PLAINTIFF'S EXHIBIT

UC-2353

UNION CARBIDE CORPORATION

CHEMICALS AND PLASTICS

SOUTH CHARLESTON, WEST VIRGINIA

MAINTENANCE DEPARTMENT

For your information E.E.Bg.

HEALTH AND SAFETY CONSIDERATIONS FOR INSULATORS IN HANDLING ASBESTOS CONTAINED MATERIALS

Understanding a few facts and observing some common sense practices listed below will reduce the health hazards associated with the use of asbestos and will ensure the health of insulators and their co-workers.

I. Major Concern for Asbestos Health Hazards - In those instances where asbestos fibers are present that are longer than 5 micrometers, the greatest health hazards exist. If these fibers are inhaled into the respiratory system, they collect in the lung sacs. If the quantitites of these fibers are great enough to accumulate through years of continued inhalation, they take up substantial space normally used for air. The way in which asbestos fibers are more harmful than other foreign particles that enter the lung sacs is that they are not dissolved and absorbed into body waste streams to be carried away and discharged from the body as other particles are. They remain in the lung sacs. Membranes then grow around each fiber, resulting in a fibrosis of the lung sacs. Fiber by fiber over the years results in what we term "asbestosis," (a non-malignant, scarring and thickening of the lung tissues).

Denver — I would suggest that this explanation applies more to Silicosis than to Asbestosis - See attached explanation — Leo-Group concern today is for Cancer, i.e. Mesothelioma, Bronchial Cancer, etc.

II. Normally Asbestos is Not a Major Health Hazard - Under most conditions, asbestos is not normally in fiber form small enough to be airborne in a person's breathing zone and small enough to pass through the nasal filtering system of hair and mucous that filter out all but the very finest fibers. However, it is these small fibers longer than 5 micrometers entering the lungs that are considered to be the culprits that cause asbestosis.

III. Health Risks Associated with the Use of Asbestos Have Been Greatly Reduced - Risk of harm to insulators and their co-workers from the use of asbestos is slight because non-asbestos insulation materials are used almost exclusively now. The only exception to this is woven asbestos tape which presents no problem because

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very little dust and airborne fibers result when it is cut and applied. Furthermore, personal sampling of the breathing zone air of employees indicates that allowable limits are seldom reached even when asbestos fibers are present in any type material or activity provided normal precautions are observed.

IV. Our Concern - The Potential Harm from Existing Insulation Materials in the South Charleston Plant - The potential harm to employees at the South Charleston Plant lies almost exclusively in the removal, cleanup, and disposal of existing insulation materials which were applied prior to 1972.

V. Protection from Potential is Assured - By following a few precautionary measures as required by OSHA regulation 1910.93 and using sound judgement, each employee can perform his/her work in a perfectly safe and healthful manner.

Present OSHA Allowable Limit

During an eight-hour period, the time-weighted average shall not exceed 5 fibers, longer than 5 micrometers, per cubic centimeter of air.

Proposed OSHA Allowable Limit Effective July 1, 1976

During an eight-hour period, the time-weighted average shall not exceed 2 fibers, longer than 5 micrometers, per cubic centimeter of air.

OSHA - Ceiling Concentration

No employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers, longer than 5 micrometers, per cubic centimeter of air. Methods of measuring airborne concentrations are spelled out in the OSHA Register, regulation 1910.93a(e).

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Mandatory Precautions and Procedures to be Followed When Handling and Working with Materials Containing Asbestos

CHECKLIST

1. Respirators: Will be worn while removing and cleaning up all insulation, whether asbestos is present or not. See "Respirators" below for approved type. Insulation supervisors are responsible for determing the proper respirator to be used and will monitor each job while in progress for compliance.

2. Work Area Precautions: Work area will be roped off with yellow barricade tape during the removal of asbestos laden insulation and warning signs will be posted outside of each roped off work area to warn employees desiring to enter the area so that he/she may take the necessary protective steps. See "Warning Signs" below.

