PLAINTIFF'S EXHIBIT

DOW-1320

PROPOSED BLUE

S-140 ASBESTOS-CONTAINING MATERIAL

PASSOUT OF BLUE: 6/5/87

COMMENTS BACK BY: 6/26/87

REVIEW WITH DIVISION SAFETY COMMITTEE: AUG/87

SEND COMMENTS BACK TO: FRED SABEL
INDUSTRIAL HYGIENE
258 BUILDING

EXTENSIVE REVISIONS HAVE BEEN MADE DUE TO NEW ASBESTOS LAW.

ST0207334

PROPOSED BLUE

SAFETY STANDARD S-140

ASBESTOS-CONTAINING MATERIAL

I. POLICY

The handling of asbestos-containing materials will be done in an environmentally safe manner.

II. SCOPE

This standard defines procedures for the identification, safe handling, and good industrial hygiene practices for asbestos. These procedures shall apply to the handling of all asbestos-containing materials, including the removal of small quantities of material; i.e., removing short sections of insulation during routine maintenance. This standard is intended to augment Environmental Standard E-500.

III. IDENTIFICATION

Prior to the removal of any material which has the physical appearance of asbestos, a sample shall be sent to either Industrial Hygiene Services or Michigan Division Analytical Laboratories for testing. Suspect material not tested as described above will be treated as if it were asbestos.

IV. DEFINITIONS

ACTION LEVEL:

An airborne concentration of asbestos fibers of 0.1 fiber/cc of air, calculated as an eight (8) hour time weighted average.

PERMISSIBLE EXPOSURE LIMIT (PEL):

An airborne concentration of asbestos fibers of 0.2 fiber/cc of air, calculated as an eight (8) hour time weighted average.

REGULATED AREA:

Area established by the employer to demarcate areas where airborne concentrations of asbestos fibers exceed or could reasonably be expected to exceed the PEL.

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V. RESPONSIBILITIES

A. Supervision shall:

1. Comply with Environmental Standard E-500 which defines the regulatory requirements for demolition and disposal of asbestos containing waste.

2. Ensure employees who handle asbestos-containing materials are informed annually of the health hazards associated with exposure to asbestos and of the availability of an annual medical examination. In addition, general information concerning asbestos as contained in Appendix A shall be communicated.

3. Ensure that employees use the protective devices and work practices established for the job.

4. Establish a regulated area in the work area where asbestos concentration can be reasonably expected to exceed the PEL by demarcating the area and limiting access to authorized protected personnel only.

5. Ensure that an appropriate monitoring program is carried out, for operations involving asbestos-containing materials, and that employees are informed of the survey data.

B. The employee shall:

1. Use the protective equipment and work practices required for the job. See Section VIII.

2. Clean the respirator and replace respirator cartridges daily. See Section VII C.

C. Industrial Hygiene shall:

1. Provide consultation as to protective devices necessary and available.

2. Provide analysis.

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3. Provide monitoring.

4. Provide training.

D. Medical Department shall:

Provide annual examinations to monitor the health of Dow employees working with asbestos-containing materials.

VI. EDUCATION

A. Two short video tape presentations concerning the hazards of asbestos are available from Industrial Hygiene or Division Cable TV for viewing. The showing of these programs to all employees, prior to working with asbestos, is mandatory.

B. Employees who may alter, disturb, or remove less than 25 linear feet or 50 square feet of asbestos material shall have two (2) hours of asbestos awareness training.

C. Employees who may alter, disturb, or remove more than 25 linear feet or 50 square feet of asbestos material shall have five (5) hours of asbestos awareness training.

VII. SAFE HANDLING PRACTICES

The primary concern in handling asbestos-containing materials is the danger of inhaling airborne fibers generated during demolition and/or renovation. The following procedures shall be carried out. These are minimum requirements which comply with MIOSHA Standards.

A. Access Control: Caution signs and barricades shall be erected to prevent employees from entering a regulated area without proper protective equipment. Signs are available from the Paint Shop, 49 Building; ask for sign number 77.

