6 1.150(a)(2)) confusing.

2. Commenter 84 disagrees with requ iring control device wastes to be wetted or mixed to form a slurry because some landfills prohibit liquid wastes.

Response: 1. The revisions do not require asbestos waste to be

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processed into nonfriable material. Section 61.150(a) does require owners or operators to discharge no visible emissions or use one of the treatments specified in paragraphs (a)(1) through (4) of the section, one of which is processing asbestos waste into a nonfriable form.

2. Paragraph 61.150(a)(1) does not require control device waste to be wetted or mixed to form a slurry; it is a compliance option that may be selected by an owner or operator. The EPA also notes that wet collectors are employed as control devices at some facilities and that the collected material is in the form of a slurry.

11.9.6 Control Options

Comment: Five comments on the subject of control options were received.

1. Commenter 18 argues that all material should be adequately wetted and that the reference to Section 61.152 should be removed.

2. Commenters 54, 70, and 94 say that the regulation should require both no visible emissions and work practices.

3. Commenter 84 states that the regulation at Section 61.150(a) appears to contradict itself because visible emissions would be a failure to implement the requirement for adequate wetting.

Response: 1. If this comment were adopted, it would increase the stringency of the standard by eliminating a control option. The intention of these revisions is to revise portions of the standard that are not risk-based to clarify their intent and to facilitate their enforcement. The EPA may consider the need for a review of control stringency at a later date.

2. See response no. 1.

3. The EPA sees no contradiction between the two compliance alternatives, i.e., no visible emissions and the adequate wetting work practice. Choosing the visible emission limit to comply with places no restriction on the method for achieving it. For example, at a plant manufacturing asbestos brakes, rejected brakes can be collected for disposal without producing visible emissions, even when handled dry because they are nonfriable. At the same time, choosing to comply with the adequate wetting alternative does not contradict the no visible emission limit option because the part of the defining language for "adequately wet, is only a measure of how well the wetting was performed. Furthermore, the NESHAP in effect prior to the January 10, 1989, proposal prohibited visible emissions during the wetting operation, unless controlled by an air cleaning device.

11.9.7 Alternative Methods

Comment: Commenter 4 says that the regulation should allow the Administrator to approve alternative removal, handling, and treatment methods.

Response: Paragraph 61.150(a)(5) provides for the use of alternative treatments that have received prior approval of the Administrator. The procedure to follow to obtain Administrator is prescribed in paragraph 61.149(c)(2).

11.9.8 General

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Comment: Commenter 57 would like th e regulation to be more specific and cover areas such as when to bag waste, re moval of excess air from bags, use of goose-neck sealing, and storage.

Response: The recommended coverage is outside the scope of this rulemaking.

11.10 ON-SITE DISPOSAL

Comment: Four commenters (3, 46, 49 , and 64) state that, because they own the landfills they use for disposing of their asbestos, it does not seem

necessary to label all waste containers w ith the name and location of the generator. They also believe that they s hould retain the landfill's copy of the waste tracking form, and that the man ifest requirements should be waived where the waste is generated and disposed of on-site. Commenter 49 argues that placarding of vehicles should not be required for on-site disposal.

Response: The EPA recognizes that t he circumstances of on-site disposal are different from off-site disposal. The EPA's interest is to have a record of the quantities of asbestos waste dispo sed of and its location. The EPA will adjust the language of the proposed rule to address the special circumstances of on-site disposal.

In the matter of placarding, EPA bel ieves the requirement is appropriate as proposed. Although company personnel may not require warning that asbestos waste is being transported, other persons on-site who are not company employees, e.g., vendors and construction workers, clearly do. Further, OSHA requires that workers be informed of haza rds to which they are exposed.

11.11 OFFSITE DISPOSAL

Comment: Because small entities wil l not operate their own landfill, commenter 4 argues that they would bear a disproportionate share of the increased disposal cost, calling Regulato ry Flexibility Act provisions into play.

Response: The EPA agrees that there will be some increase in disposal costs. However, EPA's analysis indicates that the increases in cost and the nature of the demolition services industr y are such that no significantly disproportionate impacts will be experien ced by smaller entities.

11.12 HOLDING TIME

Comment: Three commenters (15, 21, and 54) submitted comments on the subject of holding time. They recommend that a timeframe for disposal be specified (e.g., not more than 5 days fro m the last day that asbestos is stripped or removed), that a timeframe or holding time also be specified for manufacturing and fabricating sources, an d that the rule require waste to be deposited as soon as possible rather than as soon as practical at a disposal site.

Response: Because of the varying le ngths of time needed to accumulate enough waste to economically transport wa ste to a disposal site, EPA believes it is less burdensome to allow the waste generator to decide when to take waste to a disposal site. Waste that is being held for transport must be properly contained and, therefore, does n ot pose a public health threat.

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11.13 FORMAT

Comment: Commenter 18 recommends th at the disposal standards in Section 61.150 be separate for renovation and dem olition operations.

Response: The EPA considers the was te treatment methods and requirements in Section 61.150 to be applicable in who le or in part to waste disposal for manufacturing, fabricating, demolition, r enovation, and spraying operations. Although reader confusion might be reduce d somewhat, it would be offset by the redundant language necessitated by separa ting waste disposal for renovation and demolition benefits of the recommenda tion to be minimal and, therefore, has decided not to adopt it.

11.14 RESPONSIBILITY FOR COMPLIANCE

Comment: Section 61.150(a) should b e revised to clearly indicate that a good-faith effort by a generator will not resu lt in liability for the actions of the transporter or disposal site that are beyond the generator's legal control.

