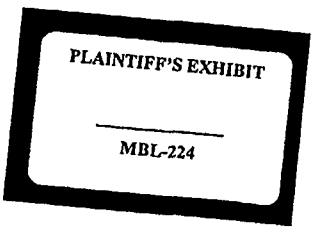
DATE September 7, 1973

TO E. T. Cullenbeck
E. D. Keiper

C.C. R. P. Medlin
R. G. Sanders
J. K. Stewart



ASBESTOS HANDLING GUIDE

The attached guide has been developed from the OSHA and the EPA standards covering asbestos handling. Only those parts of the standards which apply at this location have been included in the digest.

If you approve of the guide as shown and issue it to the line organization for implementation, Safety and Security will obtain the necessary signs and labels that are called for in the standards.

J. L. Wescoat

Attachment

ASBESTOS HANDLING GUIDE

Asbestos is a hydrated magnesium silicate which is commonly used for heat insulation and in textile products which must resist high temperatures. Inhalation of excessive quantities of asbestos fiber can be hazardous to a person's health.

The Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) have each issued standards concerning the requirements for handling asbestos. Included are precautions necessary to avoid releasing airborne fibers, required personal protective equipment, correct handling procedures, environmental monitoring, medical examinations, employee exposure records, and notification of intended demolition work. A Management Guide Bulletin has been released concerning "Medical Supervision of Asbestos Workers." Both the EPA standard and the Management Guide refer to the OSHA standard and require its use.

Because the OSHA standard is particularly difficult to read and comprehend, the attached has been drafted to serve as a distillation and compilation of the OSHA and EPA standards. This digest is intended to be a working guide for use at this location for the following situations:

1. Where employees are, or may be, subjected to significant exposure to asbestos fibers (this is the OSHA part), or

2. Where asbestos or asbestos covered equipment is handled, transported, or disposed of in such a way that could release asbestos fibers to the community (this is the EPA part).

The installation of asbestos bearing mortar and asbestos type thermal insulation has been discontinued. When asbestos bearing insulation is removed during equipment maintenance, it is to be replaced with asbestos free insulation. Measurements of airborne asbestos fiber concentration have been made on several occasions when old asbestos bearing insulation was being removed; the results indicated that the airborne concentrations were significantly <u>below</u> the permissible time weighted average concentration.

Some actions are required by the standards regardless of the concentration of airborne fibers. The reference numbers for these particular items are underlined.

RWM:jl
9-7-73

Attachment

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A DIGEST OF OSHA AND EPA STANDARDS

The items shown below are in the order in which they appear in the OSHA standard. They are intended to serve as a working guide for use in the field. When questions arise which are not covered by this digest, the attached copy of the OSHA and EPA standard should be consulted.

1. Permissible Exposure Levels

   1.1 The permissible time weighted average (TWA) concentration of airborne asbestos fiber is 5 fibers greater than 5 microns in length per cubic centimeter of air over an 8-hour exposure period. The permissible time weighted average exposure for an 8-hour period will be reduced in 1976 to 2 fibers greater than 5 microns in length per cubic centimeter of air.

   1.2 The permissible ceiling concentration, i.e., the maximum allowable concentration is 10 fibers greater than 5 microns in length per cubic centimeter of breathing air. Exposure above this concentration is not permitted, regardless of the exposure time.

2. Local Exhaust Ventilation

   2.1 Local exhaust ventilation is required for hand and power tools which may produce or release asbestos fibers in excess of the permissible concentration levels.

   2.2 All ventilation and collection systems must be designed and installed in accordance with the American National Standard, ANSI Z9.2 - 1971.

3. Work Methods

   3.1 Wet Method -- Where practical, asbestos bearing material should be kept wet to prevent releasing fibers in excess of the permissible concentration levels.

   3.2 Demolition includes removing the asbestos covering or the removal of piping or equipment that is asbestos covered. EPA requirements associated with demolition are given in Section 10 of this digest. Repair activities are not considered to be demolition work.

4. Personal Protective Equipment

   4.1 Compliance with the standard through the use of respirators and shift rotation may <u>not</u> be used except:

      4.1.1 Until engineering controls can be implemented, or

      4.1.2 Suitable work practices can be implemented, or

4.1.3 The above two are not feasible, or

4.4.4 In emergency work.

4.2 Respiratory Protection

4.2.1 Where either respirators or personnel rotation is applicable, OSHA states that personnel rotation is preferred.

4.2.2 Respirators must be approved by the Bureau of Mines or NIOSH. The type employed must be suitable for the expected concentrations as shown below.

