

**PLAINTIFF'S
EXHIBIT**

DUP-271

**SAFETY
ON THE JOB
INSULATION
DUST CONTROL**



**MARTINSVILLE, VIRGINIA
APRIL 28, 1969**

ust

1. Definition - fine particles

A. Above 10 Microns

B. 5 - 10 Microns

C. Less than 5 Microns

*larger particles - see below
& filtered manually*

problem area

Respiratory Dust Control

1. Natural

A. Nose

B. Sneeze

C. Cough

2. Mechanical

A. Flex-A-Foam 1/25000" or (.00004)

B. Dustfoe #77 - 99% effective (.00003)

C. Use Areas

1. Required - Power Sawing - Spraying

2. Recommended

respiratory masks

Area Dust Control

1. Mechanical

A. Exhaust Fans

B. Dust Collectors

C. Vacuum Cleaners

UNPROTECTED USE HAZARDS

1. External

- A. Fiberglass - Itch
B. Mineral Wool - Itch

2. Internal

- A. Lung Congestion from dust of all types
B. Lung disease —
Insulation recognized as most toxic - asbestos -

adaptation
lung cancer
metastasis

Asbestos

1. Types

- A. Chrysotile - common - from Europe; Johns Mansville contains this.
B. Amosite - Somewhat common - from Canada; Unibestos contains this and 20% sodium silicate with diatoms.
C. Crocidolite - Uncommon from Africa; considered very dangerous. -

۱۰۰
 ۱۰۰
 ۱۰۰
 ۱۰۰

2. Exposure Limits

 $2.0 \overline{17} \mu\text{sec}$

- A. Threshold limit value ('67) 5MM particles per cubic feet - reduced to 2.4MM PPCF in 1969, by American Conference of Governmental Industrial Hygienists.
- B. TLV defined - "Believed to be the level that nearly all persons may be exposed without adverse effect." Not a fine line between safe and dangerous; guides only.
- C. Du Pont control proposed at 500,000 PPCF at less than 5 Microns ('67).

107, 5 107 AC6-10 S-1
257, 5 105 " "

Health Hazards

- A. Asbestosis
B. Tobacco fumes

DUST SAMPLING PROGRAM

1. Martinsville Plant

- A. Univeristy of Pittsburgh - department of occupational health.
- B. Martinsville Construction "Mighty - Mite".
- C. Chattanooga Maintenance

2 samples

2. Chattanooga Samples:

Location

Band Saw

Vessel tear down

Mixing Mud

SM. "A" - T.L.

Grid Shop

Covering large vessel

3. Procedure for taking sample.

SUMMARY

Necessary Personal Safety Habits

1. Wear all safety protection required by the job - e.g. hard hat, gloves, mask etc.
2. Adopt positive approach toward recommended safety procedures.

Plant Program

1. Du Pont has been a leader in safety.
2. Will continue as a leader.
3. Current program is best known in U.S. to control dust problem.
4. Will modify and improve as experience and analysis indicate.
5. Martinsville, enviromental control coordinator.



LIST OF QUESTIONS ASKED BY INSULATORS
DURING AND FOLLOWING MEETING

- ✓1. What are early symptoms of Asbestosis? *- initial to employment*
- ✓2. Can Asbestosis be cured and how? *- process can be reversed - recoverable? - only know how to prevent*
- ✓3. Can Insulators have more frequent respiratory examinations? *- recommended by doctor*
- ✓4. Why did Construction switch from Unibestos to Thermafil? *- Unibestos is a bad product*
- ✓5. Will Construction quit using code 502.1 (one - coat) cement? *- no more because in or outside of shop*
- ✓6. Is Unibestos the safest Insulation to use?
7. Will the Company:
 - A. Furnish Insulators coveralls?
 - *B. Install vacuum system in shops to replace brooms? *- should vacuum up dust*
 - *C. Provide dust collection system for exhaust fan? *- " " "*
 - D. Put Emiron on floors?
 - E. Allow Insulators to see their X-rays?
 - F. Have labor group housekeep on large overhaul jobs (example: SM - 15) to save Insulation time?
 - *G. Isolate saws from rest of shop? *- should do & also provide a dust pick up system*

*Indicates Supervisors questions.