Response: It is not EPA's intention to hold the generator liable for the actions of the transporter or the disposa l site operator. The final rule is revised to clarify this point. However, the waste generator is responsible for selecting an acceptable disposal site .

11.15 ENFORCEMENT

Comment: Commenter 30 questions who se responsibility it is to check the accuracy of generator waste shipment reco rds against those of the disposal site. They also ask who will pay for it and how much time will it take, and suggest charging a permit fee for demolit ion and renovation.

Response: The EPA or the delegated authority for enforcing the NESHAP will have the responsibility of checking waste shipment records. Agreement between the records of the generator and the disposal site are not a critical issue because, in most instances, the dis posal site's records will be a copy of the record originated by the generator . A primary purpose of the records will be to allow inspectors to determine if the waste shipped by a particular generator reaches the disposal site desig nated on both the notification and the waste shipment record at the generato r's site. The cost of examining these records will be borne by the enforc ing agency as part of their normal inspection procedures. Although the NESH AP does not address the use of permit fees to offset enforcement costs, States and local governments are not prohibited from initiating a permit syste m.

11.16 GENERAL

Comment: Two general comments on wa ste disposal were received.

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1. Commenter 57 states that EPA's A sbestos Waste Management Guidance document contains several recommendations that should be incorporated into the revised NESHAP.

2. Commenter 87 suggests that EPA s upply waste generators with a list of disposal sites that meet the NESHAP requi rements.

Response: 1. The NESHAP was revise d to incorporate some of the recommendations in the Asbestos Waste Man agement Guidance document; e.g., the proposed waste tracking system is similar to those found in the Guidance. However, the recommendations for decontam inating the outside of containers and double bagging would increase the stringe ncy of the standards. Other recommendations dealing with waste transp ort and authorized under AHERA are not authorized under Section 112 of the C lean Air Act, which is the legal authority for NESHAPs.

2. Most State agencies can identify disposal sites that meet the requirements of the asbestos NESHAP. Gen erators of asbestos waste should contact their State environmental and/or health agency to obtain the name and location of the nearest disposal site.

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12.0 INACTIVE WASTE DISPOS AL SITES

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12.1 APPLICABILITY

Comment: Three comments on the subj ect of applicability were received.

1. Commenter 45 states that the pro posal expands the coverage of Section 61.151 to include demolition and renovati on waste, while Commenter 84 says that the section should also apply to dem olition and renovation waste.

2. Commenter 45 notes that Section 61.151(e) could be interpreted to apply to existing inactive sites within 6 0 days after the rule is promulgated.

Response: 1. Section 61.151 applie s only to inactive disposal sites operated by the owners or operators of mi lls and manufacturing and fabricating operations. It does not apply to inactiv e disposal sites that are operated by demolition/renovation or other sources. Expanding the coverage of Section 61.151 to include the numerous landfills that have received asbestos -containing wast

2. The EPA intends that Section 61. 151(e) cover sites that become inactive after the effective date of this rulemaking.

12.2 WORK PRACTICES

Comment: Two comments on work pract ices were received.

1. Commenter 22 requests clarificat ion as to whether the NESHAP applies to asbestos mining operations and/or ore.

2. Commenter 41 wants paragraph 61. 151(d) amended to discourage activities that disturb waste.

Response: 1. The rule applies to m ills and manufacturing and fabricating operations, but not to mines.

2. Because the Administrator's writ ten approval must be obtained prior to disturbing asbestos -containing waste material at a disposal s ite, adding an admonition to avoid disturbing waste seem s unnecessary.

12.3 RECORDKEEPING, REPORTING

Comment: Three comments on the subj ect of recordkeeping and reporting were received.

1. Commenter 22 asserts that the re quirement to record a notation on the property deed, Section 61.151(e), should not apply to a mill with on -site tailings disposal on a continuing basis, but perhaps could be a post -closure requirement.

2. Commenter 84 would delete Sectio n 61.151(e)(2) because the only important information is that asbestos is in the landfill; a general disclosure of the presence of asbestos sh ould suffice.

3. Commenter 80 supports the requir ement to note on the property deed when a site was used for asbestos waste d isposal. They request that the final rule be clear as to the level of detail r equired in such deed notation and recommends it be of a general nature.

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Response: 1. The requirement does not apply to active waste disposal sites, only to inactive disposal sites.

2. The EPA considers the informatio n called for in Section 61.151(e)(2) necessary to fully inform potential purch asers that the property has been used for the disposal of asbestos. Informatio n on the quantity of asbestos and its location would enable subsequent owners t o make informed and prudent decisions about the use of the land and parts there of.

3. The EPA agrees with the commente r and considers the information required on the deed to be general in nat ure with the more detailed information on file with EPA.

12.4 NATURAL BARRIERS

Comment: One comment was received o n Section 61.151(b)(3) that points out that the word "deters" was omitted fr om the last line of Section 61.151(b)(3) between "adequately" and "ac cess."

Response: This omission has been co rrected.

12.5 EXCAVATION OF ASBESTOS WASTE

Comment: During internal review of the proposed regulation, the requirement to obtain Administrator appro val before excavating a disposal site containing asbestos waste was questioned; notification was suggested as being sufficient.

Response: After consideration of th e comment, EPA has decided to require that a notification be sent instead of re quiring approval to excavate. The EPA believes that requiring notification will be less intrusive for the regulated community and that adequate adv ance notice to EPA can be given to provide enforcement personnel with an opp ortunity to evaluate the controls and to inspect these sources. The same chang e is being made in the provisions for active waste disposal sites.

