UNION CARBIDE
THE DISCOVERY COMPANY

CHEMICALS and PLASTICS NEWS

UNION CARBIDE CORPORATION
270 PARK AVENUE,
NEW YORK, N.Y. 10017

CONTACT: Frances Devins
Tel. 551-5291

FOR RELEASE: IMMEDIATELY

UNION CARBIDE TO HALT PRODUCTION OF PHENOLIC MOLDING MATERIALS

NEW YORK, Feb. , 1975 -- Union Carbide Corporation announced today that production of phenolic molding materials will be discontinued by April 30, 1975.

Union Carbide's phenolic molding materials production facilities at Bound Brook, New Jersey are old and non-competitive. This factor, as well as cost increases in energy, labor, and equipment, necessitate this decision.

The corporation is a minor factor in the phenolic molding materials market. It is expected that the industry will be able to meet demand, and that no disruption to customers will result from this withdrawal.

It is the company's intention to concentrate its resources in the production and sale of phenolic resins which are used in decorative laminates, abrasives, insulation, wood bonding, coatings and adhesives.

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GENERAL SPECIFICATIONS FOR ASBESTOS REMOVAL CONTRACTS

QUALITY OF WORK

1. Contractor employees shall conduct their asbestos removal activities so as to minimize the generation of airborne fibers. This will be partly achieved by only removing asbestos after it has been wetted. Only in mutually agreed upon cases will the removal of dry asbestos be permitted. Other accepted standard practices to minimize the generation of airborne asbestos fibers will be observed by the contractor during removal as applicable.

2. The contractor shall insure that all asbestos removal and disposal activity is conducted in conformance with the following regulations:

    a. OSHA 29 CFR 1910.1001 Asbestos

    b. 40 CFR Part 61 subparts A and B, National Emission Standards for Hazardous Air Pollutants

    c. N.J.A.C. 7:26 Non-Hazardous Waste Regulation, and

    d. N.J. P.L. 1984, C.173. Asbestos Control and Licensing Act.

3. A copy of the contractors New Jersey Asbestos Removal License shall be readily available at the job site at all times. All contractor employees shall have in their possession their New Jersey asbestos workers permit. Any contractor employee found to not have their permit in their possession shall be escorted from the premises and not allowed to return without their permit.

4. Asbestos removal work on any given day shall not commence until the following activities have been completed:

    a. Visual inspection by the contractors foreman and a UCC representative to insure that adequate preparative activities have taken place, eg. posting and demarcation of asbestos work area, coordination with operating departments, sealing of doors, windows, openings to prevent transports of asbestos fibers to other areas.

    b. Initiation of a Hazardous Work Permit by the UCC representative.

    c. Inspection of all contractor workers' New Jersey asbestos worker permits by a UCC representative.

5. At the end of each work day, the contractor shall insure that all asbestos debris has been placed in sealed containers prior to his employees leaving the work site.

6. The contractor shall take steps to insure that asbestos debris does not become mixed with soil, stones, ballast, flooring, or any other working surface at the job site. This can be achieved through the use of plastic drop cloths.

A 12721

7. Indoor asbestos removal shall be enclosed as necessary to prevent the release of asbestos fibers into the work place atmosphere. This can be accomplished through the use of glove bags on piping or containment barriers with air filtration as necessary for other jobs.

8. No asbestos removal activity shall be considered completed until a joint visual, general inspection has been completed by the contractors foreman and the UCC representative, and agreement has been reached that the work is satisfactory.

9. Indoor asbestos removal shall include pre and post removal air sampling. An indoor removal activity shall not be considered complete until air monitoring samples indicate a concentration of 0.10 F/cc.

10. The asbestos removal contractor is responsible for notification of regulatory agencies prior to the beginning of asbestos removal activities.

11. The asbestos removal contractor is responsible for proper dispoal of all insulation, and other asbestos contaminated materials generated as a result of performing removal work. All asbestos waste shall be double-bagged in 6 mil polyethylene bags prior to leaving an asbestos removal area.

12. The contractor shall be responsible for providing all decontamination facilities for his employees. Union Carbide will provide utility connections for those facilities. Contractor employees are forbidden to utilize Union Carbide site facility showers.

13. Contractor employees shall not leave asbestos removal areas while wearing contaminated clothing.

14. The contractor shall maintain a daily log of his activities at the site, denoting the names of the workers on the site, the work which was done, and any unusual occurrences.

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ASBESTOS HAZARD REDUCTION PROGRAM

Steps to idenify and control highest priority hazards:

1. Survey entire plant to identify high priority asbestos hazards requiring immediate abatement.

   ACCOUNTABILITY: B. M. Sylvester
   COMPLETION DATE: 3/14/86

2. Develop prioritized list of asbestos hazards which require immediate attention for Management Team. (Appendix 1)

   ACCOUNTABILITY: B. M. Sylvester
   COMPLETION DATE: 3/20/86

3. Undertake corrective action on insulation for Building 101, Semicon Dryer Air Preheater.

   ACCOUNTABILITY: R. G. Bachman
   COMPLETION DATE: 3/14/86

4. Initiate action to clean up fallen asbestos in 21 yard and conduct follow up inspection and clean up prior to removal.

   ACCOUNTABILITY: R. Sander
   E. J. Baumann
   COMPLETION DATE: 3/14/86

5. Determine if Boiler #6 Economizer insulation contains asbestos.

   ACCOUNTABILITY: B. M. Sylvester
   COMPLETION DATE: 4/4/86

6. Have three N. J. licensed asbestos removal contractors visit site to inspect asbestos hazards on prioritized list and gather information required to prepare quotation for removal.

   ACCOUNTABILITY: E. J. Baumann
   D. C. Dunchus
   B. M. Sylvester
   COMPLETION DATE: 3/18/86

7. Contractors to submit quotations to perform asbestos removal as identified on prioritized list.

   COMPLETION DATE: 3/25/86

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8. Operating departments complete planning and activity required in their areas to facilitate asbestos removal operations:

   eg: 1. Identify affected areas.
   2. Unit operating/shutdown plans.
   3. Shutdown of steam and product lines.
   4. Reinsulation necessary.

   ACCOUNTABILITY: Department Heads
   COMPLETION DATE: 4/11/86

9. Asbestos removal contractor scheduled to begin work in Building 21 yard.

   COMPLETION DATE: 4/14/86

Steps to implement long range management of asbestos hazards.

1. Operating departments develop and implement programs to identify asbestos insulation which requires maintenance or removal. The goal of the programs being to minimize asbestos hazards and eventually eliminate them.

   ACCOUNTABILITY: Department Heads
   COMPLETION DATE:

2. Maintenance Asbestos Removal Procedure to be reviewed and updated.

   ACCOUNTABILITY: P. A. Rossi
   B. M. Sylvester
   COMPLETION DATE: 5/1/86

3. Industrial hygiene develops and implements routine monitoring program to supplement normal personal dosimetry data collected during asbestos removal monitoring. Results of initial sampling to be reported to Managers Team.

   ACCOUNTABILITY: B. M. Sylvester
   COMPLETION DATE: 5/1/86

4. Investigate having UCC-Bound Brook personnel trained to meet New Jersey requirements for permitted asbestos abatement workers and obtaining permits. Have the site obtain license to operate as an asbestos remover.

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APPENDIX 1

ASBESTOS HAZARD AREAS PRIORITIZED REMOVAL LISTING

1. Building 21 yard.

   (Piping without aluminum lagging.)

2. Boiler #6 breeching.

3. Building 111 pipe rack.

   (From K tunnel exit.)

4. Building 41

   A. Phenol lines to Still 17 weigh tank.
   B. Insulation on Stills 7 and 8 condensers.

5. Building 101

   A. Semicon Dryer Air Preheater

   (Completed 3/14/86)

LONG-RANGE ASBESTOS REMOVAL PROJECTS

1. Energy Systems Tunnels

G-5-6-7-8	Various insulation
F30-40	Dry return line
F30-1	Raw Materials Lines (1A, 1G, 1D)
F6-2	Crossovers
D-8	200# steam reducing station
D-10-1	Overhead raw materials lines
C-68-70	Various insulation
C-47	30# and 200# steam line crossovers
B1-2	200# steam line crossover
A-6	Various insulation
A-1	Overhead line over pump

Further tunnel inspections will continue to identify asbestos insulation in need of removal/repair.

2. Building 31

   A. #11 cooling water pump and lines (prior to demolition).

3. Building 31

   A. Boiler #6 Economizer

   (Dependent upon verification of asbestos content.)

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3/20/86 - 2086S

PLANT 312 BOUND BROOK

CONTRACTOR
ASBESTOS REMOVAL PROCEDURE

1.0 PURPOSE

To protect workers and others from inhalation of asbestos fibers, to safely remove and dispose of insulation materials which contain friable (easily crumbled or crushed into powder) asbestos and also to specify appropriate notification to regulartory agencies.

2.0 RESPONSIBILITY

It is the responsibility of the Demolition Contractor to control the safe removal, disposal and notification activities.

2.1 It is the responsibility of the Demolition Contractor to notify EPA of asbestos activity in the plant.

2.2 The Demolition Contractor shall provide the following information regarding the proposed work to the Union Carbide Corporation representative:

1. Specific location of the job site.

2. Date and time interval of the work.

3. Initiate a Hazardous Work Permit.

2.3 The Demolition Contractor shall ensure that employees assigned to the work have medical clearance and respirator training.

3.0 PROCEDURES

3.1 Overlap of EPA and OSHA regulations - the regulations do overlap some, as the OSHA objective is protection of workers and others directly involved. The EPA objective is protection of people everywhere. These procedures consider all regulations for each agency; EPA and OSHA.

3.2 Personnel engaged in asbestos work.

3.2.1 Personnel engaged in asbestos work shall wear respirators and protective clothing according to the hazard rating of the job as follows:

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PLANT 312 BOUND BROOK

CONTRACTOR
ASBESTOS REMOVAL PROCEDURE

Hazard Rating	Fibers Per cc	Protective Clothing	Respirator
1	≤10	Coveralls Optional	Air Purifying (3M Disposable)
2	>10		Air Purifying (3M Disposable)
3	>20	Whole Body Coverings: Coveralls Head Covering Foot Covering Gloves	Powered Air Purifying or Type C Supplied Air, Continuous Flow or Pressure-Demand
4 or Unknown Rating	>200		Type C Supplied Air Continuous Flow or Pressure-Demand

3.2.2 All jobs shall be considered to have a rating of 4 until properly monitored for an initial determination of fiber level. While this determination is being made, it is mandatory that whole body covering including coveralls, head, foot, and hand covering and supplied breathing air be used.

