ATTACHMENT H

DEFENDANT'S EXHIBIT 337

Chambers Works Mechanical Department MDP 60

January 29, 1979 Sheet 1 of 7

PROCEDURE

CONTROL OF ASBESTOS DUST

1. PURPOSE

Prescribe methods for controlling, measuring and eliminating exposure to asbestos dust.

2. SCOPE

Applicable with airborne-dust originating from asbestos and asbestos-impregnated materials.

3. SOURCE OF EXPOSURE

A. All thermal insulation installed prior to 1972 could contain asbestos fibers, including calcium silicate. This could be a source of high exposure during dismantling.

B. Other asbestos-bearing materials are possible sources of exposure in varying degrees, for example, heat suits and gloves, laboratory hot pads, transite board and pipe, asbestos board, listing tape, asbestos cloth, Haveg pipe and fittings, etc.

C. There are some asbestos-bearing materials used on the Chambers Works in which the fibers are contained and are not a source of airborne dust, for example, braided and molded packing, fibrous adhesive, compressed asbestos gasket material, etc. However, these items will be cataloged and emissions supported by air samples of the work area where they are used.

4. EXPOSURE LIMITS

A. Asbestos dust concentration limits are an 8 hour time weighted average (T.W.A.)* of 2 fibers, longer than 5 microns, per cubic centimeter of air and;

B. A 15 minute T.W.A. of 10 fibers, longer than 5 microns, per cubic centimeter of air.

C. Occupational exposure defined is: an 8 hour T.W.A. of more than 0.1 fibers, longer than 5 microns, per cubic centimeter of air.

*Average concentration occurring over a period of 8 hours.

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5. REGULATORY REQUIREMENTS

When asbestos-bearing materials to be removed during renovations exceed 260 lineal feet (80 meters) of pipe insulation or 160 square feet (15 square meters) of insulation on ducts, boilers, tanks or structural members, the E.P.A. must be notified regarding potential asbestos emissions. E.P.A. notification is required for all demolitions where asbestos-bearing materials are involved, regardless of the quantity.

The responsibility for the actual notification or Letter of Intent rests with the Environmental Control Division. The information required for the Letter of Intent is covered in Attachment "A". The responsbility for gathering this information and notifying the Environmental Control Division regarding the work to be performed rests with the Mechanical Division that is responsible for that area maintenance.

6. CONTROL OF ASBESTOS DUST

A. Exercise care when handling materials which are potential sources of asbestos dust. Local exhaust ventilation and similar controls shall be used to meet the exposure limits prescribed by Section 4, if possible. Prescribed safety equipment must be worn on all jobs where exposure to asbestos dust is possible.

B. When cutting asbestos-containing material, use tools that will not make a dust, e.g., shears, knives or other similar cutters.

C. Respirators (Section 7) and special clothing (Section 8-A) shall be worn by employees engaged in removal or demolition of asbestos insulation or covering.

D. Whenever material which contains asbestos is to be removed and discarded, it is to be thoroughly wetted down prior to and during removal. Removal methods which may cause dust should not be employed. The removal area shall be roped off and proper signs posted (Section 6-G and Section 10-D).

E. During cleanup of asbestos materials, no dry sweeping shall be performed nor any air blowdown used. Use a vacuum cleaner or wet down before sweeping. If a vacuum cleaner is to be used, it shall be fitted with a filter which will contain asbestos fibers at the filter exhaust to meet the exposure limits prescribed in Section 4.

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6. CONTROL OF ASBESTOS DUST - Continued

F. Asbestos waste shall be collected in damp or wetted condition and placed in a sealed impermeable bag. The bag shall be identified with caution tag MU-1378 and transported to the Chambers Works landfill accompanied by a Waste Chemical Transportation Order (MU-1766-R-1). The bag should be strong enough so that it will not rupture during landfill operations.

G. The work area shall be roped off (barricaded) and caution signs conforming to Engineering Standard S-4-T, 7.6 shall be posted at all approaches. Roped off limits shall be placed at a sufficient distance to prevent bystander exposure (8 hr. T.W.A. of more than 0.1 fiber/cc longer than 5 microns) and will permit a person to read the signs and take necessary precautions before entering the area. In addition, the work area shall be designated as a "Limited Access Area" (see Section 10-D) during the course of the work and cleanup procedure.

H. Chemical contaminated asbestos or asbestos-bearing materials require special considerations and should be handled by adequately trained personnel. It is the building custodian's (operations) responsibility to determine who may perform the work.

7. RESPIRATORY EQUIPMENT

A. Respiratory protection shall be provided to all personnel in areas where the permissible exposure limits may be exceeded per Section 4-A.

B. Mechanical filter-type respirators are required when the T.W.A. or ceiling concentrations are not expected to exceed 10 times the limits stated in Section 4-A.