13.0 AIR CLEANING

Comment: Commenter 22 says that EPA should not try to regulate an invention, that they have small baghouses that cannot be inspected without creating excessive dust and exposure, and that any faulty bags result in emissions that would be detected in minim al time. Commenter 22 wants Section 61.152(a)(3) deleted.

Response: This section applies to f abric filters installed after the date of this proposal and requires only t hat provision be made for easy inspection. The EPA recognizes that many baghouses are too small to walk into to inspect bags. For such devices, inspe ction ports or removable panels could provide a means for visual inspection of the bags. The costs of such modifications would be minimal.

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14.0 REPORTING

Comment: Commenter 28 recommends th at tonnage of waste be included in the reporting required by Section 61.153(a)(4)(ii).

Response: The proposal specifies cu bic meters (cubic yards) because EPA believes it is easier for waste generator s to determine or estimate volume than weight because they know the capacit ies of containers and transport vehicles. Not all generators or disposal sites will have the means to determine weight. Volume is specified in Section 61.153 in order to be consistent with Sections 61.149 and 61.15 0.

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15.0 ACTIVE DISPOSAL S ITES

15.1 COSTS

Comment: Two comments were received on the subject of NADC's suggestions on cost reduction.

Commenter 2 states that NADC's sugge stion to reduce special handling and recordkeeping provisions in order to redu ce disposal costs and emissions from waste has no merit. Commenter 30 conside rs loosening the requirements for friable materials unthinkable, but that s eparate handling with less stringent controls might be an option for nonfriabl e ACM.

Response: The EPA considers the req uirements in Section 61.154 to be necessary in view of the estimated 227,00 0 kg/yr of asbestos emissions from waste disposal and the small associated c osts. The EPA also notes that many disposal sites are currently operated in compliance with the proposed requirements.

15.2 WORK PRACTICES

Comment: Most of the comments submi tted regarding work practices at disposal site favored more stringent cont rols.

1. Commenter 2 argues that the requ irements to segregate asbestos -containing w

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caused by nonasbestos leachate and the ne ed to excavate the site for remedial action. Commenter 54 also recommends aga inst the mixing of asbestos and municipal waste and notes that this would ensure the integrity of containers during covering operations.

Commenter 24 recommends that EPA rec onsider the use of petroleum dust suppressants that is being prohibited in some areas. Commenter 83 explains that Section 61.154(c)(2), which permits the use "of resinous or petroleum-based dus their State regulations.

Commenter 84 argues that the standar d for active disposal sites continues to allow no visible emissions or work pra ctices, as well as other hazardous operations. They assert that the require ments should be revised to include other available control measures such as trenches, prohibiting compacting until covered, and careful handling of co ntainers.

Commenter 41 recommends that EPA req uire covering waste in a manner that avoids rupturing bags.

Commenter 54 recommends that disposa l site requirements be revised to require that disposal sites have no visib le emissions, that material be covered more frequently than once per 24 hours, and that dust suppressants be used between coverings. Commenter 57 rec ommends covering broken containers

immediately and all other waste at least twice every 24 hours to prevent wind erosion. Commenter 54 notes that, becaus e "leak-tight" containers can break, control of emissions should be addressed during the unloading and deposition of asbestos-containing waste.

Commenter 57 argues that the final c over requirements should be revised consistent with EPA's Waste Management Gu idance document, and the waste disposal practices contained in EPA's Was te Management Guidance document (incorporated as App. D. to AHERA regulat ions, Subpart E, 40 CFR 763) should be incorporated into the NESHAP.

Commenter 57 recommends that disposa l sites be fenced with 6-foot high, chain link fence topped with barbed wire.

2. Commenter 89 argues that an inco nsistency exists between Sections 61.154 (active disposal sites) and 61.151 (inactive sites) in that Section 61.151 (a)(4) only permits the use of dus t suppression agents for tailings at inactive sites, while Section 61.154(c)(2) permits their use at active disposal sites for all asbestos waste (wh ich includes tailings).

3. Commenter 41 suggests clarifying Section 61.154(c)(1) by inserting "or 6 inches" after "Be covered with at l east 15 centimeters."

4. Commenter 80 notes that the prop osal would prohibit asbestos waste in a landfill from being disturbed without p rior EPA approval. They recommend that EPA define "disturbing" as used in S ection 61.154 (k) and clarify the prohibition against disturbing waste so t hat it does not apply to the installation of gas controls, leachate co llection equipment, or similar devices at landfills containing asbestos waste.

Response: 1. Although EPA agrees t hat many of the recommended revisions are desirable, they would increase the st ringency of the regulation. The purpose of the revisions proposed on Janu ary 10, 1989, is to promote

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compliance and enhance enforcement and not to alter the stringency. The need for revisions that will affect stringency and bring the waste disposal requirements more in line with current practices may be considered at a later date.

2. The EPA permits the use of dust suppressants on inactive tailings piles because it is not feasible to expect that these large piles could be economically covered with nonasbestos material. Furthermore, the surface of asbestos tailings piles forms a hard crust when left exposed and, in combination with the use of dust suppressants, presents a surface unlikely to erode. For inactive landfills, it is already common practice to use a final cover of nonasbestos material. The EPA also allows an active site to use a dust suppressant at the end of each working day instead of a nonasbestos cover. The commenter saw no difference between this and the use of dust suppressants as a final cover on tailings piles. However, EPA considers the use of dust suppressants on active sites on a daily basis as appropriate because additional waste will be placed on top of the existing waste, helping

to prevent asbestos emissions. Although EPA believes that the provisions for active and inactive sites are protective of public health, EPA will consider revisions in a later rulemaking to bring the NESHAP more in line with current waste disposal practices.