3.2.3 No outerwear shall be worn over disposable protective clothing.

3.2.4 Persons shall desuit for breaks and lunch within the protected work area.

3.2.5 Dispose of contaminated protective clothing in sealed, marked plastic bags, at the end of the workday.

3.2.6 Personnel engaged in asbestos work shall make every effort to minimize air borne particles.

3.3 Work Area Identification

3.3.1 Perimeter of hazardous area shall be identified with yellow barricade tape.

3.3.2 Warning signs (3.7.1) shall be posted at 50 feet intervals along barricade tape.

A 12780

PLANT 312 BOUND BROOK

CONTRACTOR
ASBESTOS REMOVAL PROCEDURE

3.4 Removal of Insulation

3.4.1 Removal prior to demolition is required if excessive dusting is expected.

3.4.2 In compliance with OSHA recommendations, insulation shall be wet down with "amended water" (1 oz. Tergitol Min-foam 2-X) per 5 gal. water, prior to removal and kept wet during removal, including that on equipment to be dismantled in sections exposing the broken edges of insulation. (Union Carbide Corporation will supply Tergitol Min-foam 2-X.)

3.4.3 Loose insulation stripped from equipment, pipe, etc. shall not be dropped or thrown to the ground.

3.4.4 Drop cloths are required on gratings or other areas which are difficult to clean, i.e., gravel, to catch falling debris.

3.4.5 Loose insulation shall be placed in plastic bags, sealed and tagged and disposed of in accordance with EPA requirements.

3.4.6 Area cleanup shall be by wet or vacuum method - never use air, brooms, or brushes. Waste shall be put in plastic bags, sealed and warning tags (or printing on bag) (3.7.2) applied.

3.5 Air Monitoring Requirement:

Contractor shall have monitoring conducted daily according to OSHA procedures as follows, with results reported to the Union Carbide Corporation representative during the next working day.

3.5.1 Area sampling of perimeter directly downwind.

3.5.2 Personnel sampling of at least one employee with highest potential of exposure.

3.5.3 Any other monitoring required to meet the requirements of the OSHA 1910.1001 standard.

3.6 Disposal

3.6.1 Disposal is by Demolition Contractor in accordance with EPA requirements.

A 12701

PLANT 312 BOUND BROOK

CONTRACTOR
ASBESTOS REMOVAL PROCEDURE

3.7 Warning Communications - sign, tags and bags.

3.7.1 Signs for posting work areas and disposal sites must comply with OSHA copy, letter size, sign color, size, etc.

Asbestos Dust Hazard
Avoid Breathing Dust
Wear Assigned Protective Equipment
Do Not Remain In Area Unless Your Work Requires It
Breathing Asbestos Dust Maybe Hazardous To Your Health

3.7.2 Tags and Bags and Drums for insulation waste and contamination clothing must comply with OSHA regulations regarding copy, letter size, size of tag, color, etc.

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

A 12702

UNION CARBIDE CORPORATION
Chemicals and Plastics — Bound Brook, New Jersey

To: Mr. J. R. Dunmire
Mr. J. R. Housten
Mr. E. J. Neumann
Mr. R. A. Tucker

March 29, 1972

cc: Mr. R. E. Graebert
Mr. F. A. Schillinger

Subject: Safety Inspections

Safety inspections will be conducted by Mr. Schillinger and myself according to the schedule shown below. These inspections will be aimed primarily at determining how well our employees are observing good safety practices rather than the traditional safety equipment and housekeeping types of inspections. It is our hope that through these inspections more interest will be created in observing safe work habits.

Shift 1 - R. Tucker/D. Albright - 1:30 p.m. - 4/14
Shift 4 - E. Neumann/F. Schillinger - 10 a.m. - 4/19
Shift 2 - J. Dunmire/D. Albright - 10 a.m. - 4/26
Shift 3 - J. Housten/F. Schillinger - 10 a.m. - 5/12
Shift 1 - R. Tucker/F. Schillinger - 10 a.m. - 5/23
Shift 4 - E. Neumann/D. Albright - 10 a.m. - 5/30
Shift 2 - J. Dunmire/F. Schillinger - 10 a.m. - 6/6
Shift 3 - J. Housten/D. Albright - 10 a.m. - 6/20

D. K. Albright

D. K. Albright

DRA:eb

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R.I. 14.2

UNION CARBIDE

INTERNAL CORRESPONDENCE

CHEMICALS AND PLASTICS

RIVER ROAD, BOUND BROOK, NEW JERSEY 08805

To (Name) Mr. W. J. D'Alessandro
Division Research and Development
Location Bound Brook, New Jersey

Date May 24, 1974

Originating Dept. Environmental Protection

Answering letter date

Copy to Mr. T. P. Kaby/J. D. Baker COPY

Subject Asbestos - Brake Lining Test Lab

(Action File)

The results of the monitoring for airborne asbestos were favorable, measuring well below the present limit of five fibers per ml and future July 1976 limit of two fibers per ml:

Test 1

Charging asbestos from 50 pound bag to five gallon pail in hood - 0.15 fibers per ml.

Test 2

Charging asbestos from pail to blends for mixing, and charging resulting mixes into test mold cavity - 0.05 fibers per ml.

Test 3

Machining (sawing and grinding) molded specimens - 0.09 fibers per ml.

Ventilation and procedures appear to be excellent during the tests.

W. D. Neal
Industrial Hygienist

WDN:mts

Copy to Mary Sammartano 10-16-74
Re Herman Goldman 52-78 A-6-74 A143.3

UNION CARBIDE

INTERNAL CORRESPONDENCE

U.C.C.

CHEMICALS AND PLASTICS

RIVER ROAD, BOUND BROOK, NEW JERSEY 0880

To (Name) Mr. P. A. Schultz
Division Mr. H. G. Weil
Location Chemicals & Plastics
Bound Brook, New Jersey

Date November 11, 1977

Originating Dept. EP/OH

Answering letter date

Subject Compliance with EPA Asbestos Regulation For Demoliton/Renovation of Facilities in 1978

Copy to Mr. P. Granger
Mr. W. D. Neal
Mr. G. R. Stringer
Mr. D. C. Veazey
Dr. W. L. Workman
Mr. A. Yee

As a result of a new Federal requirement, we must notify EPA prior to the removal of asbestos-containing insulation (see R. A. Huber's letter of June 22, 1977 attached). Per R. A. Huber's recommendation, I'd like to submit documentation to the EPA in early December of Bound Brook's best estimate of expected activity for 1978.

Because communications for this law are directed at an environmental agency, it's necessary for me to coordinate any paperwork required for compliance. Consequently, please complete a form, similar to the "Form of Notification" on page 3 of R. A. Huber's letter, for each separate activity requiring removal of asbestos - containing insulation.

Once I've received all such forms, I'll submit one complete package to the EPA in early December.

If any assistance is needed, let me know.

Ronald Burstein

RB:nb
attachment

A26523

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MAINTENANCE PROCEDURE	UNION CARBIDE	No: MP- 366.1
	PLANT 312 BOUND BROOK	Page: 1 of 5
By: S. J. Nadbielny W. D. Neal	MAINTENANCE DEPARTMENT	Effective: 1-26-79 Revised: 5/25/82 Approved:

ASBESTOS REMOVAL PROCEDURE

1.0 PURPOSE

To protect workers and others from inhalation of asbestos fibers, to safely remove and dispose of insulation materials which contain friable (easily crumbled or crushed into powder) asbestos and also to specify appropriate notification to regulatory agencies.

2.0 RESPONSIBILITY

It is the responsibility of the appropriate First Line Supervisors and Craftperson to control the safe removal, disposal and notification activities.

2.1 It is the responsibility of Environmental Protection/Occupational Health (EP/OH) to notify EPA of yearly amount of asbestos activity in the plant, per R. Burstein's letter (attached).

2.2 Where unanticipated asbestos removal work is to be conducted (i.e. notification was not given at beginning of calender year or end of previous calendar year), the responsible person must notify the EP Department (R. Burstein) 45 days prior to demolition. (Notification requirement is for demolition work-not required for repair work.)

2.3 The responsible Supervisor shall provide the following information regarding the proposed work to the Environmental Engineer and/or the Industrial Hygienist:

1. Specific location of the job site.
2. Date and time interval of the work.
3. Initiate a Hazardous Work Permit

2.4 The responsible supervisor shall ensure that employees assigned to the work have medical clearance and respirator training.

3.0 PROCEDURES

3.1 Overlap of EPA and OSHA regulations - the regulations do overlap some, as the OSHA objective is protection of workers and others directly involved. The EPA objective is protection of people everywhere. These procedures consider all regulations for each agency; EPA and OSHA.

A 12347

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ASBESTOS REMOVAL PROCEDURE

3.2 Personnel engaged in asbestos work.

3.2.1 Personnel engaged in asbestos work shall wear respirators and protective clothing according to the hazard rating of the job as follows:

Hazard Rating	Fibers Per cc	Protective Clothing	Respirator
1	≤ 10	Coveralls Optional	Air Purifying (3M Disposable)
2	> 10		Air Purifying (3M Disposable)
3	> 20	Whole Body Coverings: Coveralls Head Covering Foot Covering Gloves	Powered Air Purifying or Type C Supplied Air, Continuous Flow or Pressure-Demand
4 or Unknown Rating	> 200		Type C Supplied Air Continuous Flow or Pressure-Demand SCBA

OSHA 1

OSHA 2

OSHA 3

To determine the hazard rating, compare the proposed job with typical jobs already monitored (See Addendum I). If the job is not similar to one listed, it must be treated as rated 4 requiring air-supplied respiratory protection.

3.2.2 If the proposed job cannot be identified with a corresponding job with a hazard rating, it shall be considered to have a rating of 4 until properly monitored for an initial determination of fiber level. While this determination is being made, it is mandatory that whole body covering including coveralls, head, foot, and hand covering and supplied breathing air be used.