- 5 -

(All questions now answered -
Adams will send write-ups of
answers next wk.)



Martinsville, Virginia
June 11, 1969

ANSWERS TO QUESTIONS ASKED BY INSULATORS

1. What are early symptoms of asbestosis?

Asbestosis is caused by the inhalation of small particles of asbestos. There is apparently some chemical reaction within the lungs to the asbestos as well as an irritating effect by the fibers of asbestos. There are several factors in the development of this disease that should be noted. Of the three common kinds of asbestos available one kind is much more toxic than the other two and we do not use the more toxic kind. The size of the fibers inhaled have a definite bearing on how much is inhaled and how far into the lungs these can be breathed. The amount of asbestos in the air obviously affects how much is inhaled; further, the number of hours of exposure per day will influence how much is inhaled. Another factor we do not have any measurement of is the resistance of any individual that might be exposed.

The most common symptom experienced by those people that have been diagnosed as having asbestosis is shortness of breath on exertion. Obviously, this is also a symptom of many other diseases which include not only pulmonary or chest conditions but any systemic illness and especially circulatory illnesses. The second most common symptom is a dry hacking cough. Other symptoms do occur when the disease is more advanced.

2. Can asbestosis be cured; and how?

When asbestosis has developed enough to be recognized I do not believe it is curable. By this I mean that I do not believe the asbestos can be removed from the lungs; however, we would certainly not allow any further exposure to asbestos or any other type of pulmonary irritant. This again points to why we are continually monitoring the conditions under which we work and the preventive measures that we have insisted upon such as good ventilation and masks. In this instance prevention is the only cure that is of any great value.

3. Can insulators have more frequent respiratory examinations?

If all of our preventive measures are carried out we feel that the frequency of a complete examination and x-ray annually is all that is necessary, but if any one of you has any symptom that you would like to discuss at any time we hope you will do this. The protection of your health is your own personal responsibility first the same as your safety is and I hope that we can be made aware of any conditions that might jeopardize your health immediately when you think such exists.

You also raised the question of could you see your x-rays. If any of you as individuals would like to see your x-ray, if you will make an appointment I will be glad to show you your x-ray and interpret it for you.

4. Why did Construction change from Unibestos to Thermasil?

Cost, at the time. This is no longer applicable, and future projects will specify Unibestos. Concerning dust, Thermasil has the smaller particle size.

5. Will Construction quit using Code 502.1 (one-coat) cement?
(Excessive dusting during tear-down.)

On future jobs, Johns-Manville #450 cement and #352 (finish coat) will be specified.

6. Is Unibestos the safest insulation to use?

It is as safe as any on the market today.

7. Will the Company -

A. Furnish Insulators coveralls?

Only where now furnished (Fiberglas and rotoclone cleaning)

B. Install vacuum system in shops to replace brooms?

Further study required. ✓

C. Provide dust collection system for exhaust fan?

Further study required. ✓

D. Put Emiron on floors?

Yes, R.O. issued.

E. Allow insulators to see their x-rays?

Yes, with Medical help to interpret what they are looking at.

F. Have labor group housekeep on large overhaul jobs. (Example: S.M. 15)

No, each group housecleans its own job.

G. Isolate saws from rest of shop?

Yes, with curtain.

here are shops type vacuum cleaners, central exhaust fan, exhaust fan, and to be installed.

8. Why did the Company quit using Air-Cell and Sponge Felt Insulation?

Cost. These are not considered safer types, because the particle size in them is smaller.