3. For consistency among all EPA documents, it is EPA policy to use metric units in all of its regulations and other documents, followed by the equivalent English units in parenthesis.

4. The EPA agrees with this commenter that what constitutes "disturbing" asbestos waste should be clarified. Because the term "disturb" is used elsewhere in the regulation in connection with other activities, a definition might be confusing. Instead, EPA will define the term where it occurs in the regulation in order to avoid unnecessarily affecting other nonrelated provisions.

The EPA disagrees with the commenter's suggestion to exclude activities such as the installation of collection or monitoring systems from the definition of "disturb." These kinds of activities should occur infrequently in an asbestos-only landfill and are normally associated with the initial construction of a landfill.

15.3 RESPONSIBILITY FOR COMPLIANCE

Comment: Four comments were received on the subject of disposal site owner/operator responsibility for disposal.

1. Commenters 2, 17, and 23 believe that making the disposal site owner or operator responsible for complying with the NESHAP disposal requirements will help to ensure better compliance.

2. Commenter 30 acknowledges that this change could be very useful, but fears that it may force some public landfills to close due to liability concerns.

Response: 1. The EPA agrees with this comment. The revision was proposed because EPA recognized that it was extremely difficult for waste generators to ensure compliance with the disposal requirements of the NESHAP.

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2. Although it is possible that som e disposal sites may increase disposal charges or refuse to accept asbe stos waste as a result of this proposed change, EPA considers it unlikel y that public landfills will cease operating.

15.4 VERIFYING DISCREPANCIES ON MANIFES T

Comment: 1. Commenter 19 asks how waste disposal site representatives will realistically be able to confirm the description of materials (Item 4, Figure 4), especially if the waste is in opaque plastic bags or cardboard drums?

2. Commenter 80 expresses concern o ver the discrepancy and certification requirements being imposed on landfill ow ners and operators. They state that, if there is a discrepancy in a waste trac king form, and it is reported to EPA by the landfill operator, EPA should purs ue and take appropriate action against the generator. They comment that this responsibility should not be shifted to the landfill operator.

Commenter 80 argues that landfill op erators should not bear the responsibility of independent verificatio n of information already certified as accurate by the waste generator as requir ed by Section 61.145(e)(4). They claim that requiring the landfill facilit y to reevaluate and verify this information, other than in general terms, would take an inordinate amount of time and unnecessarily increase worker ex posure. They explain that the requirement to certify the accuracy of th e total quantity of waste shipped would be impossible in most situations be cause most generators and disposal facilities do not have weight scales. Th ey suggest that the final rule require checking for discrepancies only i n general terms. Commenter 80 also argues that the disposal site not have to certify the accuracy of statements made by the generator on the waste tracki ng form. The EPA should require the generator certification to be made under penalty of law, as is done under other EPA programs, e.g., RCRA and the la nd disposal restrictions program.

Response: 1. The EPA does not expe ct the disposal site owner/operator to risk exposure to asbestos to confirm t he contents of bags of waste. They only need to confirm that the bags of asb estos or bags said to be asbestos are labeled as such and, in general terms, th e quantity.

2. The EPA agrees with the commente r's assertion that, after a discrepancy has been reported to EPA by t he disposal site, it is the responsibility of the enforcement agency to follow it up.

Regarding commenter 80's concern wit h verification responsibility, EPA intends, as stated above, that the dispos al site verify the waste contents in general terms, for example, to note when there is a gross discrepancy between the amount of waste reported and the amou nt actually received.

15.5 INSPECTION OF WASTE

Comment: The suggestion by NADC (co mmenter 2) that disposal sites should accept asbestos-containing waste material and not questio n its source or condition will encourage improper disposa l of materials other than asbestos-containi strengthened.

Response: Although it is possible t hat adoption of the NADC suggestion might lead to the improper disposal of ot her materials, EPA does not consider

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it likely that such practice would be wid espread given the legal sanctions that would be imposed on an offender upon apprehension. The EPA considers the inspections called for in Section 61.154 to be appropriately stringent.

15.6 INSPECTION AND RECEIPT

Comment: Commenter 2 suggests that the inspection and receiving of asbestos-containing waste material be performed in a facility kept under negative pressure and exhausted to a HEPA filter.

Response: The purpose of the revisi ons proposed on January 10, 1989, is to promote compliance and enhance enforce ment of the NESHAP. This suggestion would increase the stringency of the stan dard and is outside the scope of this rulemaking.

15.7 GENERAL

Comment: Three comments of a genera l nature were received on Section 61.154.

1. Commenter 10 notes, as pointed o ut by EPA, that it is the asbestos waste segment that accounts for most asbe stos emissions and is in need of additional regulation.

2. Commenter 75 suggests using Sect ion 61.154 only as a guideline for waste disposal sites. Commenters 75 and 83 feel that the revision would increase disposal costs, causing some fir ms to dispose of waste by less than appropriate methods, and causing some dis posal sites to stop accepting asbestos.

Response: 1. The EPA considers the proposed Section 61.154 appropriate to the regulatory need that it addresses.

2. The EPA believes that guidance a lone would be insufficient and that regulations are necessary to compel behav ior in the interest of public health. Although it is possible that some operato rs may attempt to dispose of waste improperly, EPA does not consider it like ly that such a practice would be widespread given the legal sanctions that can be imposed for violating this regulation. The EPA acknowledges that so me disposal sites have stopped accepting asbestos waste. However, EPA d oes not expect waste disposal sites in general to respond to this regulation by ceasing to accept asbestos waste.