3.2.3 The SHARE representative shall enter the hazard rating on the Hazardous Work Permit to release the job if the work does not have an established hazard rating. Successive Hazardous Work Permits shall be submitted to the SHARE representative or Emergency Coordinator for entry of hazard ratings in the event that the continuation of the job may result in a change of hazard ratings.

A-12348

3.2.4 No outerwear shall be worn over disposable protective clothing.

3.2.5 Persons shall desuit for breaks and lunch within the protected work area except for jobs with Hazard Rating of 1.

3.2.6 Dispose of contaminated protective clothing in sealed, marked plastic bags, at the end of the workday. As Asbestos

3.2.7 Personnel engaged in asbestos work shall make every effort to minimize air borne particles. - Follow procedure

3.3 Work Area Identification

3.3.1 Perimeter of hazardous area shall be identified with yellow barricade tape.

3.3.2 Warning signs (3.7.1) shall be posted at 50 feet intervals along barricade tape.

3.4 Removal of Insulation

3.4.1 Removal prior to demolition is required if excessive dusting is expected.

3.4.2 Insulation shall be wet down with "amended water" (1 oz. Tergitol Min-foam 2-X) per 5 gal. water, prior to removal and kept wet during removal, including that on equipment to be dismantled in sections exposing the broken edges of insulation.

3.4.3 Loose insulation stripped from equipment, pipe, etc. shall not be dropped or thrown to the ground.

3.4.4 Drop cloths are required on grating to catch falling debris.

3.4.5 Loose insulation shall be placed in plastic bags, sealed, tagged and placed in sealed fiber drums (so they won't break in loading) (3.7.2) prior to disposal.

3.4.6 Area cleanup shall be by wet or vacuum method - never use air, brooms or brushes. Waste shall be put in plastic bags, sealed and warning tags (or printing on bag) (3.7.2) applied.

A 12349

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MAINTENANCE PROCEDURE	PLANT 312 BOUND BROOK MAINTENANCE DEPARTMENT	No: MP- 366.1
By: S. J. Nadbielny W. D. Neal		Page: 4 of 5 Effective: 1-26-79 Revised: 5-25-82 Approved:

ASBESTOS REMOVAL PROCEDURE

3.5 Disposal

3.5.1 Disposal is by U.C.C. EP Department.

3.5.2 Small amounts of insulation removed from repair work should be put in plastic bags and deposited in fiber drums.

3.5.3 The responsible person will notify EP Department (R. Burstein) of the number of drums (after completion of work).

3.6 Notify EP Department of annual amounts of insulation to be removed (by UCC EP Department).

3.7 Warning Communications - sign, tags and bags.

3.7.1 Signs for posting work areas and disposal sites are available from stores. They comply with OSHA copy, letter size, sign color, size, etc.
Code # 69-251-005.

Asbestos Dust Hazard
Avoid Breathing Dust
Wear Assigned Protective Equipment
Do Not Remain In Area Unless Your Work Requires It
Breathing Asbestos Dust Maybe Hazardous To Your Health

3.7.2 Tags and Bags and Drums for insulation waste and contamination clothing are available in stores. They also comply with OSHA regulations regarding copy, letter size, size of tag, color, etc. Tags are available in stores.

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

3.8 The asbestos containing materials on this site are at the following locations.

3.8.1 Older elbows and fittings applied before 1973 very likely were coated with asbestos cement mixtures.

A-12350

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MAINTENANCE PROCEDURE	PLANT 312 BOUND BROOK MAINTENANCE DEPARTMENT	No: MP- 366.1
By: S. J. Nadbielny W. D. Neal		Page: 5 of 5 Effective: 1-26-79 Revised: 5-25-82 Approved:

ASBESTOS REMOVAL PROCEDURE

3.8.2 "Pipelines containing hot liquids and vapors such as steam, hot water, Dowtherm, heating oil, etc. installed prior to 1973."

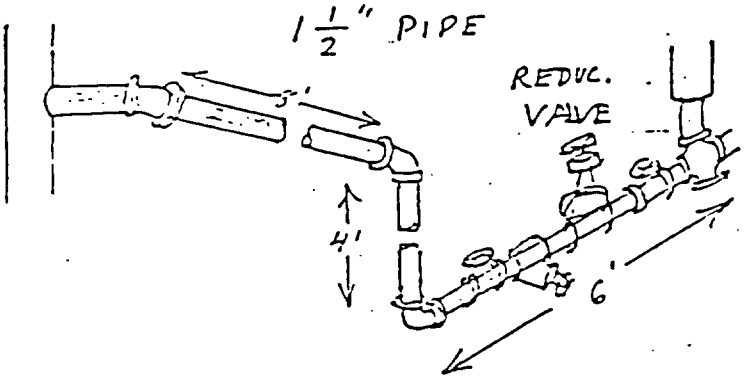
3.8.3 "When in doubt, treat insulation of unknown composition as asbestos until proved otherwise."

3.8.4 If identification of insulation is required contact EP/OH Department (D. Neal).

A 12351

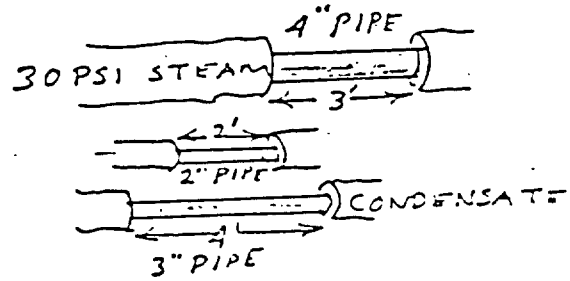
ADDENDUM I

TYPICAL INSULATION REMOVAL JOBS WITH HAZARD RATING OF 1



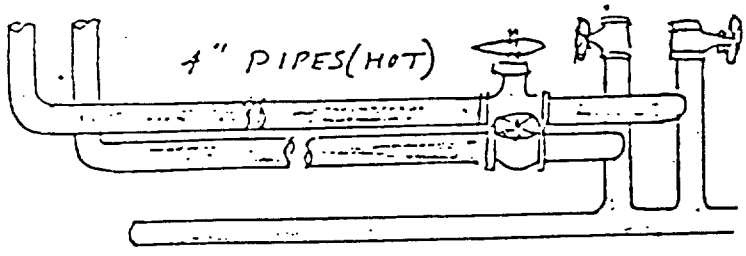
15 FT. 1" INSULATION

FIG. 1: STILL 23 STEAM SUPPLY, BLDG. 21 (0.5 fibers/cc)



9' FT. 1" INSULATION REMOVED WHILE HOT

FIG. 2 CONDENSATE LINES, WEST WALL, BLDG. 21 (.5 fibers/cc)



50 FT 2" INSULATION (05 fibers/cc)

FIG. 3: TUNNEL, A7 TO A12

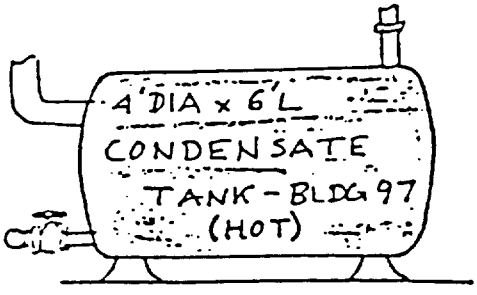


FIG. 4: 100 SQ FT 1½" BLOCK INS. WITH MASTIC COVERING (0.5 fibers/cc)

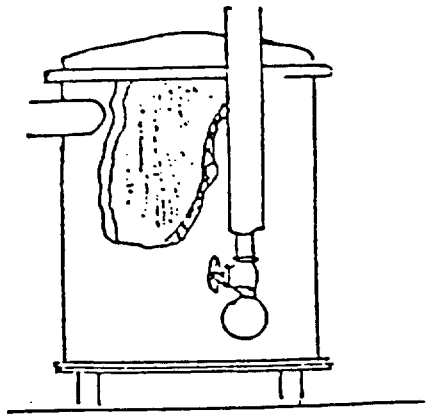


FIG. 5: STILL 2 RECEIVER, BLDG. 21
3 SQ FT. 1½" INSULATION
(0.5 fibers/cc)
A12352

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UNION CARBIDE

INTERNAL CORRESPONDENCE

EXHIBIT # DC-4
DATE 4-12-85
MASTROIANNI & FORMAROLI, INC.
CERTIFIED SHORTHAND REPORTERS

UNION CARBIDE CORPORATION
POLYOLEFINS DIVISION

To/Name: MR. F. MEO
Division: POLYOLEFINS DIVISION
Location/Area: BOUND BROOK, NEW JERSEY

FEBRUARY 24, 1981

MAINTENANCE

Copy: MR. R. HAMPSON
MR. E. HOEFER
MR. P. SCHULTZ

ASBESTOS REPLACEMENT PROGRAM

RECOGNIZING THE DESIRABILITY OF ELIMINATING THE USE OF ASBESTOS PRODUCTS FROM THE PLANT WHERE EVER PRACTICAL THE FOLLOWING REPLACEMENT PROGRAM IS BEING PRESENTED FOR YOUR REVIEW AND APPROVAL.

IT ALSO SHOULD BE NOTED THAT IT IS NOT NECESSARY TO SCRAP EXISTING STOCK SINCE CURRENT APPLICATIONS ARE STILL IN COMPLIANCE WITH OSHA AND EPA STANDARDS. THE ESTIMATED COST OF THIS REPLACEMENT PROGRAM COMPARED TO ASBESTOS PRODUCTS IS 35 TO 40% HIGHER.

ACTION STEPS	ACCOUNTABILITY
1. VENDOR TO REVIEW UCC COMPUTER SCROLLS AND RECOMMEND REPLACEMENT AND PRICES ON MATERIAL CURRENTLY STOCKED.	D. KISH COMPLETION DATE. 4/1/81
2. REVIEW ALTERNATE MATERIAL FOR ALL ASBESTOS PRODUCTS CURRENTLY USED IN PLANT.	D. KISH/P. ROSSI COMP. DATE 4/1/81
3. COMMUNICATE PROGRAM TO HOURLY PERSONNEL AND PLANT.	P. ROSSI 5/1/81
4. START INTRODUCING NON-ASBESTOS PRODUCTS TO PLANT. SET UP IN STORES.	D. KISH/P. ROSSI 5/1/81
5. REVIEW STATIS OF PROGRAM	D. KISH/P. ROSSI 9/1/81

A12656

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6. COMPLETE ELIMINATION OF ASBESTOS PRODUCTS WHERE PRACTICAL.