C. Atmosphere-supplying positive pressure regulators are required when the 8 hour T.W.A. or 15 minute T.W.A. concentrations are expected to exceed 10 times the limited stated in Section 4-A.

D. Medical Class I employees are approved medically to wear respirators. Any other medical class, other than Class I, must have written clearance from Medical concerning their physical suitability to wear respirators. Each employee who may use a respirator shall be instructed in its use and in testing it for proper fit. He shall test it for proper fit prior to each use (see MDP-57).

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8. HYGIENE

A. Special clothing ("Tyvek" coveralls with hood and foot coverings) shall be provided for employees exposed to concentrations which may exceed the limits in Section 4 and during all removal, demolition or spraying operations.

B. Food, gum, tobacco, or other material which may be placed in the mouth shall not be kept or consumed in work areas where asbestos is being handled.

C. Annual medical examinations are required for employees who are or might be exposed to airborne concentrations of asbestos fibers greater than 0.1 fibers/cc (8 hour T.W.A.). The employee's Area supervision is responsible to arrange for the annual examination (see Records, Section 10-D).

D. Preplacement and termination medical examinations are required within 30 days of first assignment or termination of employment of any employee engaged in an occupation exposed to airborne concentrations of asbestos fibers. The 30 day requirement is waived if the employee has had a medical exam within a one year period of his first assignment or termination.

9. SAMPLING

A. It may be necessary to obtain material samples or air samples for reasons such as:

(1) Material Samples - an employee may be assigned to a job working with a material which may contain asbestos fibers. A material analysis must be made to ensure that proper protective measures are instituted prior to, during, and after the job, and/or,

(2) Air Samples - there is reason to suspect that employees may be exposed to airborne asbestos fibers because:

(a) They are working with an asbestos-bearing material and a personal sample is needed to determine exposure level.

(b) Because of the location and/or condition of asbestos-bearing materials, employees may be exposed to airborne fibers.

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9. SAMPLING - Continued

B. When material sampling is required, the following procedure should be followed:

(1) Adhere to all personnel protective and preventive measures indicated in this procedure when obtaining samples.

(2) Place material sample to be analyzed in a plastic bag, seal it and deliver it to Room 215 at the Technical Laboratory. Tag the bag with type of material, (e.g. lagging, gasketing, etc.), a listing of possible non-asbestos contaminants, Area, building and equipment number. Allow 3 days for reply.

(3) The asbestos identification sheet (Attachment "B") shall be used to record initial sample data. One copy shall accompany sample to the Technical Laboratory Room 215 and other copies may be distributed by Plant mail.

C. When the need for air samples is indicated (Section 9-A), contact Environmental Health Division, Technical Laboratory Extension 2540, give a description of the work requested and the location. Follow this with a formal written request (Don't Say It...) and allow 5 to 7 days for a reply.

D. Representative samples have indicated that the procedures followed by the Mechanical Department in the handling of asbestos-bearing materials have kept exposure well below the limits set by the Occupational Safety and Health Administration (O.S.H.A.). Continued sampling and air monitoring will be maintained throughout the department. The Environmental Health Division will perform the monitoring, supply the equipment necessary, and provide a written report of the sampling results to the mechanical area supervision who requested the sampling. Each dismantlement job should be monitored for airborne concentrations. All jobs should be considered for monitoring and jobs of 2 hours or greater duration should be monitored for airborne concentrations. The mechanical area responsible shall request monitoring and where employees are exposed to asbestos dust, request personnel monitoring to determine the employee's exposure. Sampling must be taken in a frequency pattern to represent accurately the employees exposure over his work period.

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9. SAMPLING - Continued

E. As soon as practical, but not later than 5 days after receipt of sampling results, the Senior Supervisor, Mechanical, or his designate shall notify in writing, using MU-137 (Attachment "C") any employee found to have been exposed to airborne concentrations in excess of the limits found in Section 4-A of this procedure. The notification form shall be filled out in its entirety and copies distributed as indicated on the form.

10. RECORDS

A. Medical records of persons working in asbestos airborne environment are maintained by the Chambers Works Medical Section.

B. Environmental monitoring records are maintained by the Environmental Health Division.

C. Personnel-monitoring records are maintained by the Mechanical Department Asbestos Compliance Committee.

D. Where airborne dust originating from asbestos or asbestos impregnated materials is possible in a work area, that area shall be designated a "Limited Access Area" during the course of the work activity and subsequent cleanup period. Each "Limited Access Area" has a controlled entry/exit location where a sign in/out log sheet is used to record the names and times of persons entering/exiting the area. The log sheet (Attachment "D") will be controlled by the area/craft senior supervisor or his designate of the work group performing the work. If more than one craft is involved then each group is responsible for their own work group. The Supervisor, Mechanical of the work group will usually maintain the sign in/out log.