Comment: Two comments were received on the use of the term "NESHAP landfill." Commenter 64 says the use of term "NESHAP landfill" in the preamble is not consistent with "active w aste disposal sites" in Section 61.154, and that there is no such thing a s a "NESHAP landfill." Commenter 80 says the use of the term is unclear and s hould be defined in the final rule.

Response: By "NESHAP landfill" EPA meant a landfill operated in compliance with the provisions of this re gulation. The EPA agrees that there is no such thing as a "NESHAP landfill" a nd was referring to landfills that were acceptable disposal sites under the NESHAP.

Comment: Commenter 4 observes that over 99 percent of all asbestos emissions result from improper asbestos w aste disposal methods, concludes that

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numerous, convenient, cost -effective disposal sites are the key to r eduction of emissions, and supports regulation cha nges that affect this goal.

Response: Additional, conveniently located, and cost -effective disposal sites would facilitate disposal of asbest os-containing waste material.

15.8 RECORDKEEPING, REPORTING

15.8.1 Asbestos Waste Tracking System -Form

Comment: Commenter 19 thinks that i nstead of "operator," there should be a "contractor" who is performing the work and who should have the EPA ID number in Figure 4, Item 2.

Response: See the response to Secti on 11.6 of this BID.

15.8.2 Waste Volume

Comment: Commenter 21 requests that EPA clarify that the record of volume of waste received [Section 154(e)(1)(iii)] is an actual volume (or bag count) of waste, not the volume of the ro ll-off container or transport vehicle. They also suggested clarifying the degree of accuracy consistent with Section 61.150(d)(1)(ii).

Response: The commenter is correct in that the reported volume should be that of the waste and not the volume of t he transport vehicle. Furthermore, EPA agrees that volume units are more lik ely to be used rather than area or linear units because the waste will typic ally be in containers and volume is likely to be the only unit of measurement that can be determined with consistency at the disposal site.

15.8.3 Retention of Forms

Comment: 1. Commenter 28 recommend s that, in place of the recordkeeping required in Section 61.154(e), EPA should require that a copy of the waste tracking form be kept as required in Sect ion 61.150(d)(1).

2. Commenter 80 agrees with the req uirement that landfill operators send a copy of a signed waste shipment record back to the generator.

Response: 1. The EPA intends that the disposal sites do just as the commenter is recommending.

2. No response is necessary.

15.8.4 Reporting Improperly Contained W aste

Comment: Commenters 15 and 28 recom mend that the owner/operator be required to notify EPA immediately if "im properly enclosed or uncovered waste" is encountered as in Section 61.154(e)(iv).

Response: The EPA agrees with these comments on the need to report immediately to EPA whenever a shipment of improperly contained waste is received and has added such a requirement . The EPA believes that the prompt reporting of such violations will aid enf orcement efforts against waste generators who do not comply with the NES HAP requirements for packaging

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asbestos waste (when chosen over the no visible emissions requirement), or who use transporters who do not take precautions to avoid damage to the waste shipment while in transit. However, it is not EPA's intent that the disposal site report waste shipments in which one or a few containers are slightly damaged. The EPA intends to use this provision to identify potentially serious violations of the NESHAP.

15.8.5 Recording Improperly Contained Waste

Comment: 1. Commenter 4 opposes the requirement for disposal site owner/operator to record and report improperly contained waste because it will motivate some removal contractors to seek an illegal disposal site.

2. Commenter 23 states that having to verify discrepancies between the waste shipment record and the waste received at the disposal site will drive up costs because of having to count bags that will be time-consuming, increase the exposure of landfill employees, and discourage landfills from accepting asbestos waste.

3. Commenter 34 expresses concern over the requirement to document discrepancies and improperly contained waste because it puts the site operator into a role of regulation and enforcement; this provision should be clarified.

4. Commenter 80 recommends that the requirement for landfill operators to keep records of improperly contained waste be replaced with a requirement that waste generators and transporters inspect and certify that all material is properly packaged before being transported, and that the transport of improperly contained waste be prohibited.

Response: 1. The EPA agrees that this may happen in some instances. However, it is EPA's intent to use this information to identify chronic violators where the potential for emissions would be the greatest. When a disposal site's records indicate that there is frequently a problem with a particular contractor's waste shipments, EPA can send an inspector to observe the contractor's operations and take whatever actions are appropriate to correct the situation.

2. The EPA intends for the waste disposal site owner/operator to verify waste shipments for gross discrepancies, and not for discrepancies of a few bags of waste. The EPA does not envision increased worker exposure during the inspection of waste shipments for significant discrepancies between what is reported on the waste shipment record and what is actually received.

3. The site operator is not asked to regulate or enforce; rather, he/she is only asked to provide information to EPA. The EPA considers the provision clear on this point.

4. The EPA agrees with the recommendation that generators certify that all material is properly packaged in accordance with the provisions of this rule for shipment, and the final rule is changed to require certification. The EPA sees no need to delete the requirement for landfill operators to inspect and keep records of improperly contained waste.

15.8.6 Semiannual Report -Submittal Dates

Comment: Commenter 15 recommends that the semiannual waste reports required in Section 61.154(f) be submitted by specific dates, e.g., January 31, and July 1.