D. KISH/P. ROSSI

1/1/82

THE ATTACHED INFORMATION SHOWS MATERIAL AVAILABLE FOR THIS PROGRAM.

P. A. ROSSI

R.F. KISH

PAR:RFK:LM

A-12807

ADDENDUM I TO MP-366.1: ASBESTOS REMOVAL PROCEDURE

REFERRING TO MAINTENANCE PROCEDURE 366.1 "ASBESTOS REMOVAL PROCEDURE", SECTION 3.2 REQUIRES THE SPECIFYING OF PROTECTIVE CLOTHING AND RESPIRATORS ACCORDING TO "HAZARD RATING" BEFORE STARTING THE JOB.

COMPARE THE PROPOSED JOB WITH TYPICAL JOBS ALREADY MONITORED (SEE ATTACHED SHEET) AND FOUND TO HAVE A HAZARD RATING OF 1, THEREBY PERMITTING AIR-PURIFYING-TYPE RESPIRATORS RATHER THAN FORCED AIR. IF A SIMILAR JOB CAN BE FOUND, ASSIGN THE HAZARDOUS RATING GIVEN THE TESTED JOB. IF THE JOB IS NOT SIMILAR TO ONE LISTED, IT MUST BE TREATED AS RATED 4 REQUIRING AIR-SUPPLIED RESPIRATORY PROTECTION.

WDN/RK
5/20/82
ATT.

A12768

ADDENDUM I TO MP-366.1: ASBESTOS REMOVAL PROCEDURE

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WDN/RK
5/20/82
ATT.

A12769

HIGHLIGHTS OF ASBESTOS PROGRAM

- OSHA 1910.1001 CANNOT BE PRACTICALLY ADMINISTERED DUE TO FULL SUIT UP AND SELF-CONTAINED BREATHING REQUIREMENT ON ALL JOBS.

- ESTABLISHED COMPROMISE PROGRAM BASED UPON DEPARTMENT OF LABOR COMPLIANCE SECTION INTERPRETATIONS OF REGULATION 1910.1001 ALLOWING THAT EXACT COMPLIANCE TO 1910.1001 WOULD RESULT IN A DE MINIMUS TECHNICAL VIOLATION PROVIDED THAT ELEMENTS OF THE "INTERPRETATION" ARE FOLLOWED.

- DEVELOPED TYPICAL JOB CATEGORIES AND GENERATED DATA SHOWING FIBER COUNT FOR EACH CATEGORY--ALL OF WHICH ARE AT LEAST 75% LESS THAN TWA STANDARD.

- ESTABLISHED ONGOING PROGRAM TO EXPAND DATA BASE FOR EACH CATEGORY.

- REVISED ASBESTOS REMOVAL PROCEDURE TO COMPLY WITH OSHA STANDARDS BY MEANS OF JOB CATEGORY CONCEPT.

- STRENGTHENED COMPLIANCE TO PLANT'S RESPIRATOR PROGRAMS IN LINE ORGANIATION, I.E., MEDICAL QUALIFICATIONS, FIT TESTING, FACIAL HAIR POLICY.

- KEYS TO COMPLIANCE ARE:
  - USE OF "AMENDED WATER".
  - PROPER HANDLING TECHNIQUES BY PERSONNEL.
  - THROUGH TRAINING OF INVOLVED PERSONNEL.

A 12770

PAS/RK
6/3/82

HIGHLIGHTS OF ASBESTOS PROGRAM

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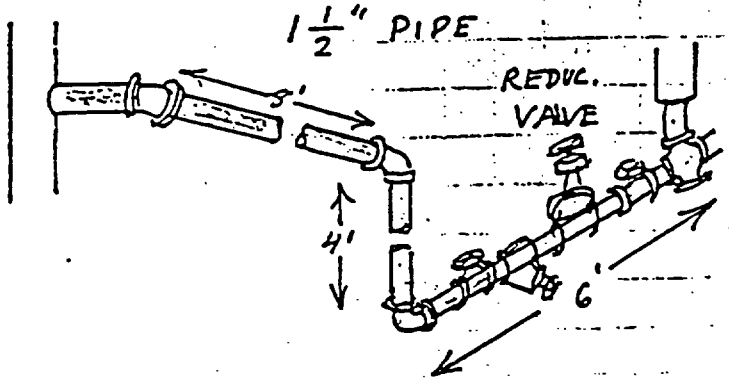
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A12771

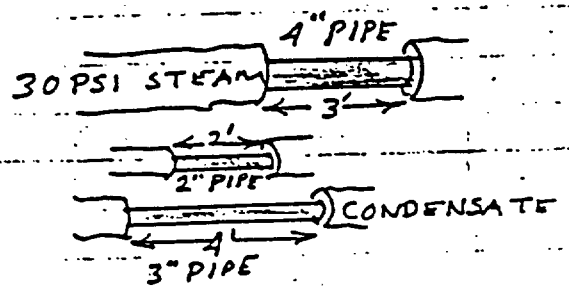
PAS/RK
6/3/82

TYPICAL INSULATION REMOVAL JOBS
WITH HAZARD RATING OF 1



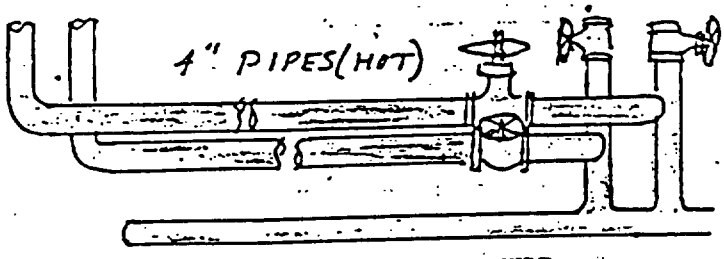
18 FT. 1" INSULATION

FIG. 1: STILL 23 STEAM SUPPLY, BLDG. 21



9: FT. 1" INSULATION REMOVED WHILE HOT

FIG. 2 CONDENSATE LINES, WEST WALL, BLDG. 21



50 FT 2" INSULATION

FIG. 3: TUNNEL, A7 TO A12

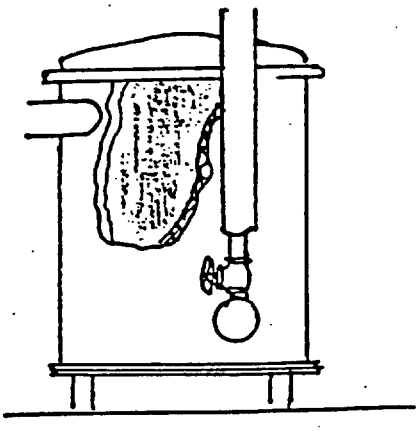
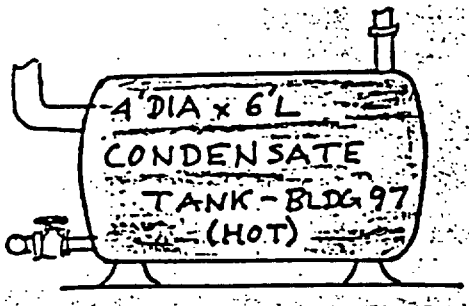


FIG. 5: STILL 2 RECEIVER, BLDG. 21
3 SQ FT. 1½" INSULATION



A12772

FIG. 4: 100 SQ FT 1½" BLOCK INS. WITH MASTIC COVERING

PROPOSED ASBESTOS PROGRAM

- U/A MODIFIED ASBESTOS REMOVAL PROCEDURE WHICH MEETS OSHA REGULATION
  - . MEDICAL REQUIREMENTS
  - . PROTECTIVE CLOTHING OUTSIDE
  - . CHANGE ROOM ISSUE FOR CONTINGENCY

- FORM UNION/MANAGEMENT COMMITTEE TO IMPROVE PROCEDURE
  - . CONSIDER RECOMMENDATIONS FROM COMMITTEE FOR INCORPORATION INTO LONG TERM PROGRAM.

- FORM SHARE/MAINTENANCE COMMITTEE TO EXECUTE PRACTICAL LONG TERM PROGRAM.

  PAS/EJB/WDN/LEM/RW/?
  - . IDENTIFY TYPICAL ASBESTOS REMOVAL JOB CATEGORIES FOR PLANT.
  - . DEVELOP BASELINE, BACKGROUND DATA FOR EACH OF THE ABOVE CATEGORIES.
  - . CATEGORIES FALLING BELOW 20 FIBERS PER CM^3 - WILL REQUIRE 3M-8710 DISPOSABLE FACE MASKS.
  - . CATEGORIES FALLING BETWEEN 20-200 CM^3 WILL REQUIRE POWERED AIR PURIFIER.
  - . CATEGORIES FALLING ABOVE 200 CM^3 WILL REQUIRE SCBA DURING DURATION OF JOB.
  - . ALL OF THE ABOVE FALL INTO MEDICAL SURVEILLANCE PROGRAM.

- ABOVE LONG TERM PROGRAM CARRIES A "DE MININIS" RISK PENALTY BUT IS SUPPORTED BY P.O.D. SHARE.
  - . GULF COAST PLANTS PRACTICE ESSENTIALLY THE SAME PROCEDURE.
  - . DU PONT PRACTICES THE SAME APPROACH.

A 12773

PAS/RK
5/10/82

STATUS OF ASBESTOS MONITORING PROGRAM

OSHA 1910.1001 TLV'S: 8-TWA = 2 FIBERS/CC

15 MIN. CEILING = 10 FIBERS/CC

- 5 INSULATION REMOVAL JOBS MONITORED MAY 11-19.

  4 HAD LEVELS UNDER 0.5 F/CC

  1 EXCEEDED TLV WITH 5 F/CC DUE TO INADEQUATE WETTING.

  WET-DOWN IS THE KEY WITH NEED FOR IMPROVED TECHNIQUES.

- TEST PROGRAM CONTINUING BUT END IS IN SIGHT

- ASBESTOS REMOVAL PROCEDURE RE-REVISED FOR CRITIQUE.

- DRUM OF TERGITAL MIN-FOAM 2X IS ON TAP IN BUILDING 21 SHOP.

- HANDY-DANDY TEST KITS RECEIVED.

- WORKING UP REFERENCE MANUAL FOR ASSIGNMENT OF HAZARD RATING.