B. Minimize Asbestos Fibers Becoming Airborne

1. Asbestos-containing material shall be thoroughly wetted before removal. This may require subsequent wetting as layers of material are removed.

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2. Loose asbestos material shall not be swept unless wetted. Vacuum cleaners equipped with HEPA filters are recommended.

C. Respiratory Protection

1. Approved respirators, available from DVS, 492 Building shall be worn during all asbestos handling operations. As a minimum, respirator protection in the form of a 1/2 mask with high efficiency filter cartridges shall be worn.

2. Safety Standard S-745 shall be followed when wearing respiratory protection.

3. Fit testing shall be conducted at least every six (6) months for employees wearing a negative pressure respirator.

D. Disposal

1. All loose asbestos waste shall be placed in properly labeled impermeable containers (6 mil yellow plastic bags or other containers approved by Environmental Services) prior to Dow landfill disposal. Yellow bags are available on DVS, (135-900018) and are to be used for asbestos disposal only.

2. Asbestos labels (Stock #062230) are available from F. P. Horak Co. (Phone 695-6027) for containers other than specified yellow bags.

3. Dow landfill tags are available from designated Environmental Services personnel.

E. Protective Clothing

1. Required protective clothing includes full disposable suit, head covering, gloves, and foot covering.

2. Work clothing (other than disposable) contaminated with asbestos fibers shall be sent to the Dow Laundry in a properly tagged (see D. 2) plastic bag. Do not use the yellow bag noted in Section D. 1.

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F. Monitoring

1. Daily monitoring will be conducted in each regulated area until statistically reliable measurement indicate employee exposures are below the action level.

2. A post abatement air sample will be collected for every asbestos abatement project exceeding 25 linear feet or 50 sq. ft. unless exempted by Industrial Hygiene Services.

VIII. REMOVAL OF SMALL AMOUNT OF ASBESTOS-CONTAINING MATERIALS

Several methods can be used to remove small amounts of asbestos-containing materials during small scale, short duration renovation or maintenance tasks.

A. Glove Bags: Training program related to use of glove bag techniques is conducted by Trades Training, 294 Building.

B. Removal of entire asbestos-covered pipe or structure:

1. Entire structure or pipe is encased in a 6 mil polyethylene plastic sheeting which is sealed with duct tape.

2. Asbestos covering at connections are removed by the glove bag technique.

3. Structure or pipe is removed to a mini-enclosure for final removal operations.

C. Mini-enclosure

1. A six mil polyethylene enclosure is constructed around the work area with a small change room contiguous to the enclosure.

2. Removal operation is conducted inside the enclosure with appropriate protective equipment and work practices including wetting of the insulation prior to removal.

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3. Employee shall vacuum off protective coverall prior to leaving work area and remove coveralls in the adjacent change room.

4. Respirator shall be removed after leaving the change room.

IX. ASBESTOS-RELATED EMERGENCIES

In the event of an asbestos-related emergency which results in separation or detachment of asbestos-containing material due to weathering or physical damage, the following procedure shall be implemented:

A. Isolate area:

1. Employees wearing protective equipment shall barrier off area affected and place warning signs on barriers.

2. Within facilities, disconnect and/or seal ventilation units to other areas of the facility.

B. Communicate:

1. Inform employees within facility of situation and to avoid entering affected area.

2. Contact Industrial Hygiene Services to determine regulatory requirements and appropriate clean-up procedures.

C. Clean-up operations:

1. Conduct clean-up operations as per regulatory requirement, ensuring that workers are trained and protected with appropriate respiratory and protective equipment.

2. Damaged material shall be removed, collected, and disposed of in accordance with S-140 and E-500.

3. Damaged surfaces or adjoining members shall be encapsulated and/or sealed in plastic sheeting prior to re-insulation.

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PROPOSED BLUE

X. APPLICATION WITH LIMITED SUBSTITUTES

It is the goal of the Michigan Division to discontinue the use of asbestos-containing materials as quickly as adequate substitutes can be found. Supervision shall not place new asbestos-bearing materials in service without consultation with Materials Engineering and Industrial Hygiene Services.

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