4.2.3 Air purifying respirators, either the reusable or single-use type, shall be used for exposures in which the airborne concentration is not expected to exceed 10 times the permissible TWA concentration (50 fibers greater than 5 microns in length per cubic centimeter of air).

4.2.4 Powered air purifiers (air compressor supply) shall be used when the airborne concentration does not exceed 100 times the permissible TWA concentration (500 fibers greater than 5 microns in length per cubic centimeter of air).

4.2.5 Type C continuous flow or pressure demand supplied air respirators (Scott Air Pacs or air cylinders) shall be used when the airborne concentration is expected to exceed 100 times the permissible TWA concentration (500 fibers greater than 5 microns in length per cubic centimeter of air).

4.2.6 A respiratory training program shall be established in accordance with ANSI Z88.2 - 1969, where respirators of any class or type are, or may be, required.

4.2.7 Employees who, according to a medical examination, cannot function normally with a respirator shall not be assigned to work requiring a respirator. They shall be assigned to other work in the same geographic location and at the same pay and seniority, if such work is available.

4.3 Special Clothing and Lockers

4.3.1 Special clothing shall be provided and used if the concentration is expected to exceed the permissible TWA concentration (5 fibers greater than 5 microns in length per cubic centimeter of air).

4.3.2 Change rooms are required for employees working regularly at a fixed place of employment where the concentration is expected to exceed the permissible TWA concentration.

4.3.3 Two separate change lockers or containers shall be provided for each employee to prevent contamination of street clothes by contact with work clothes. The two change lockers are required only if a change room is required per 4.3.2 above.

4.3.4 Laundering asbestos contaminated clothes shall be performed so as to prevent releasing asbestos fibers in excess of the permissible TWA concentration.

4.3.5 Employers giving asbestos contaminated clothes to someone for laundering shall inform that person or agent about the requirements to prevent his releasing excessive amounts of asbestos fibers. The standard does not specify whether or not an employee is required to inform the launderer under similar circumstances.

4.3.6 Contaminated clothes shall be transported in a sealed container which displays a caution label. (See attached for details of the label.)

5. Method of Concentration Measurement

5.1 Airborne fiber concentration measurements -- This is done by the Industrial Hygienist who uses the prescribed type membrane filter. The filter cassette is then sent to a commercial laboratory equipped to count the fibers.

5.2 Initial monitoring must be done in the places of employment where fibers are released to determine the concentration of airborne asbestos fibers. If the concentration is above the permissible TWA concentration, a compliance program must be undertaken immediately. Initial measurements of the concentration of airborne asbestos fibers performed in the Beaumont Refinery indicated that airborne concentrations were well below the permissible TWA concentration.

5.3 Personal monitoring must be done by sampling at the breathing zone to determine the airborne asbestos concentration. Sufficient samples shall be taken to determine the 8-hour TWA concentration and the maximum or ceiling concentration of asbestos fibers. The sampling interval and pattern will be performed in a manner so as to represent, with reasonable accuracy, the actual level of employee exposure. If the exposure may reasonably exceed the permissible TWA concentration, then the sampling interval may not exceed a 6-month period.

Personal monitoring performed in the Beaumont Refinery indicated that airborne concentrations were significantly below the permissible TWA concentration.

5.3.1 Samples must be collected on membrane filters of 0.8 micron porosity which are mounted in an open-face filter holder.

5.4 Environmental monitor . -- This is nearly identical to the requirements spelled out in the personal monitoring section described above in 5.3.

5.5 Affected employees or their rapresentative are to have a reasonable opportunity to observe the monitoring process and have access to the results of that monitoring.

6. Caution Signs and Labels

6.1 Caution signs are to be displayed where airborne concentrations may exceed the permissible TWA concentration. They shall be located at all approaches and far enough from the location so that employees may take protective measures before entering the location. The exact sign specifications are described in the attached standard.

6.2 Caution labels shall be attached to all containers of asbestos raw material, waste, scrap, debris, and contaminated clothing, unless the asbestos fibers have been modified by a bonding agent or some binder which will prevent the release of asbestos fibers to the air during any reasonably foreseeable use, handling, transportation, or disposal of material.

