WV-0078 # 27

PLAINTIFF'S EXHIBIT

UC-4302

WEST VIRGINIA
AIR POLLUTION CONTROL COMMISSION
1558 Washington Street, East
CHARLESTON, WEST VIRGINIA 25311
TELEPHONE: 348-2275 OR 348-3286

August 8, 1986

Mr. R. H. Smith
Union Carbide Corp.
Technical Center
P.O. Box 8361
South Charleston, WV 25303

Dear Mr. Smith:

The West Virginia Air Pollution Control Commission (WVAPCC) enforces the National Emission Standard for Hazardous Air Pollutants: Subpart M - National Emissions Standard for Asbestos. Pertaining to asbestos demolition and renovation projects, § 61.146 of said regulation requires that a written notice of intention to demolish or renovate be provided. Such notices shall be delivered as follows:

1) At least 10 days before demolition begins, if such demolition involves friable asbestos materials in the amounts of at least 260 linear feet on pipes or at least 160 square feet on other facility components,

2) At least 20 days before demolition begins, if such demolition involves friable asbestos materials in the amounts of less than 260 linear feet on pipes and less than 160 square feet on other facility components,

3) At least 1 day before demolition begins, if such demolition is being conducted under order of a State or local government agency because of the danger of imminent collapse,

4) At least 1 day before renovation begins, if such renovation involves friable asbestos materials in the amounts of at least 260 linear feet on pipes or at least 160 square feet on other facility components,

5) At least 1 day before renovation begins, if such renovation involves friable asbestos materials in the amounts - such that the predicted additive amounts over a period of time (not to exceed one year) - are at least 260 linear feet on pipes or at least 160 square feet on other facility components.

Please find enclosed copies of the WVAPCC's Asbestos Removal Notification form. This form is to be used for all asbestos demolition and renovation projects, as described above, within the State of West Virginia.

Should you need additional copies of this form, either make photocopies or contact this agency. Should you have any questions, please contact Michael Bush at (304) 348-4022.

Sincerely,

Michael J. Bush

Michael J. Bush
Engineer I, Compliance Division

MJB/taa

Enclosures

WEST VIRGINIA
AIR POLLUTION CONTROL COMMISSION
1558 Washington Street, East
CHARLESTON, WEST VIRGINIA 25311
TELEPHONE: 348-2275 OR 348-3286

ASBESTOS REMOVAL NOTIFICATION

RENOVATION_____ DEMOLITION_____ DATE_____

NAME OWNER/OPERATOR_____

ADDRESS/PHONE_____

_____PHONE # (_____)_____

NAME CONTRACTOR_____

ADDRESS/PHONE_____

_____PHONE # (_____)_____

LOCATION OF FACILITY/ADDRESS_____

_____

SCHEDULED STARTING AND COMPLETION DATES OF DEMOLITION OR RENOVATION:
STARTING_____ COMPLETION_____

IS FACILITY BEING DEMOLISHED UNDER AN ORDER OF A STATE OR LOCAL GOVERNMENT AGENCY? ( ) NO ( ) YES

IF YES, WHAT AGENCY - INCLUDE NAME, TITLE AND AUTHORITY:_____

_____

APPROXIMATE AMOUNT OF FRIABLE ASBESTOS CONTAINING MATERIAL(ACM):
_____ft^2 used to cover or coat any duct, boiler, tank, furnace, structural member, etc.
_____linear ft on pipes
Estimation techniques of amounts of ACM at demolitions for quantities less than 260 linear ft and/or 160 ft^2_____

_____

DESCRIPTION OF FACILITY: Age_____ Size_____
Prior Use_____

LOCATION OF ACM IN FACILITY AND METHODS OF PLANNED DEMOLITION OR RENOVATION:_____

_____

_____

_____

PROCEDURES TO BE USED TO COMPLY WITH SUBPART M - NATIONAL EMISSION STANDARD FOR ASBESTOS (40 CFR):_____

_____

LAB TESTING BY:_____

ADDRESS/PHONE_____

NAME/LOCATION OF WASTE DISPOSAL SITE:_____

_____

_____

SITE APPROVED BY DNR: ( ) NO ( ) YES Permit #_____

COMMENTS:_____

_____

SIGNATURE:_____ TITLE:_____

In addition to the West Virginia Air Pollution Control Commission, a copy of this notice must be sent to the following agencies:

U. S. Environmental Protection Agency
Region III (3AM22)
841 Chestnut building
Philadelpha, Pennsylvania 19107
Attn: Asbestos/NESHAP Coordinator

Solid Waste Office
Division of Water Resources
WV Department of Natural Resources
1260 Greenbrier Street
Charleston, West Virginia 25311
Attn: Asbestos Coordinator

Asbestos Control
WV Health Department
4877 Brenda Lane
Charleston, West Virginia 25312
Attn: Asbestos Coordinator