WDN/RK
5/20/82

A12750

INDEX

ASBESTOS: Ident. bulk spls - p. 7, 10, 19, 28, 30, 31, 40, 42, 46 (Calibration)
IN TUNNEL AIR + BAY 7 PIT IN BK 13 - PGS - 76 + 78

Cyclohexanone p. 79

A12632

4 ASBESTOS MONITORING BDG 5 3-16-83
EAST AISLE HRO STORES

REMOVAL OF 25 FT ASBESTOS INSULATION FROM 2 1/2" PIPE; 10 FT OF ASBESTOS INSULATION FROM 3/4" PIPE

MSA 3 FC 59 C.T. MONROE
SS 324-12-4129

	Rate
ON 1016	2.1 li/min
OFF 1051	2.1 li/min

35 MIN. @ 2.1 li/min = 73.5 li

MSA 4 FC 60 T. WALENCZYK
SS. 090-12-1828

	Rate
ON 1016	2.1 li/min.
OFF 1051	2.1 li/min.

35 MIN. @ 2.1 li/min = 73.5 li

MECHANICS CUT INSULATION, WETTED DOWN WITH HAND PUMP SPRAY BEFORE REMOVAL. WORE COVERALLS BOOTS, HOODS, GLOVES, & MASKS; ALL DISPOSABLE.

PLACED REMOVED INSULATION INTO FIBER DRUM, ALSO ALL DISPOSABLE ATTIRE. CLOSED DRUM & LABELLED. ASBESTOS HAZARD.

CALC.

#59 $(.75)(16.6)10^3 = 12450$ TOT. f

$16.6\left(\frac{.75}{73.5}\right) = 0.17$ f/cc $\quad \frac{35}{480}(0.17) = .01$ TWA

#60 $(4.75)(16.6)10^3 = 78850$ TOT. f

$16.6\left(\frac{4.75}{73.5}\right) = 1.07$ f/cc $\quad \frac{35}{480}(1.07) = 0.08$ TWA

UC A12633

NOISE – Steam exhaust from Boiler #7 test 2-2-83 47

2:05 – 3:35

Bldg 11 roof, NW corner by outside stairway: 95 dBA

Area between Bldg 11 and North door of Bldg 31: 97-102

Catwalk, roof of Bldg 31, 10' south of vent: 115 dBA

1st floor, Bldg 31, area between #7 boiler and North wall: 98-101 dBA

North of door to control room: 95 dBA
Inside control room 75 "

L. Wolfe advised to clear personnel from area, → without ear protection

ASBESTOS IN TUNNEL AIR 2-16-83

ASBESTOS REMOVAL - BAY 7 PIT 2-21-83

DATA FOR ABOVE IN BK. 13 - PGS. 76 + 78

A 12634

1-25-82

#4 ASBESTOS MONITORING BLDG 55
SUB STATION.
REMOVING ASBESTOS TAPE FROM WIRE CABLE

MSA. 3 FC 51

ON -1320 } 29 MIN RATE 2.1 li/MIN. MECHANIC E.R. JACKSON
OFF -1349 } 2.1 li/MIN. 55-138-26-3558

29 MIN @ 2.1 li/MIN. = 60.9 li

Avg. fibers per field = ~~0.2~~ 0.1

f/cc = $\frac{(16.6)\,0.1}{60.9} = \frac{0.0\text{-}5\text{-}5}{.027}$ 8-TWA = $\frac{.027}{480}(29) = \frac{.003\ f/cc}{.002}$

MSA 4 FC 50

ON 1320 } 29 MIN. RATE 2.1 li/MIN MECHANIC @ W. HOEHLER
OFF 1349 } 2.1 li/MIN. 55. 157-14-2 of 2

29 MIN. @ 2.1 li/MIN = 60.9 li

f/cc = $\frac{(16.6)\,0.25}{60.9} = 0.068$ 8 TWA = $\frac{.068(29)}{480} = .004$

REMOVED 23 lineal ft of 1" ASBESTOS TAPE. ESTIMATED 1 LINEAL FT USING 1.5" DIA. CABLE x 4' LONG WITH 25% FOR OVERLAP.

MECHANIC INSTALLED NEW FOAM FILTER + HI-EFFICIENCY PAPER BAG FILTER. INSTALLED PLASTIC BAG IN VACUUM CANISTER. USED VACUUM UNIT DURING REMOVAL. MECHANICS WORE DISPOSABLE, HOOD, COVERALLS AND MASK, PLACED USED CLOTHING AND PLASTIC BAG, FROM VACUUM INTO PLASTIC DRUM LINER. FOR DISPOSAL

A12635

W-364

42 ASBESTOS REMOVAL BLDG. 101 1-17-83
1ST FL. WAREHOUSE - OVERHEAD PIPING.

MSA 3 FC-48

ON 1415 } 48 MIN
OFF 1503 }

RATE 2.1 li/MIN

48 MIN @ 2.1 li/MIN = 100.8 li

$f = \frac{16.6\,(5.4)}{100.8} = 0.898 \frac{48}{480} = 0.09$ TWA

8964 f/ml

MECHANIC

W.E. BAHOOSHIAN
143-32-8876

USED FORK LIFT HOIST TO REMOVE ASB. INSULATION. WETTED WITH HAND PUMP SPRAY. SLIGHT DUSTING EVIDENT.

MSA 5 FC 49

ON 1417 } 47 MIN
OFF 1504 }

RATE 2.1 li/MIN

47 MIN @ 2.1 li/MIN = 98.7 li

REMOVED 50 linear. ft. 1" asbestos insulation from 4" PIPE
Some carbon black dust on top of pipe.
OPERATORS WORE COVERALLS DUST MASK, CAP AND BOOTS. ALL DISPOSABLE

$f = \frac{16.6\,(4.7)}{98.7} = 0.79 \left(\frac{47}{480}\right) = 0.08$ TWA

7826 f/ml

MECHANIC

R.L. MISHLER
136-42-8340

OPERATED FORK LIFT TK. - PLACED. REMOVED INSULATION INTO FIBER DRUMS. SLIGHT DUSTING EVIDENT.

A 12856

W-363

1-7-83

40/

ASBESTOS REMOVAL BLDG. 91
GROUND FLOOR - OVERHEAD PIPING -

MSA 3 FC 44 RATE — T.E. DUNYAK S.S. 155-09-5006
ON 1315 } 2.15 li/MIN.
OFF 1345 }

30 MIN @ 2.15 li/MIN. = 64.5 li

0.31 FIBERS PER CC >5μ

MSA 4 FC 45 RATE — T. PATROLIS SS. 157-07-1673
ON 1315 } 2.2 li/MIN.
OFF 1345 }

30 MIN. @ 2.2 li/MIN. = 66.0 li — 0. FIBERS PER CC 75μ

MSA 3 FC 46 RATE — G.A. GREEN SS. 161-26-3583
ON 1351 } 2.1 li/MIN.
OFF 1430 }

29 MIN @ 2.1 li/MIN = 60.9 li

0.42 FIBERS PER CC >5μ

MSA 4- FC 47 RATE — J.G. RUSSUP SS. 166-18-4726
ON 1351 } 2.2 li/MIN.
OFF 1421 }

30 MIN @ 2.2 li/MIN. = 66.0 li

0.75 FIBERS PER CC >5μ

A12837

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ASBESTOS MONITORING
IN TUNNEL - BLDG. 10 10-29-82 31

USA 3 FC 42

TIME		RATE
ON 1004	13 MIN	2.1 li/min
OFF 1017		2.1 li/MIN

MECHANIC
R P KEMPTON
152093759

Avg f/field = 0.01

$f/cc = \frac{16.6(.01)}{13(2.1)} = .013 = 0.006$ f/cc vs 10 f/cc ceil 55.

$TWA = \frac{.006(13)}{480} = < .001$ f/cc

$\frac{16.6(.01)}{13(2.1)} =$

USA 4 - FC 43

TIME		Rate:
ON 1004	13 MIN	2.1 li/min
OFF 1017		2.1 li/MIN

MECHANIC
L P KUBECIC
55, 153381331

Avg f/field = 0.055

$f/cc = \frac{16.6(.055)}{13(2.1)} = .913$ 0.03 f/cc vs 10 f/cc ceil

$TWA = \frac{.03(13)}{480} = .001$ f/cc

PROTECTIVE EQUIPMENT WORN.
DISPOSABLE MASK + COVERALLS

REMOVED INSULATION FROM

1" - 2½" + 6" PIPES - 22 lineal ft asbestos insulation
10FT 6FT 6.FT

USED TERGITOL SOLUTION TO WET INSULATION

AIR FLOW FROM STEPS INTO TUNNEL. PASSING AREA OF INSULATION REMOVAL.

NO DUST EVIDENT UPON REMOVAL OF INSULATION.

A12638

28 ASBESTOS REMOVAL 10-26-82
400# STEAM LINE TO PHENOL PLANT
See P. 30 For Fiber Counts
REMOVED 17 LINEAL FT. OF 2" ASBESTOS INSULATION
MECHANICS WORE DISPOSABLE MASKS + COVERALLS.

MSA 4 FC 39 RATE MECHANIC

TIME
ON - 1345 } 7.0 MIN. 2.1 li/MIN D.A. FOBERT
OFF - 1352 } 55. 152-34-7940
ON - 1354 } 3.0 MIN.
OFF - 1357 } 10.0 MIN. 2.1 li/MIN VOL. 21 li.

REMOVED 9 LINEAL FT OF 2" INSULATION - 2 SECTIONS

CHANGED FILTER FOR REMAINDER OF INSULATON REMOVAL.

MSA 4 FC 40

TIME RATE
ON 1410 } 10.0 MIN. 2.1 li/MIN
OFF 1420 } 2.1 li/MIN. VOL. 21 li.

REMOVED 8 LINEAL FT. OF 2" INSULATION - TOTAL 17 FT.
1 SECTION.
WORKED DOWNWIND ON 3 SECTIONS.

OLD PIPE DIA. O.D. = 10"

MECHANIC

MSA. 3 FC 38 L. TEFFENHART
TIME RATE 5.5.158-18-0055
ON - 1345 } 15 MIN. 2.1 li/MIN
OFF - 1400 } 2.1 li/MIN VOL. 31.5 li.