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Response: Upon additional considera tion of this provision, EPA has decided to omit the requirement for semia nnual reporting from today's rule. This decision is based in part on several comments opposing semiannual reporting as unnecessary (See Section 11. 5.2). In addition, because of the large commitment of enforcement resources that would be required for such a system to properly function, EPA believes that the proposal is overly ambitious at this time. The EPA believes , however, that enforcement can use the available information and adequately identify violators by comparing the waste records that are required to be kep t by waste generators and waste disposal sites. At this time, a more wor kable solution will be to require disposal sites to report to EPA whenever there is a discrepancy between the amount of waste received and the amount r eported on the waste shipment papers. The discrepancy report should be submitte d to the same agency that was notified of the demolition or renovation. In addition, disposal sites will be required to comply with the general repor ting provisions of 40 CFR Part 61. Specifically, new disposal sites will be required to comply with the requirement to apply for approval to cons truct (Section 61.07) and the requirement to notify EPA of startup date s (Section 61.09). Existing disposal sites that will accept asbestos waste aft er the effective date of the rule will be required to supply EPA with infor mation on their operations (Section 61.10). This information will be useful to enforcement in tracking asbestos waste.

15.8.7 Generator

Comment: Commenter 19 asks who is t he generator because "generator" is not defined in Section 61.141? The comme nter also notes that only the operator has an EPA ID in Figure 4, and a sks how will the disposal site know if asbestos is friable or not and what is the storage site?

Response: "Generator" means "waste generator," which is defined in Section 61.141 as any owner or operator o f a source covered by this subpart whose act or process produces asbestos -containing waste material. The EPA has revised the final rule to make this clear . The EPA has abandoned the use of an EPA ID because it would be difficult t o implement and because it does not appear to offer any great advantages. Th e disposal site operator will be able to obtain the quantities of friable and n onfriable asbestos material from Item 6 of Figure 4, Asbestos Waste Tracking Sy stem. However, semiannual reports

are not being required of disposal site o perators because EPA has determined that it will be receiving sufficient info rmation through other reporting mechanisms. "Storage site" was inadverte ntly left in Section 61.154; it has been deleted from the final rule.

15.8.8 Maintenance of Records

Comment: Two comments were received on Section 61.154(g).

1. Commenter 22 states that they su bmit records of tons of mill tailings quarterly and annually to the State of Ca lifornia. Their taxes and fees for this activity are based on short tons. I t would be an unnecessary burden to determine volume, and there seems to be n o useful purpose of doing so.

2. Commenter 93 argues that EPA sho uld be willing to accept information on mill tailings in tonnage instead of cu bic meters as required by Section 61.154(g).

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Response: 1. The EPA does not cons ider dividing weight by an assumed density to be unduly burdensome. This re quirement is consistent with the records required by Section 61.149. The EPA considers volume a more useful expression of quantity for land disposal than weight.

2. The EPA desires the information on quantity to be in cubic meters or yards and does not consider the requireme nt unduly burdensome.

15.8.9 Opposition to Semiannual Reports

Comment: Several commenters were op posed to the semiannual reporting requirement. Commenter 28 recommends tha t EPA delete semiannual reporting because it increases the Agency's workloa d and detracts from enforcement activities.

Commenter 51 argues that, for indust rial landfills that accept waste from on-site facilities and are subject to RCRA r ecordkeeping and reporting requirements, semiannual reporting as req uired by Section 62.154(f) is excessive. Commenter 93 argues that EPA should not apply the reporting requirements of Section 61.154(f) to mill tailings, or they should be lessened.

Response: See the response to Secti on 15.8.6 of this BID.

15.8.10 Waste Shipment Record --Information Required

Comment: Commenter 15 suggests that the waste shipment record, required in Section 61.150(d), include the busines s address as well as the name of the transporter.

Response: The EPA agrees with the r ecommendation and has added a requirement to record the address and tel ephone number of the transporter.

15.8.11 Location of Waste

Comment: 1. According to commenter 19, many landfill sites dispose of asbestos in their normal working face. T hey wondered if a statement such as "anywhere within the horizontal and verti cal limits of the landfill there may be asbestos" would satisfy the location r equirements of Section 61.151(e).

2. Commenter 51 agrees that the dis posal site operator should keep pertinent information regarding the locat ion and quantity of asbestos waste.

3. Commenters 28 and 65 argue that the requirement to keep records of location are unnecessary because depth wi ll change overtime; only a record that asbestos is present is sufficient. They believe that the location requirement will require the services of a surveyor and that this will result in higher disposal costs, refusal by some landfills to accept waste, and dumping in unauthorized areas. Commenter 65 argues that what is important is that the prospective purchaser know of th e presence of asbestos and get EPA's permission before excavating any parts of the site. Commenter 80 generally agrees with the requirement to record loc ation, but notes that there are certain complications in mapping the area of the waste. They explain that, due to settling, the vertical location wi ll change over time; EPA should allow for some inaccuracies in mapping due to n aturally occurring events. Commenter 80 also believes the mapping requirements will be overwhelming for many

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landfills, especially those that do not s egregate asbestos waste from other waste.

Response: 1. If such a response ac curately describes the location of asbestos in the landfill, then such a res ponse would be appropriate.

2. No response is necessary.

3. Indicating only that asbestos ha s been disposed of on the site and that it is located below grade would cons titute minimum compliance with this provision. In such cases, however, EPA w ould probably have no alternative but to act conservatively and consider the en tire site to be contaminated with asbestos because EPA's purpose is to avoi d future exposures to asbestos. Such a determination would clearly impact the future use and value of the property. Thus, it would be in the property owner's interest to specify the location of the asbestos material as fully as possibl e in order to limit the extent of the property whose future use would be restri cted.

15.8.12 On-Site Disposal

Comment: 1. Commenters 22 and 74 a rgue that the recordkeeping and reporting requirements of Section 61.154 should not apply to the on-site disposal of asbestos waste. Commenters 5 1 and 59 assert that industrial on-site lan exempt from the recordkeeping and reporti ng requirements of Section 61.154(f) and (g).