WU-0098 #22

UNION CARBIDE INTERNAL CORRESPONDENCE

UNION CARBIDE CORPORATION TECHNICAL CENTER
P.O. BOX 8361, SOUTH CHARLESTON, WV 25303

To (Name) M. A. Patel
Division Industrial Hygiene
Location 701-330
Area

Date June 23,1986
Originating Dept. Central R/D
Area EM/TS

Copy to T. K. Brotherton
F. G. Carr
T. L. Dawson
M. L. Keeling
V. E. Stover

Subject Analytical Analayses for Asbestos

Dear Manhar,

We have completed scanning electron microscopy (SEM) and energy dispersive x-ray spectroscopy (EDS) studies for asbestos fibers on two sets of insulation samples brought to us recently by Vance Stover. For identification of the various materials observed, the results obtained in our laboratory were compared with reference SEM photomicrographs and EDS spectra in The Particle Atlas[1]. This Atlas is a series of books used in the optical and electron microscopy field to identify a variety of particles, fibers, crystals, etc.

The first set of insulation samples studied consists of three samples identified as 720-1, 720-2 and PS-1. SEM observations and EDS analyses show that sample PS-1 contains asbestos fibers. The other two samples, 720-1 and 720-2, contain gypsum and glass wool fibers, respectively.

The second set consists of four insulation samples: S-1 770, S-2 770, S-3 770 and S-5 770. All four samples contain asbestos fibers.

Enclosed with this letter are seven SEM photomicrographs and several sets of EDS data. The photomicrographs show 5000X magnification images of the typical fibrous material observed in each of the samples. The EDS data list the atom and weight percents of the elements detected in each sample.

If you have any questions after looking over the enclosed photomicrographs or data, give me a call at X-4211.

Sincerely,

Phil Tate

Phil Tate

Enclosures: 7 Photomicrographs with corresponding EDS data.

1 The Particle Atlas, Edition Two, Volume III, The Electron Microscopy Atlas, Walter C. McCrone and John Gustav Delly, Ann Arbor Science Publishers Inc., 1973, pages 623, 627, 628 and 638.

WV-0098 #13

UNION CARBIDE

INTERNAL
CORRESPONDENCE

UNION CARBIDE CORPORATION TECHNICAL CENTER
P.O. BOX 8361, SOUTH CHARLESTON, WV 25303

To (Name) / Division / Location / Area: C. K. Campbell

Date: April 16, 1986

Originating Dept: HS&EA

Area: Industrial Hygiene

Copy to:
J. H. Barna
W. L. Browning
C. P. Maxwell
B. R. McMakin

Subject: Asbestos

At your request, insulation samples were collected from three lines near the Construction sandblasting shop located at the Institute plant. Your concern was that the protective coating has weathered from the insulation in question, and the insulation is crumbling and could allow it to become airborne. Since these lines are very close to the lunch trailer and close to the sandblasting area, there was concern of asbestos exposure to the employees assigned to this area.

The three samples were analyzed and two of the three (see attached) were determined to contain asbestos.

We feel that the concerns are well founded and we recommend working closely with the Institute plant's Area Maintenance Supervisor in removing the Asbestos, therefore eliminating the possible exposure hazard to our employees.

If you have any questions or need our assistance, please feel free to give us a call on extension 4779 or 3750.

PREPARED BY:

Vance E. Stover

APPROVED BY:

Manhar A. Patel

Attachment

VES:MAP:rab
1204P

INSULATION ASBESTEST RESULTS FORM

No.	Date	Sample Submitted By	Sample Source	Mg Test	Fe Test	By	Remarks
PS-1	4-9-86	Charlie Campbell	Institute - behind paint paint shop - lunch trailer near ground level.	-	+	VES	Very dark red, immediately.
PS-2	4-9-86	Charlie Campbell	Taken behind sandblasting shop near tank no. 1265.	-	+	VES	
PS-3	4-10-86	Charlie Campbell	6" line going overhead - behind trailer - over roadway.	-	-	VES	

UCC 011293

1204P

WV-00984 #17

UNION CARBIDE

INTERNAL
CORRESPONDENCE

UNION CARBIDE CORPORATION TECHNICAL CENTER
P.O. BOX 8361, SOUTH CHARLESTON, WV 25303

To (Name) J. D. McCue
Division
Location
Area

Date April 23, 1986

Organization/Dept. HS&EA

Area Industrial Hygiene

Copy to: B. Brabbin
C. P. Maxwell
M. A. Patel
C. L. Ruddle
A. F. Terry

Subject: Asbestos Testing

Attached are the results of the tests requested by you for Asbestos, taken from 3 different lines that have the outer coating disturbed in the basement of building 701. One sample was taken from a line directly in front of the elevator, another from a 50 pound steam line and the last from a 200 pound steam line at the main isle where it meets the isle coming from the elevator.