REMOVED 9 LINEAL FT OF 2" INSULATION - 2 SECTIONS

CHANGED FILTERS FOR REMAINDER OF INSULATION REMOVAL

MSA. 4 FC 41 A12559
TIME RATE
ON 1410 } 10 MIN 2.1 li/MIN. VOL. 21 li
OFF 1420 } 2.1 li/MIN.

REMOVED 8 LINEAL FT. OF 2" INSULATION - TOTAL 17 FT

MECHANICS REMOVED ALUMINUM COVERING AND WETTED EXPOSED INSULATION WITH TERGITOL SOLUTION - BEFORE INSULATION REMOVAL.

ASBESTOS MONITORING. J. KEOUGH 19
USING MICRO CASETTES NOS. 32 + 33.

Sent to UBTL

A 1204C

ASBESTOS MONITORING. BLDG #1 9-17-82

REMOVING OLD & INSTALLING NEW RUPTURE DISC. IN DOWTHERM. UNIT

D.T. COLLINS
138-24-5950

MSA 6 FC 35

TIME	RATE
ON 11:03	2.1 li/MIN
OFF PUMP DAMAGED - NO DATA -	

Removed 4 x 12" inch x 1/8" asbestos rupture discs from Dowtherm heater. BROKEN ROTAMETER GLASS. ON PUMP.

ON 1424 2.1 li/MIN.
OFF 1459 2.05 li/MIN

INSTALLED 4 DISCS AT TOP OF DOWTHERM UNIT. WORE DISPOSABLE COVERALLS + CANNISTER MASK (dual)

35 MIN. @ 2.05 li/MIN = 71.8 L

f/field = 235 f/cc = $\frac{16.6(2.35)}{71.8}$ = 0.54 f/cc

Estimate exp. during 11:03 to approx 11:38 = 0.54 f/cc

TWA = $\frac{(70\text{ min})(0.54) + (16\text{ min})(0.3)}{480}$ = 0.09 f/cc

W 347

HOLE CUTTING OPERATION TO PREPARE DISCS FOR INSTALLATION

WORE CANNISTER MASK (dual)

MSA 6 - FC 37

TIME	RATE
ON 1319	2.1 li/MIN.
OFF 1335	2.1 li/MIN.

16 MIN. @ 2.1 li/MIN = 33.6 li

f/field = 0.3 f/cc = $\frac{16.6(0.3)}{37.6}$ = 0.15 f/cc

BORED 4 DISCS - 32 HOLES TOTAL - USING BRASS CORK BORER

18. 9-14-82 INSULATION REMOVAL

Bldg 101, Utility Room, west end,
Insulation on main body consists of 4" Rockwool (2-2" layers).
Other areas contain patched matls bulk tested as follows:

Cement from between strips of rockwool:	Fiberglass
" " west end	"
" " around square cover plate at west end:	Asb.? (Glass)
Insulation from steam line	ASBESTOS

9-15-82

Continuation of above.
Maintenance Mechanic assigned: R N STUTZMAN
to removing insulation from 20 ft. 181268365
of 1" steam line.
MSA G FC #36 TO UBTL

Start:	0832	2.1 Li/min
Stop:	0923	2.0 L/min.

51 min @ 2.05 Li/min = 105 Li

Fibers/Filter per UBTL report of 9-23-82 = 163 M

$f/cc = \frac{163}{105} = 1.6$ TWA = $46 \frac{51}{480} = 0.16$

A12841

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ASBESTOS MONITORING. BLDG 10. S.E. OLD SALVAGE ROOM. 9-F-FL 17

REMOVING ASBESTOS FROM PIPES.
25 FT 1/2" - 25 FT 1 1/4" PIPE · STEAM + CONDE/SATE RETURN LINES

MSA 6 FC #34 Counts by VBTL

	RATE	
ON 1440	2.1 li/MIN	E.A.R. BAKER.
OFF 1522	2.1 li/MIN	SS NO. 148-36-3456

42 MIN. @ 2.1 li/MIN = 88.2 li

PIPES LOWERED PREVIOUS TO MONITORING. WORKER. WETTED INSULATION, CUT TO EXPOSE PIPE AND. WETTED BEFORE REMOVAL. WETTED INSULATION & SECOND TIME BEFORE PLACING PIECES INTO FIBER DRUM. VERY SLIGHT DUSTING AT INITIAL SPRAY. WORKER WORE DISPOSABLE FILTER MASK AND WHITE DISPOSABLE COVERALLS.

Fibers / Filter per VBTL report of 9-23-82 = 40M

$$f/cc = \frac{40}{88.2} = 0.45 \qquad TWA = 0.45 \times \frac{42}{480} = .04\ f/cc$$

A12842

ASBESTOS: Identification of Bulk Samples:

7-6-82 11Am Insulation, Bldg 31, Mezzanine, 14" steam line.
Reported Amosite asbestos to H. Frankle, 15:00

7-14-82 - INSULATION - F TUNNEL - SERVICE WATER LINE
REPORTED AMOSITE ASBESTOS TO R. SHIPMAN - 1530

8-4-82 INSULATION - BOILER & TOP POWERHOUSE
CONTAINED ASBESTOS - REPORTED TO A. WEGNER

8-7-82 BLDG 10 SE OLD SEWAGE ROOM.
1/2" LINE - ASBESTOS INSULATION COVERED.
APPROX 60 FT - ID SPL. CONTAINING ASBESTOS
REPORTED TO JOE SEIB

8-30-82. BRIAN L. DANIELSEN RM 333 BLDG 88 X 3013
I.D. SPL CONTAINED GLASS/ROCK WOOL - NO ASBESTOS.

8-12-82. TAHT - OIT RUN, Bldg 95

Requested to monitor for CH_2O.

12:45 Run 8 0 CH_2O by CH 264 Drager Tubes
on mezzanine of FCM
12:50 1.2 ppm CH_2O by Formaldemeter in hopper,
but no noticeable odor.

1:40 Zero CH_2O on Mezz & Ext Hopper, Run 10
with Di Cumyl Peroxide,

2:10 Zero CH_2O on Mezz & Ext Hopper. "
5 ppm at surface of matl as it drops from FCM,

11-11-82. SERVICE WATER LINE IN TUNNEL - 20 1" HOLES
NO ASBESTOS. BOB SHIPMAN

1-10-83 BLDG 91 ASBESTOS REMOVAL GROUND FLOOR.
TIME
SPL #1 - 1326
SPL #2 - 1358

2-21-83 - FIRE DOOR BLDG 21 - ASBESTOS A12843
" - INSULATION - BAY 7 D.I.T. - ASBESTOS

INTERNAL CORRESPONDENCE

UNION CARBIDE CORPORATION P.O. BOX 670, BOUND BROOK, NEW JERSEY 08805
SPECIALTY CHEMICALS DIVISION

To (Name)	Mr. R. G. Bachman Mr. T. A. Cole Mr. L. E. Maes Mr. D. C. Veazey	Date	February 2, 1983
		Originating Dept.	SHARE
		Area	
Copy to	Mr. W. D. Neal Mr. P. A. Schultz	Subject	Asbestos Demolitions

As you're aware, the EPA requires formal notification "in advance of any demolition or renovation involving friable asbestos". Specifically, we have to notify the EPA at least 20 days ahead of any such activity.

"Demolition" is defined as removing insulation from any load-supporting structures, while "renovation" is defined as removing insulation from pipes, ducts, tanks, reactors, boilers, etc. The only exemptions available are for renovations involving less than 260 feet of pipe or 160 square feet of insulation.

Consequently, please advise me as to whether any such activities are planned during 1983. If you do plan such activities, please provide me with a general description of the activity, the dates within which the activity is projected and the quantity of asbestos involved.

Ronald Burstein

/rk

A26518

EXHIBIT # DC-10
DATE 4-12-85 CBA

INTERNAL CORRESPONDENCE

UNION CARBIDE CORPORATION P.O. BOX 670, BOUND BROOK, NEW JERSEY 08805
SPECIALTY CHEMICALS DIVISION

To (Name) Mr. R. G. Bachman
Mr. T. A. Cole
Mr. L. E. Maes
Mr. D. C. Veazey

Date February 2, 1983

Originating Dept. SHARE

Area

Copy to Mr. W. D. Neal
Mr. P. A. Schultz

Subject Asbestos Demolitions

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Ronald Burstein

/rk

A12660

DC-14
4-12-85 EWK

UNION CARBIDE

INTERNAL
CORRESPONDENCE

UNION CARBIDE CORPORATION P O BOX 670, BOUND BROOK NEW JERSEY 08805
SPECIALTY CHEMICALS DIVISION

To (Name) Mr. D. C. Veazey
Division
Location
Area

Date February 21, 1983

Originating Dept SHARE

Area

Copy to Mr. R. G. Bachman
Mr. W. H. Barton
Mr. P. A. Rossi
Mr. P. A. Schultz

Subject Asbestos Survey - Energy System Tunnels

Area monitoring in the Energy Systems tunnels for airborne asbestos fibers per your request indicates no detectable asbestos. The limit of detection under the conditions monitored is 0.002 fiber per cubic centimeter. Thus, all locations monitored indicated less than one thousanth of the two fibers per cubic centimeter OSHA limit.

There is always the possibility that OSHA will try to lower the two fiber limit to 0.2 fiber in response to lobbying by labor unions and public advocate groups, in which case levels in the tunnels are still two orders of magnitude (one hundreth) of any such limit.

Monitoring was conducted over a period of two days at a total of five sample points, each five feet above the floor level to approach the typical breathing zone elevation. Samplings were taken over periods of approximately six hours. Although this is a long sampling period, it was selected in anticipation of very low fiber levels, necessitating a large volume of sampled air to achieve a low detection level with the analytical procedures specified by OSHA.

The sampling locations were selected near the inlets of the exhaust fans so as to monitor the tunnel branch ventilated by each of the four exhaust fans. In addition, a monitor was placed at a point found to be in the path of highest air velocity on the theory that if airborne fibers were present, they would more likely be found in the airstream of highest velocity. The location was a hole in the partition between Sections E-2 and E-3, the tunnel section most frequently visited by personnel entering from the boiler house. The unusally high velocity of 300 fpm at this sample point was created by the No. 5 boiler fan pulling air from the tunnel system through the abandoned ash tunnel.