2. Commenter 4 explains that the pr oposed recordkeeping requirements for disposal sites would require local sanita ry landfills, where most asbestos waste is deposited, to begin segregating asbestos waste from nonasbestos waste. They argue that this requirement will reduce the number of local sanitary landfills that accept asbestos w aste, result in greater hauling distances, and increase disposal costs.

3. Commenter 80 generally supports the requirements for landfill operators to maintain records of the rece ipt of asbestos waste, although certain aspects of the requirements are r egarded as impractical and environmentally unsound.

Response: 1. The EPA agrees that i t not reasonable for facilities that dispose of their own waste on-site to follow all of the recordkeeping a nd reporting requirements that facilities th at dispose of their waste offsite do. Therefore, EPA has modified the rule to c larify this aspect. Facilities utilizing on-site disposal must, however, maintain rec ords of the amounts of asbestos waste and where it is disposed o f. For facilities that already comply with requirements similar to those of Section 61.154 (g) (the location requirements) because of State or local h azardous waste regulations, EPA does not intend that they maintain separate, r edundant records. The same records will satisfy EPA's requirements.

2. The EPA does not require segrega tion of asbestos waste, although some sanitary landfills have elected to do so. Although some landfills may determine that the recordkeeping requirem ents are so burdensome that they should cease accepting asbestos waste, EP A does not expect that any appreciable number of local sanitary land fills will do so.

3. Responses to the commenter's spe cific comments on the recordkeeping

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and reporting requirements are located el sewhere in this chapter.

15.8.13 Cost of Recordkeeping and Report ing

Comment: Commenter 80 believes that the recordkeeping and reporting requirements will significantly and unnec essarily increase the burden for landfill operators. They estimate that t he new requirements will require an estimated 1/2 man-year per site.

Response: The EPA has estimated the additional burden to waste disposal sites resulting from the new recordkeepin g and reporting requirements to be about one man-week per site per year.

15.9 REGULATORY AUTHORITY

Comment: Commenters 34 and 41 comme nt on the subject of regulatory authority for waste disposal as follows:

1. Asbestos waste disposal should n ot be regulated under the NESHAP.
2. Recordkeeping and cover requirem ents should be included in revisions to RCRA Subtitle D regulations, Section 258.29.

3. The approval to remove or distur b asbestos waste should be a State responsibility.

Response: 1. The EPA reviewed its options for regulating asbestos waste disposal and determined that the NESHAP i s the most efficient way to regulate the disposal of asbestos-containing waste material at this time be cause, after all, the problem is one of air quality no t ground-water quality.

2. The recordkeeping requirements p roposed for the NESHAP are similar to the manifest requirements of Subtitle C o f RCRA, whereas Subtitle D contains no recordkeeping requirements. Indeed, S ubtitle D addresses the management of nonhazardous solid waste rather than haza rdous waste. Although not listed as a RCRA hazardous waste, asbestos-containing waste is nevertheless hazardou s, and the NESHAP is the most efficient mech anism for establishing recordkeeping and cover requirements.

3. The EPA considers the granting o f approvals to excavate or disturb asbestos waste to be the prerogative of t he Administrator. However, in States that have been delegated authority for NE SHAP enforcement, the States will make the decision on whether to grant app roval to remove or disturb asbestos waste.

15.10 EPA ID NUMBER

Comment: Commenter 51 asks how faci lities that do not have an ID number and do not generate hazardous wastes obta in one? Commenters 58 and 61 argue that not all asbestos waste generators ha ve EPA ID numbers, nor are they likely to need one under RCRA. They reco mmend that it be optional. Commenter 80 asserts that operators of disposal sit es cannot comply with the requirement to record the generator's EPA ID number u ntil all generators are given ID numbers, which would exclude certain remo val projects, such as schools. Commenter 83 states that there is no proc edure for issuing ID numbers, but that it appears to be similar to the RCRA program. They argue that, if asbestos requires this degree of tracking , it should be regulated as a hazardous waste. Commenter 83 asserts th at it is beyond the resources available at the State level to set up an equivalent program.

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Response: Because of the confusion expressed by all the commenters over how a system of assigning ID numbers to waste generators would work, EPA has reconsidered this provision and has decided to delete this requirement; it is not contained in the final rule. The EPA is confident that, even without such a unique numbering system, it would be possible to track waste shipments back to the generator for the purpose of pursuing enforcement actions.

15.11 ASBESTOS IN GROUND WATER

Comment: Commenter 97 expresses concern over the failure of the proposed rule to address the potential for asbestos in a landfill to move into an aquifer beneath the landfill and contaminate ground-water supplies.

Response: Although asbestos is found in surface water and ground water, usually as a result of contamination by naturally occurring asbestos, EPA does not consider the contamination of ground water from asbestos disposed of in a landfill as very likely. In one EPA study, asbestos in soil was characterized as immobile, having about the same mobility as clays, or about 1 to 10 centimeters per 3,000 to 40,000 years.1

15.12 REFERENCE

1. U.S. Environmental Protection Agency. Movement of Selected Metals, Asbestos, and Cyanide in Soil: Applications to Waste Disposal Problems. Office of Research and Development. Cincinnati, Ohio. Publication No. EPA -600/2-77

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16.0 WASTE CONVERSION PR OCESSES

16.1 GENERAL

Comment: Commenter 23 supports the provisions to approve waste treatment/conversion processes.

Response: The EPA appreciates the s upport.

16.2 APPLICATION TO CONSTRUCT

Comment: According to commenter 23, EPA should require in Section 61.155(1)(4) that all waste conversion pr ocesses be demonstrated prior to approval of the application to construct.