All of the samples in question contain Asbestos, and must be treated as such. Industrial Hygiene must be notified before any work is done and anyone involved with the work must wear a dust mask, disposable coveralls, boots, gloves and a head sock. In addition, the area must be restricted with a barricade and posted for the Asbestos hazards. Excess water must also be used to control any fibers that may become airborne.

If you have any questions or if I can be of further assistance, please call me on extension 4779.

Vance E. Stover

Attachment

VES:rab
1229P

INSULATION ASBESTEST RESULTS FORM

Sample No.	Date	Sample Submitted By	Sample Source	Results Mg Test	Fe Test	Analyzed By	Remarks
701-B-EF	4-22-86	J. D. McCue	701 Basement in front of elevator.	-	+	VES	
701-B-50# steam line	4-22-86	J. D. McCue	701 Basement in center aisle near elevator 50# steam line.	-	+	VES	Very dark red.
701-B-200# steam line	4-22-86	J. D. McCue	701 Basement in center aisle near elevator 200# steam line.	-	+	VES	

UCC 011295

1229P

WV.0078 #12

UNION CARBIDE INTERNAL CORRESPONDENCE

UNION CARBIDE CORPORATION TECHNICAL CENTER
P.O. BOX 8361, SOUTH CHARLESTON, WV 25303

To (Name): Frank Sunderland
Division:
Location:
Area:

Date: March 4, 1986

Originating Dept: HS&EA

Area: Industrial Hygiene

Copy to: B. H. Avashia, M.D.
J. H. Barna
M. R. Gandee
C. P. Maxwell
B. R. McMakin
M. L. Mills

Subject: Asbestos Monitoring
Institute Plant

Attached are the results of the personal monitoring for Asbestos, conducted at the Institute plant, No. 1 Powerhouse. The monitoring was done over 3 days, the time needed to completely strip a precipitator hopper. The insulation had chicken wire around the outer surface, which had to be removed before stripping.

The stripping was done by the Insulators and the clean-up and bagging was performed by one laborer. Water was used to wet the insulation before, during and after the stripping. The area was barricaded and signs were posted for the potential asbestos hazards. All employees wore half-face respirators equipped with dust cartridge, disposable coveralls, boots, gloves and a spray sock for head covering. The protective clothing was removed upon leaving the barricaded area and new clothing was used before returning.

The results show that the action level of 1 fiber/c.c. was exceeded on 5 of the 7 personal samples collected on the insulators, but did not exceed the permissible level of 2 fibers/c.c. for an 8-hour shift. The samples collected on laborer, were all below the action level. A Time Weighted Average was determined for all sampling results, based on the knowledge that none of the employees had any exposure to asbestos before or after the monitoring period.

Based on the monitoring results, more water has to be used to saturate the insulation, including directing a water spray at the wire while it is being pulled off, to reduce the airborne fibers. We also require the continued use of the personal protective equipment and the changing of the dust cartridges at the end of each shift.

Please notify all employees of their exposure results and if we can be of further assistance, please feel free to call us on extension 4779 or 3750.

Work By:

Vance E. Stover

Vance E. Stover

Approved By:

Manhar A. Patel

Manhar A. Patel

Attachment

VES:MAP:rab
1073P

Computer Ref. W1901
W1902
W1903

PERSONAL EXPOSURE MONITORING FOR ASBESTOS AT INSTITUTE PLANT

Date	Employee Name	Sampling Time	Air Conc. fibers/cc	TWA8 fibers/cc	Comments
2-19-86		1 hr. 59 min.	3.73	0.925	Insulators: personal samples collected while stripping approximately 100 ft^2 of asbestos from a hopper.
2-19-86		1 hr. 57 min.	1.97	0.480	
2-19-86		1 hr. 50 min.	4.42	1.01	
2-19-86		1 hr. 40 min.	0.24	0.05	Laborer: personal sample collected while cleaning up and bagging asbestos.
2-20-86		6 hrs. 41 min.	1.245	1.04	Personal sample collected while stripping approx. 75 ft^2 of asbestos from hopper.
2-20-86		6 hrs. 42 min.	0.21	0.176	Personal sample collected while cleaning up and bagging approx. 75 ft^2 of asbestos.
2-20-86		6 hrs. 38 min.	1.289	1.069	Personal sample collected while stripping approx. 75 ft^2 of asbestos from hopper.
2-21-86		4 hrs. 13 min.	1.943	1.024	Personal sample collected while stripping approx. 25 ft^2 of asbestos from the bottom of the hopper - next floor down - very confined.
2-21-86		4 hrs. 7 min.	0.429	0.221	Personal sample collected while cleaning up and bagging approx. 25 ft^2 from bottom of hopper.
2-21-86		4 hrs. 8 min.	1.942	1.003	Personal sample collected while stripping approx. 25 ft^2 of asbestos from bottom of hopper.

UCC 011298