The five samplings are tablulated as follows and shown in the attached sketch:

Date	Sample Time Minutes	Location	Tunnels Sampled
2/16/83	370	F-29	F
"	361	D-10	B and D
"	344	J-36	J and C-38 to C-69
"	334	C-2	B and C-1 to C-37
2/17/83	454	E-2/E-3	E

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While the absence of asbestos fibers in the tunnel ambient air is encouraging, it must be noted that the study was conducted during periods of no maintenance activity, thereby representing minimum conditions for generating dust. I would expect measurable fiber counts downwind from a typical insulation removal or repair job if proper precautions, particularly wetting the insulation, were not taken. During such activity, it would be advisable to restrict entry to all except personnel engaged in the work and wearing respiratory protection. This is particularly important when removing insulation from hot steam lines, since wet conditions cannot be guaranteed under high heat conditions.

Although, housekeeping conditions appeared generally good during the survey, there were some accumulations of insulation visable on the floor, probably containing asbestos. Even though I do not consider this a serious hazard, OSHA has cited accumulations of asbestos on workplace surfaces under the Section 5 (a) (1) general duty clause. I, therefore, recommend attention to a further clean up on a systematic basis.

In addition, there are several cases of deteriorating insulation. Any of these identified as containing asbestos should be repaired. "Quick fixes" are available consisting of coatings easily applied and wrapped with glass fabric, locking the insulation in place. I can provide samples for trials. It would appear that a systematic program of spot repairs could enhance housekeeping in the tunnel system and allay further concerns over potential hazards due to asbestos.

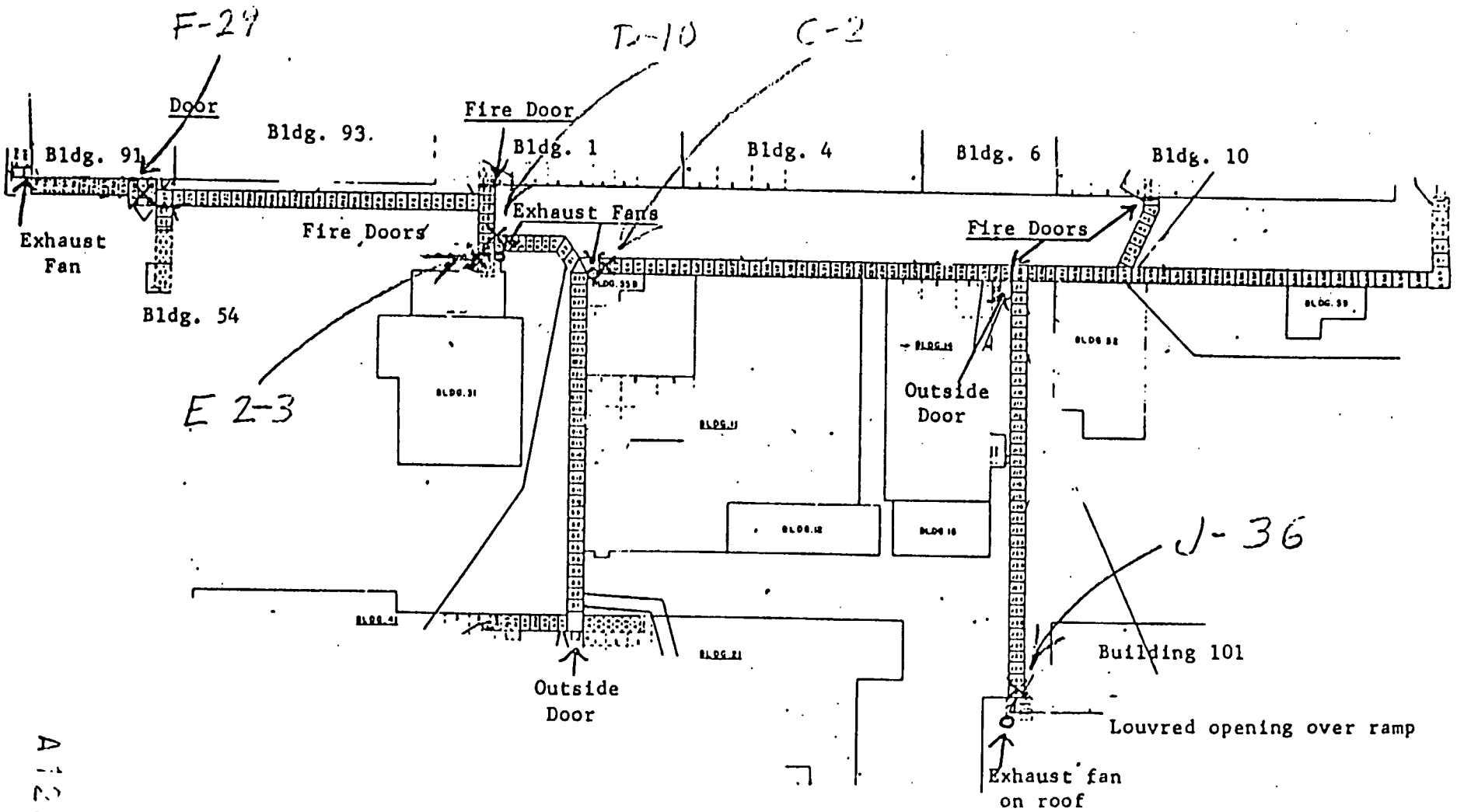
W. D. Neal
Staff Industrial Hygienist

/rk
attachment

A12912

Union Carbide trial exhibit UC-1645: Union Carbide Bound Brook Plant Asbestos Insulation Removal Procedures...
ACL Doc 16732 · Page 45 of 57

ASBESTOS MEASUREMENTS IN TUNNEL SYSTEM



A-2613

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REMOVAL AND HANDLING ASBESTOS-CONTAINING INSULATION MATERIAL

1 GENERAL

1.1 This Practice provides a procedure for the safe removal and handling of asbestos-containing insulation material and compliance with OSHA 29 CFR 1910.1001. The purpose of the Practice is to ensure the safety and health of employees directly involved with performing the work and others, either in the immediate area or downwind, who may be exposed to residual dust/fibers. Insulation material containing asbestos is no longer installed by UCC; the concern of this Practice is to control the demolition of old, asbestos-containing insulation.

All insulation materials approved through the use of UCC Insulation Standards have been specified asbestos-free since 1976.

2 STANDARDS

2.1 Permissible Exposure Limits

2.1.1 Employee 8 hour time-weighted average exposure to airborne concentrations of asbestos fibers shall not exceed 0.5 fibers, longer than 5 micrometers, per cubic centimeter of air.

2.1.2 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.

2.2 Work Practices

2.2.1 Insofar as practicable, demolition, removal or handling of asbestos-containing insulation shall be performed while the material is in a sufficiently wet state to prevent emission of airborne fibers exceeding exposure limits prescribed in 2.1.1 and 2.1.2.

2.2.2 Caution signs shall be posted at all approaches to areas which may contain excessive concentrations of airborne asbestos fibers so that an employee may read the signs and take necessary protective steps before entering the area. The signs shall conform to 20" x 14" vertical format and state:

ASBESTOS
DUST HAZARD
Breathing Asbestos Dust May Be Hazardous To Your Health
Avoid Breathing Dust
Wear Assigned Protective Equipment
Do Not Remain In Area Unless Your Work Requires It

Sign design specification details are found in 29 CFR 1910.145 (d) (4). In addition to these signs, legible signs warning of the health hazards of asbestos shall be provided and displayed at each location where airborne concentrations of asbestos fibers may exceed the exposure limits listed in Section 2.1.1.

2.2.2.1 An appropriate barricade, using colored tape for example, shall be erected around the perimeter of outdoor areas as a supplementary, protective measure to discourage unauthorized entry.

2.2.3 Insofar as practicable, removed insulation shall be wetted and placed directly into labeled plastic bags (or other suitable containers) for disposal at an approved landfill. Otherwise, place plastic sheeting beneath the job site, mist

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spray the removed insulation with water, and then place in plastic bags. When wet methods of removal/cleanup are impractical, e.g., when temperatures are below freezing, vacuuming or sweeping may serve as an effective alternate cleanup method. Sweeping compound shall be applied to the work area to prevent dust generation when sweeping.

2.2.4 Label Specifications - Container caution labels shall be printed in letters of sufficient size and contrast as to be readily visible and legible. The label shall state:

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

2.2.5 Housekeeping - All external surfaces in any place of employment shall be maintained free of accumulation of asbestos fibers, if, with their dispersion, there would be an excessive concentration. Special attention should be given to cleaning scaffolds used in demolition work.

2.2.6 Waste Disposal - Asbestos waste, scrap, debris, bags, containers, equipment, and asbestos-contaminated disposable clothing, consigned for disposal, which may produce airborne concentrations of asbestos fibers in excess of prescribed exposure limits shall be collected and disposed of in sealed impermeable bags, or other closed impermeable containers to an approved landfill.

2.3 Personal Protective Equipment

2.3.1 Respiratory Protection - Employees engaged in the spraying [wetting-down] of asbestos, the removal; in the demolition of pipes, structures, or equipment covered or insulated with asbestos; and in the removal or demolition of asbestos insulation or coverings shall be provided with respiratory equipment selected from among those approved by the Bureau of Mines, Department of the Interior, or the National Institute of Occupational Safety and Health, Department of Health and Human Services. Compliance with exposure limits prescribed in 2.1, Permissible Exposure Limits, shall not be achieved by the use of respirators, except:

1. During the time period necessary to install the engineering controls and to institute the work practices to prevent exposures from exceeding permissible limits.

2. In work situations in which either engineering controls or wet method work practices are not feasible to an extent to reduce the airborne concentrations of asbestos dust below limits prescribed.

3. In emergencies.

Where respirators are permitted:

1. A reusable or single use, air purifying respirator may be used to reduce exposure below permissible limits, when the ceiling or the 8-hour time-weighted average airborne concentrations of asbestos fibers are reasonable expected to exceed no more than 10 times the PEL limits. If not monitored and verified, a type "C" continuous verified flow or pressure demand, supplied-air respirator must be used.

A 12343

2. A full-facepiece powered air purifying respirator may be used to reduce exposure below permissible limits when the ceiling or the 8-hour time-weighted average airborne concentrations of asbestos fibers have been monitored and verified to exceed 10 times but not 100 times the PEL limits. If not monitored and verified, a type "C" continuous flow or pressure demand, supplied-air respirator must be used.