110-10000
FILE
E. I. DU PONT DE NEMOURS & COMPANY
Incorporated

Textile Fibers Department



cc: W. J. Maney
T. H. Dickerson
J. C. McClellan
G. B. Adams
J. S. Graham
J. O. Exley
F. L. Bryant

Martinsville, Virginia
March 12, 1971

J. A. SIGMAN, DIVISION ENGINEER
MANUFACTURING DIVISIONS
TEXTILE FIBERS DEPARTMENT
WILMINGTON, DELAWARE 19898

ATTENTION: R. B. HAYDEN

ASBESTOS DUST CONTROL

In August, 1970, we began an air sampling program to determine the level of asbestos dust caused by the handling of asbestos insulation. We have used the sampling procedure as recommended by the company-wide Asbestos Dust Conference outlined in the "Asbestos Dust Control" manual. We are using as our standard for exposure to asbestos fibers the Bureau of Occupational Safety & Health Documentation, which states:

"The P.H.S. recommends that occupational exposure to asbestos dust be controlled so that no worker shall be exposed to more than 5 asbestos fibers/milliliter based on a count of fibers greater than 5 mm in length as determined by the recommended method, and based on time weighted average exposures for a 40 hour work week. Concentrations greater than 5 fibers/ml, but not to exceed 10 fibers/ml may be permitted for 15 minute periods in any one hour up to 5 times daily."

From August through November we took 12 air samples on routine work and work which created unusual amounts of insulation dust. These samples were sent to the University of Pittsburgh Graduate School of Public Health for analysis. Attached is a summary of the analysis of our air samples.

Of the 12 samples, two did not meet the accepted standard. The job safety writeup for these jobs has been modified to require the use of a dust mask.

R. B. Hayden

- 2 -

March 12, 1971

Our continuing program of asbestos dust control will be to sample a different task each month with our purpose being to:

- Make sure that current safe levels do not become unsafe without our knowledge.
- Make sure that adequate protective equipment is worn on all jobs that are hazardous.
- Evaluate each hazardous task and try to bring the level of contamination within the standards.

NYLON MANUFACTURING DIVISION

W. J. MANEY, JR., ENGINEERING SUPT.

By


J. S. Granam

JSG/aln

March 17, 1972

Current Practices:

1. Vacuum cleaners are used for shop housekeeping.
2. All scraps are disposed of in polyethylene bags.
3. All Insulators receive chest X-Rays annually.
4. All motor driven saws are equipped with exhaust system.
5. All insulation cement being used is asbestos free.
6. Monthly air samples of routine work are being made.
 - Sampling procedure being used, is as outlined in the Companies "Asbestos Dust Control" Manual.
 - Sampling equipment used is MSA portable pump with Millipore filter.
7. Dust mask being used is MSA #10-8643 custom Comfo-Respirator with type "F" filter.



Required When:

- Operating power saws.
- Cleaning dust collectors or vacuum cleaners.
- When fabricating pump basket insulation.
- Other jobs optional.

Procedure Under Evaluation:
Eating in Shop

Proposed Plan:

Work Order has been approved for installation of improved exhaust and vacuum facilities in shop. Completion date 4Q 72.

NYLON MANUFACTURING DIVISION

W. J. MANEY, JR. ENGINEERING SUPT.

By

W. L. Esarey 1/4/74
W. L. Esarey



E. I. DU PONT DE NEMOURS & COMPANY

INCORPORATED

TEXTILE FIBERS DEPARTMENT

cc: H. W. Bartholomay
③ R. C. Irby
J. C. McClellan

PERSONAL & CONFIDENTIAL

Martinsville, Virginia
February 12, 1974

E. S. BRINTON, PRODUCTION MANAGER
NYLON MANUFACTURING DIVISION
TEXTILE FIBERS DEPARTMENT
WILMINGTON, DELAWARE 19896



ASBESTOS DUST CONTROL
STATUS REPORT

Martinsville currently meets or exceeds all legal requirements as currently interpreted. A formal asbestos dust control program has been in effect since 1970. We have maintained a close relationship with the Division Engineer's office to assure ourselves that not only are we current but ahead of any future requirement.