Response: The EPA does not consider a demonstration of the process to be necessary in all cases. The proposal pro vides the Administrator with the option of requiring a demonstration of th e process prior to approval of the application to construct, should he deem it necessary. The EPA also notes that Section 61.155(b) requires a startup performance test after the plant is constructed.

16.3 PERFORMANCE TEST

Comment: Commenter 23 says that EPA should add to Section 61.155(d)(iii) a requirement that the sampling and testi ng methods be included in the performance test protocol and the permit to operate to ensure thorough testing of output materials.

Response: The EPA agrees with the c omment, and the asbestos revisions will provide a protocol for sampling and analysis.

16.4 OPERATING PARAMETER MONITORING

Comment: Commenter 90 recommends va lidation of a continuous temperature monitoring method to be used in lieu of T EM to verify the production of asbestos-free material.

Response: Because this standard app lies to all conversion processes, not just vitrification, temperature may not b e the only indicator of process efficacy. For example, some processes us e chemical treatment followed by "medium" temperature conversion. For the time being, EPA intends to retain the requirements as proposed. At some fu ture date, EPA may determine that operating parameter monitoring is suffici ent.

16.5 ANALYSIS OF FEED AND OUTPUT

Comment: Several comments were rece ived on the analysis of feed to and output from waste conversion processes.

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1. Commenter 2 says that all of the output from asbestos conversion processes should be sampled and analyzed for the presence of asbestos.

2. Commenter 90 states that the proposed method for sampling the feed stream and analyzing the samples with PLM before the feed enters the processor is not the preferred method for reducing environmental contamination and assuring employee safety and should be revised.

3. Commenter 38 states that the analysis of output material must include x-ray diffraction in conjunction with TEM.

4. Commenter 38 argues that, after the 90 day startup period, weekly, not monthly, composite samples should be taken and analyzed for the presence of asbestos.

5. Commenter 21 asks that procedures for sample preparation for TEM be clarified; that comminution size of particle reduction be specified; that the standard or interim method of analysis that is acceptable be identified; and that laboratory qualifications meeting requirements of the National Institute of Standards and Technology (NIST) and AHERA be identified.

Response: 1. As a practical matter, all of the output cannot be sampled. The issue is how much of the output needs to be sampled and at what frequency. The EPA considers the sampling prescribed in Section 61.155 appropriate to determine whether the output from a conversion process contains asbestos.

2. The commenter would prefer to use the bulk sample analysis of asbestos-containing material obtained during the building survey (rather than an analysis of feed at the site where the waste conversion process is located) to document the asbestos content of the waste processed. The EPA notes that analysis of feed is only required during performance testing, not as a routine procedure during day-to-day operation. For performance testing, EPA considers an analysis of the waste stream entering the conversion process an essential part of startup testing and rejects the suggestion of substituting other analytical data for the required analysis. The EPA assumes that workers taking samples for the purpose of asbestos determination would conform to applicable OSHA requirements such as personal protective equipment.

3. The EPA questions the utility of x-ray diffraction analysis of output samples due to the very low concentrations of asbestos expected from a successful conversion process.

4. The EPA considers monthly composite samples of output to be adequate for determining whether the waste conversion process is performing in a satisfactory manner and to be consistent with efforts to limit the burden imposed by testing.

5. Currently, EPA has no protocol for the TEM analysis of output materials from these processes. The final rule requires the owner or operator of waste conversion processes to submit to EPA for approval a protocol for the analysis of output materials by TEM.

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16.6 TEST FOR LEACHABLE CHEMICALS

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Comment: Commenter 21 recommends ad ding provisions at Section 61.155(b)(3) to require additional chemic al testing of leachable materials (chemicals) from the conversion product.

Response: Significant leaching of c hemicals from the products of certain types of waste conversion processes, e.g. , vitrification, is considered unlikely. For other processes that produ ce products that may contain leachable chemicals, the Administrator ma y require more information on product composition as part of the application fo r a permit to construct.

16.7 MONITORING

Comment: Two comments on the subjec t of visible emissions were received.
1. Commenter 23 asserts that an air monitoring requirement should be established rather than a "no visible emi ssions" standard.

2. Commenter 54 would revise Sectio n 61.155(e) to require both no visible emissions and compliance with the air cleaning requirements.

Response: 1. The use of the no vis ible emission requirement in Section 61.155(e) is consistent with other parts of the NESHAP. The EPA is not aware of a satisfactory source testing method f or asbestos. For fugitive emissions, visible emissions monitoring is preferabl e to air monitoring because it is easier and less costly.

2. The EPA indicated in the preambl e that the revisions proposed on January 10, 1989, were not intended to in crease the stringency of controls. Requiring both no visible emissions and c ompliance with the air cleaning requirements would increase the stringenc y of the rule.

16.8 SAFETY OF OUTPUT MATERIALS

Comment: Commenter 2 says that the safety of nonasbestos output materials from asbestos waste conversion processes should be established before permitting these processes to oper ate.

Response: The EPA agrees with the c omment. The Administrator can require evidence of the safety of output materials as part of the application for a permit to operate.

16.9 OTHER TREATMENT PROCESSES

Comment: Commenter 89 offers two co mments concerning other treatment processes.

1. Section 61.155 should also be ap plied to operations using fixation techniques because they present the same potential emission hazards.

2. Would this section apply to faci lities that want to recycle asbestos waste material?

Response: 1. Section 61.155 applie s only to processes that convert asbestos-containing waste material into nonasbesto s (asbestos-free) material. Fixation techniques process asbestos -containing waste material into nonfriable form and are covered at Section 61.150(a) (2).

2. This section does not apply to r ecycling facilities unless they

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convert asbestos-containing waste material into nonasbesto s (asbestos-free) material.

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