3. A type "C" continuous flow or pressure-demand, supplied-air respirator shall be used to reduce exposure below permissible limits when the ceiling or the 8-hour time-weighted average airborne concentrations are reasonably expected to exceed 100 times those limits.

2.3.2 Special Clothing - The employer shall provide and require use of special clothing, such as coveralls or similar whole body clothing, head coverings, gloves, and foot coverings for any employee exposed. Contaminated clothing should not be stored in lockers. It should be changed daily.

2.3.3 Change Rooms - At any fixed place of employment exposed to concentrations of asbestos fibers in excess of permissible exposure limits, the employer shall provide change rooms for employees working regularly at the place. Two separate lockers or containers shall be provided each employee, so separated or isolated as to prevent contamination of the employee's street clothes from his work clothes.

2.3.4 Laundering - Laundering of asbestos-contaminated clothing shall be done so as to prevent the release of airborne asbestos fibers in excess of prescribed exposure limits. Those performing laundering of asbestos-contaminated clothing must be informed of all requirements listed in Section 2.3, Personal Protective Equipment. Contaminated clothing shall be transported in sealed impermeable containers and labeled in accordance with Section 2.2.5, Label Specifications. If disposable coveralls are used, they should be placed into containers with asbestos for disposal.

2.4 Industrial Hygiene Respossibility

2.4.1 Monitoring - Employee exposure monitoring shall be conducted to determine compliance status with regard to permissible exposure limits and respiratory protection requirements. Environmental/Area monitoring shall be conducted along the periphery of the restricted area to assure that fugitive emissions exceeding permissible exposure limits do not extend past the demarcated area. Samples shall be collected on a membrane filter of 0.8 micrometer porosity mounted in an open-face filter holder. Samples shall be of such frequency and pattern as to represent with reasonable accuracy the levels of exposure of the employees. In no case shall sampling be at intervals greater than 6 months for employees whose exposures to asbestos may reasonably be foreseen to exceed prescribed exposure limits. All determinations of airborne concentrations of asbestos fibers shall be made by the membrane filter method at 400 - 450 x (magnification) with phase contrast illumination as specified in Volume 38 Method 38C - 29 x 4 - RLa of UCC Industrial Hygiene methods.

2.5 Training

2.5.1 All employees who are exposed to airborne asbestos concentrations in excess of the exposure limit listed in Section 2.1.1 with or without the use of respirators must participate in a training program that includes these information topics:

1. Health affects associated with asbestos exposure.

2. Relationship between exposure to asbestos and smoking in producing lung cancer.

3. Nature of operations which could result in exposure to asbestos and necessary protective steps to minimize exposure including, as applicable, engineering controls, work practices, respirators, housekeeping and protective clothing.

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4. Purpose, proper use, fitting instructions, and limitations of the respirators used to protect against asbestos fibers.

5. Review of all provisions contained in 29 CFR 1910.1001, Asbestos.

2.5.2 Training records shall be maintained by the location.

2.6 Federal EPA Regulation, 40 CFR 61, Hazardous Air Pollutants

2.6.1 Applicability - To the demolition of structures or renovation of equipment and piping that involves removal of more than 160 square feet or 260 lineal feet of insulation containing more than one percent asbestos by weight, either in a single project or a predictable series of projects over the course of one year that are additive to this amount.

2.6.2 Overall Requirements of Regulation

Practices - Comply with defined removal and disposal practices.

Notification - Provide timely notification of EPA

2.6.3 Key Requirements - Removal Practices

1. Insulation shall be removed prior to demolition where the demolition would likely damage and expose insulation.

2. Insulation must be wetted prior to removal and kept wet until disposal is accomplished.

3. Insulation on pipe or equipment which is to be removed in sections must have exposed surfaces wetted and kept wet during dismantling.

4. Stripped insulation must not be dropped or thrown to the ground. Dust tight containers or chutes must be used for lowering removed insulation that is more than 50 feet above ground level.

2.6.4 Key Requirements - Disposal Practices

1. No visible emissions of insulation are allowed in transport to the disposal site.

2. No visible emissions may result from disposal operations.

3. For disposal areas one of the following requirements must be met:

   a. A six-inch earth cover is provided over disposed insulation within 24 hours..

   b. An effective resinous or petroleum-based dust suppression agent is applied at the end of each operating day.

   c. A natural barrier adequately deters public access to the site.

   d. The area is fenced and (20 x 14 inch) warning signs are posted at least every 330 feet.

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2.6.5 Requirements - EPA Notification

Timing - EPA and applicable States are to be notified either:

a. Annually, or
b. 10 days prior to planned demolition or renovation, or
c. As soon as possible after beginning an unplanned (emergency) removal project.

The above notification requirement applies whenever the total amount exceeds 160 square feet of equipment or 260 lineal feet of pipe insulation.

Office to be Notified

Federal: Director, Enforcement Division
Environmental Protection Agency
(Regional Office City Address)

State: (Applicable only in the following UCC States)
California (Sacramento County)
(Bay Area)
Georgia
New York
North Carolina

Suggested Text of Notification Letter - The attached notification relative to the demolition and/or renovation of facilities containing friable asbestos insulation is provided per requirements of 40 CFR 61, Subpart B, Section 61.22 (d). Please contact the writer if there are questions concerning information contained in the notification.

Form of Notification

NOTICE OF INTENT TO DEMOLISH OR RENOVATE STRUCTURES, EQUIPMENT OR PIPING INVOLVING FRIABLE ASBESTOS INSULATION

1. Name of Owner Union Carbide Corporation
2. Address of Owner (Location Street Address)
3. Description of Facility Various buildings, equipment and piping used in manufacture and distribution of chemicals and plastics.

2.7 AUDITS

2.7.1 Each location shall periodically audit this procedure to ensure understanding and compliance.

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ASBESTOS PROGRAM

PRELIMINARY STEPS

I. IDENTIFY LOCATION OF ASBESTOS

- SURVEY ENTIRE PLANT
- BUILDINGS. VESSELS. EQUIPMENT. TUNNELS. OUTDOOR PIPES

II. ASSESS HAZARD

- CONDITION OF INSULATION
- LOCATION

III. SAMPLING PROGRAM

- QUANTIFY AIRBORNE LEVELS (DEMONSTRATE LACK OF HAZARD)
- ROUTINE. PERIODIC PROGRAM

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1972S

A 1230

PRIORITIZE RESPONSE ACTION

I. NO ACTION

- LOW TRAFFIC AREA
- ISOLATED FROM AIR CURRENTS
- GOOD CONDITION
- NO POTENTIAL FOR DEGRADATION

II. ENCAPSULATION, ENCLOSURE

- FAIR CONDITION
- INDOORS
- INSULATION REQUIRED

(ASBESTOS STILL PRESENT)

III. REMOVAL

- POOR CONDITION
- OUTDOORS
- INDOORS W/HIGH CONTACT POTENTIAL
- OBSOLETE EQUIPMENT

(ASBESTOS IS ELIMINATED)

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MANPOWER REQUIREMENTS

I. UCC PERSONNEL FOR REMOVAL
(SMALLER OR FAST RESPONSE JOBS)
2 SUPERVISORS
5 BUILDING TRADES
- 1 WEEK OF TRAINING REQUIRED FOR ALL

II. ENCAPSULATION, ENCLOSURE
- PREVIOUSLY IDENTIFIED AREAS CORRECTED IN AN ONGOING PROGRAM

III. REMOVAL
- ONGOING PROGRAM TO REMOVE INSULATION
- 2 MEN, SIX MONTHS/YEAR

IV. CONTRACT REMOVAL
- LARGE JOBS
- LACK OF MANPOWER

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EXPENSES

I. ANALYTICAL SERVICES

- $3.000 INITIAL
- $1.500 YEARLY

II. MANPOWER. TRAINING

- TRAIN UCC PERSONNEL FOR ABATEMENT
- DEDICATE 1 MAN-YEAR FOR REMOVAL EVERY YEAR

III. CAPITAL COSTS

- SPECIALIZED ABATEMENT EQUIPMENT

IV. CONTRACT ABATEMENT

V. DISPOSAL COSTS

BMS
2/6/86
1972S

A12700

UNION CARBIDE CORPORATION
CHEMICALS AND PLASTICS

MEMO

BA 149–7

To J. M. McCANDLESS

Date 4-2-86

From Brian Sylvester

Subject ASBESTOS REMOVAL

You will find attached the contract specs for the asbestos removal work which will be conducted in the plant. The designated UCC rep for the contractor will be E. Bauman and T. Magrosky. I will be providing technical backup and service. All coordination with the contractor will be handled by the designated UCC rep.

Protect Your Hands – BEFOREHAND

UNION CARBIDE CORPORATION
CHEMICALS AND PLASTICS

MEMO

BA 149–7

To W. H. Boyd

Date 4-2-86

From B. M. Sylvester

Subject ASBESTOS

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A12720

Protect Your Hands – BEFOREHAND

UNION CARBIDE
INTERNAL
CORRESPONDENCE

UNION CARBIDE CORPORATION
SOLVENTS & COATINGS MATERIALS DIVISION
P.O. BOX 670, BOUND BROOK, NJ 08805

To [Name] E. J. Baumann
Division B. M. Sylvester
Location
Area

Date April 3, 1986
Department / Dept. Phenolic Resins
Area
Subject Asbestos Removal

Copy to
J. J. Bumbulsky
S. T. Eberhardt
J. L. Farrell
K. E. Horahan
J. M. McCandless
J. C. Moore

The following minutes document our asbestos insulation removal plans:

1. General Information

   a. Work will begin on April 14.

   b. J. Bumbulsky will care for daily permits and safety indoctrination.

   c. R. Sander will be informed of insulation to be removed on a daily basis.

   d. Yard will be cleared while blowing lines.

   e. Building 21 operator may enter all areas with disposable coveralls and COMFO II respirators with Type H cartridges.

2. N-S Pipe Rack by Building 101

   a. Caustic tank will be filled before April 14.

   b. Building 21 pad will be closed for one day. SHARE Department to give four working days notice to reschedule formaldehyde, butylphenol, and pitch wagons.

   c. Flaker room must remain down during day shift for at least two days as south door will be blocked.

   d. Tank 55 will not be started until insulation is removed.

   e. SHARE to coordinate N_2 tank s/d with Energy Systems.

A127.8

DOCUMENT(S)

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