   If work is being performed on levels above open grating, the grating area under the work being performed will be covered with drop cloths, tarpaulins, or polyethylene film to contain asbestos that might fall or filter down through the grating to work areas below. This requirement is necessary to protect other employees from asbestos hazards.

3. Wet Cleanup: Insofar as practicable, removed insulation containing asbestos shall be handled in a wet state. Removed insulation will be wet down with water sufficiently to prevent the emission of airborne fibers. Wet sweeping and wash-down will be carried out on all jobs where possible.

   When wet cleanup is impractical due to time, location, and/or nature of the job, sweeping compound will be applied to the work area during cleanup.

4. Disposal: All removed insulation containing asbestos fibers will be disposed of in dustproof polyethylene bags. These bags are to be securely wired closed. These bags will be special bags with all OSHA specified warnings printed directly on them. Bags will be stocked at Building 109 by Area 6 Maintenance and will be readily available.

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All waste insulation materials containing asbestos fibers will be disposed of in landfill. This waste material will be covered within 24 hours of deposit with at least six inches of compacted, non-asbestos containing materials. Care should be taken during the disposal process to insure that the polyethylene bags, containing asbestos laden insulation waste, are not broken open.

5. Clothing Storage: Work clothing used by insulators will be stored in separate lockers away from their street clothing. On jobs where asbestos fiber contamination of clothing is heavy, coveralls will be exchanged after each shift. CAUTION: At no time is compressed air to be used for dusting off skin or clothing.

6. Laundering: All protective coveralls used by insulators will be placed in dustproof polyethylene bags to be sent out for laundering. These bags will be the same as the bags used for waste asbestos insulation disposal and will therefore be marked with all specified OSHA warnings. This is necessary to alert the laundry employees of possible asbestos contamination so that they may take the necessary precautions.

   Clean coveralls will be returned from the laundry in clean, asbestos-free containers.

   A letter will be sent out to the laundry, outlining our procedure for handling asbestos contaminated clothing. This letter will specify the precautions we will be taking to protect both our employees and the laundry employees against possible asbestos hazards.

7. Training - An information session was held on April 21, 1976 with all Area 6 Insulators. Dr. R. W. Holland, Plant 514 Medical Director, made a slide presentation and explained the health hazards associated with the use and handling of asbestos materials. He also had a period of open discussion and questions. Dr. Holland then read and explained the present OSHA regulation 1910.93 for the handling of asbestos materials, and further discussed the proposed changes to these regulations which could become effective July 1, 1976. Dr. Holland discussed the new medical surveillance required and explained the new medical test. He asked for the support of all craftsmen and supervisors involved with asbestos materials in the South Charleston Plant.

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The rough draft of the proposed Plant 514, "Health and Safety Considerations for Insulators in Handling Asbestos-Contained Materials," was read and explained.

Proposed Training

1. A session will be held with each of the three insulator groups prior to July 1, 1976 for the purpose of formally instituting this procedure and to get understanding and acceptance from everyone involved.

2. A review of this procedure will become part of our yearly "Maintenance Safety Review Checklist" and will be made with each insulator annually and recorded on his individual checklist under Item No. 26 (Special Training).

   Area 6 Maintenance will be responsible for the training of all new insulator apprentices in this policy and procedure.

8. Medical Surveillance - To be carried out by our Medical Department.

Respirators

A. Normal Dust Exposures - 3M Respirator No. 8710
   Willson Respirator No. 1400

   Both of the above respirators are of the single use, disposable type.

B. Heavy Dust Exposures - Type "C", supplied air, continuous flow or pressure-demand type, supplied with full breathing air from breathing air cylinders.

Warning Signs

To State: Asbestos
Dust Hazard
Avoid Breathing Dust
Wear Assigned Protective Equipment
Do Not Remain in Area Unless Your Work Requires It
Breathing Asbestos Dust May be Hazardous to your Health

Warning signs are located in each Insulator building.

DBHoward/mb
July 1, 1976

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