The area or craft performing the work activity where the potential for exposure exists shall contact the Mechanical Department I.H.S. Coordinator (3417) for a contact code number for the work area. Give area, building, location, craft, and person requesting the number. All work that is performed in a specific work area (same job) will carry the same contact code. The contact code is used on the sign in/out log sheet to identify the specific exposure. The log sheets shall be sent to the I.H.S. Coordinator, Shops Office at the end of each week.

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10. RECORDS - Continued

D. - Continued

Information regarding asbestos exposure will be included in the I.H.S. reports, I.H.S. 60180A and I.H.S. 60380A. When the I.H.S. report shows initial employee asbestos exposure, then that employee shall be placed in the Medical Surveillance Program for asbestos exposure. It is then the responsibility of the employee's supervision to schedule for the employee's annual (12 month) physical exam. Supervision must, when scheduling, specify that the exam is for an "Annual (Asbestos Control)" on the Request for Medical Service Form (MU-2042-R-6). If, after a period of one year following the last exposure and subsequent physical exam, no additional exposure occurs, the employee is placed on the inactive file (I.H.S. 60580A). Annual physical exams for asbestos exposure are not required while an employee is on the inactive file.

E. All records are maintained for at least 20 years.

11. ELIMINATION OF ASBESTOS IMPREGNATED MATERIALS

A. The Mechanical Department will, with the assistance of the Logistics Department, maintain a current listing of all maintenance materials containing asbestos. All new requests for Stores stocking of asbestos-bearing material will be reviewed by the Mechanical Asbestos Compliance Committee.

B. All mechanical personnel shall continue to seek asbestos-free substitutes for maintenance materials.

12. REFERENCES

A. This M.D.P. is based on:

(1) Du Pont Engineering Standard S-4-T
(2) O.S.H.A. Regulations, Section 1910:1001
(3) National Emissions Standard for Asbestos (40 CFR 61.20-61.25); and
(4) O.S.H.A. Program Directive #300-16.

AUTHORIZED: F. J. Mealor Date: 1-30-79
General Superintendent, Mechanical

Approved: JMB PBN ERR
DEC RTO DMV

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ATTACHMENT "A"

R. DeWitt, Shops Office
D. E. Poland, Mech. Trng. Bldg. #656
Senior Supervisor, Operations
Senior Supervisor, Mechanical

Date:

To: W. H. Elliott, Environmental Control Division, Bldg. 1094

From:

NOTIFICATION REQUIREMENT
POTENTIAL ASBESTOS EMISSIONS

Building #_____ Area_____

Description of equipment: (Size of tank, length and size of pipe, etc.

Approximate size of building where located:

Age of equipment:

Equipment use:

Why being removed:

Work to commence:

Work to be completed date: By whom:

Total amount of asbestos to be removed (square feet, lineal feet, etc.)

(Note: See Engineering Standard S-4-T which lists requirements for personnel protection, dismantlement, labeling and disposal).

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ATTACHMENT "B"

CC: Technical Lab Room 215 (with sample)
R. DeWitt, Shops Office
Area File

ASBESTOS IDENTIFICATION WORK SHEET

1. Area _____

2. Building name and number _____

3. Location of sampling _____

_____

_____

4. Size of equipment or piping sampled _____

_____

_____

_____

5. Area sample number _____

6. Department sample number _____

7. Date sampled _____

8. Sampled by _____

REMARKS:

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ATTACHMENT "C"

Eng. Area/Crafts/CWC/Lab/SLE/_____/COPY CHAMBERS WORKS FORM MU-137

MEDICAL DIVISION COPY CHAMBERS WORKS FORM MU-137

MFG./OPER. COPY CHAMBERS WORKS FORM MU-137

FILE COPY CHAMBERS WORKS FORM MU-137

Employee Name	Sec. Sec. No.	Assn't	Building	Area	Site	Sample I.D.	CAS Reg. No.	Date

On _____ (date), the personal monitor worn on this job assignment indicated that (you) (the wearer) might have been exposed to an airborne concentration of _____ parts of _____ (substance) per million parts of air (ppm) as an 8-hour time-weighted average, if (you) (the wearer) had not been wearing respiratory protective equipment.

This is (below) (in excess of) the OSHA permissible exposure limit of _____ ppm _____ (substance) in air. If in excess of the permissible exposure limit, the following corrections are being made:

_____

_____

Form completed by _____ (supervisor). The employee has read this card _____ (employee's initials)

Employee notified by _____ (supervisor).

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INDUSTRIAL HYGIENE SYSTEM
OCCUPATIONAL HEALTH INFORMATION

SIGN IN/OUT LOG FOR:

MATERIAL:

From _____

Date _____

Page _____ Of _____

Employee Name	Contact Code						Date						Social Security No.									Time In				Time Out				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30