7. Housekeeping

7.1 Housekeeping -- External surfaces shall be kept clear of accumulated asbestos fibers which if dispersed would be in excessive concentration. The accumulation described has not been quantified.

7.2 Waste Disposal -- Asbestos waste, scrap, and clothing consigned for disposal which may in a reasonably foreseeable use, handling, transportation or disposal, release asbestos fibers, shall be collected and disposed of in sealed impermeable containers. A caution label shall be attached, unless the fibers are modified by a suitable bonding agent or binder.

8. Record Keeping

8.1 Exposure records as determined from personal and environmental monitoring shall be kept for at least three years. They shall be made available to OSHA and NIOSH personnel, and employees or former employees whose own exposure may be shown in these records.

8.2 Employee exposure notification -- any employee found to have been exposed to concentrations in excess of the permissible TWA concentration is to be notified in writing as soon as possible and not later than five days after the finding. He shall also be timely notified of the corrective action being taken.

9. Medical Examinations

9.1 Preplacement examinations -- The employer shall provide or make available to each of his employees who are exposed to airborne asbestos fibers, a comprehensive medical examination at the employer's expense. The examination must be performed within 30 days following the first work exposure to asbestos fibers. Examinations are not mandatory by the federal law. If the employee refuses to take the examination, a signed statement of refusal is required.

9.2 Annual examinations -- For employees who may be exposed on or before January 31, 1973 and at least annually thereafter.

9.3 Termination of employment -- The employer shall provide or make available a comprehensive medical examination within 30 days before or after employment is terminated. However, no examination need be provided if records show that the employee has been examined within the past one-year period.

9.4 Medical records shall be kept at least 20 years. They shall be available for examination or copying by OSHA, NIOSH, present employees, former employees, and employee's personal physician. The physician who performs such an examination shall furnish the employer all the information related to the employee's occupational exposure to asbestos.

10. Environmental Protection Agency -- Material emissions standards for hazardous air pollutants.

10.1 The portion of the EPA standard pertaining to asbestos is attached.

10.2 The EPA must be notified at least 20 days before starting demolition work on asbestos covered piping and equipment. The attached notification form shows what information is required. (In the Beaumont Refinery, the unit responsible for initiating demolition work should contact the Conservation Engineering Section at least 30 days before demolition work is to be initiated so that they may forward the required notification to the EPA.)

10.3 Asbestos insulation shall be wetted and removed from equipment and piping before wrecking of the load bearing structure is begun. The insulation shall be kept wet during all stages of demolition and related handling.

10.4 Piping and other equipment covered with asbestos insulation shall not be dropped or thrown from buildings or structures. It shall be carefully lowered to the ground.

Mobil Oil Corporation

P O. BOX 3311
BEAUMONT, TEXAS 77704

Director, Enforcement Division
Environmental Protection Agency
1600 Patterson, Suite 1100
Dallas, Texas 75201

Dear Sir:

Notice is hereby given that demolition of a structure containing asbestos is planned, and the following information is submitted pursuant to the requirements of 40 C.F.R. 61.22(d)(1).

Name of Owner or Operator Mobil Oil Corp.
Beaumont Refinery

Address P. O. Box 3311
Beaumont, Texas 77704

Description of structure to be demolished: _____

_____

Location of Structure: _____

Date demolition will begin: _____

Date demolition will be completed: _____

Method of demolition to be employed: _____

_____

Procedures to be used to prevent emissions of particulate asbestos to the outside air: _____

_____

_____

Yours very truly,

05897

447667

10.5 Asbestos insulation shall not be dropped or thrown from a height of 50 feet or more. It shall be lowered in dust tight chutes or containers.

10.6 Other requirements associated with asbestos disposal that are covered in OSHA standards are not repeated in the EPA standards.

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Caution Label

Caution
Contains Asbestos Fibers
Avoid Creating Dust
Breathing Asbestos Dust May Cause
Serious Bodily Harm

Warning Signs

Asbestos
Dust Hazard
Avoid Breathing Dust
Wear Assigned Protective Equipment
Do Not Remain In The Area Unless Your Work Requires It
Breathing Asbestos Dust May be Harmful to Your Health

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