Two Plant groups, Insulators and Carpenters, are routinely exposed to asbestos dust particles. To date, our program to protect these and other employees has been:

• Protective Equipment

- Bureau of Mines approved respirator, Dustlo 66, is provided for each man.
- Vacuum cleaners - all shops.
- Two special, vacuum equipped, portable work buggies for Insulators.
- Exhaust system is provided for all shop powered equipment.
- New vacuum system for general housekeeping - main Insulation Shop.

• Rules and Procedures

- All asbestos scraps must be disposed of in identified polyethylene bags.
- Approximately three air samples per month are made to:
 - Make sure that current safe levels do not become unsafe without our knowledge.
 - Determine if jobs exceed allowable limits.
 - Evaluate each hazardous task and try to bring the level of contamination within limits.
- In three years of dust sampling, we have exceeded permissible dust limits on five jobs. These jobs involved fabrication or cleaning and have now been eliminated by not using asbestos materials.

- Rules and Procedures (Cont'd)

- Dust mask is required when:
 - Performing demolition work
 - Operating power saws
 - Cleaning dust collectors or vacuum cleaners
 - Other jobs as judgment dictates
- Insulations must be dampened during demolition to prevent excessive dust.
- If applicable, work areas must be roped off and asbestos warning signs displayed. Any employee entering roped area must wear same protection as Insulator.
- Portable work buggy equipped with vacuum cleaner is used for field fabrication of fittings.
- Vacuum cleaners are used for shop housekeeping (Carpenters may use broom when not fabricating asbestos-containing materials).

- Eating and Smoking in Work Areas where Asbestos is Handled

- According to the OSHA regulations, eating and smoking in the asbestos shop is not prohibited if the dust concentration is less than the allowable standard (5 fibers/cc greater than 5 microns in length). In those plants where local policy prohibits eating and smoking in shops, there is no reason not to continue such practice. On the other hand, where eating and smoking has traditionally been permitted in shop areas, there is no legal basis for discontinuing the practice, because analyses of our shops indicate we operate far below this standard. Eating is allowed in the main Carpenter Shop, but not in the Insulation Shops because a separate eating area is available. Smoking, coffee drinking, gum chewing, and snacking are allowed in all shops as long as dust concentration is kept below allowable standard.

- Special Medical Requirements

- Annual X-rays and pulmonary function tests are required of all Insulators regardless of age. To date, all findings are negative.
- Insulators are allowed to view their X-rays if they so desire.
- Comparisons are made between current X-rays and X-rays at hire. To date, findings are negative.

- Replacement of Asbestos-Containing Materials

- Insulation inventories are being replaced and should be complete during 1Q'74. We still expect to purchase "A" cloth, Marinite, asbestos gaskets, and asbestos packing until such time as suitable commercial substitutes become available.
- There is no program planned for wholesale replacement of existing, installed, asbestos-containing insulation. However, alterations, repairs (where practical), and new installations will use only asbestos-free materials.

February 12, 1974

As a result of the activities outlined above, our primary concerns at this time (subject to interpretation of regulations) are:

- Legal requirements for protective clothing.
- Legal requirements for dual lockers, change rooms, laundering, etc.
- Installation of vacuum system in two auxiliary Insulation Shops (exhaust system exists in one).

We are currently addressing to these and expect decisions by 1Q'74. The above decisions will undoubtedly be influenced by the fact that in 1976 the permissible asbestos dust concentration in the air will be reduced from 5 to 2 fibers/cc greater than 5 microns in length.

NYLON MANUFACTURING DIVISION



F. C. MINER
ASSISTANT PLANT MANAGER

FCM/mtr

ATTACHMENT I

Asbestos - Martinsville

General Use: Thermal Insulation



1. Precautions Used:

- a. No eating, drinking or smoking in areas where asbestos-containing materials are being used.
- b. No dry sweeping permitted. Clean up with vacuum cleaner only.
- c. All asbestos-containing scrap is placed in plastic bags and tagged.
- d. When nonprefab insulation is removed from tanks, vessels, or large pipe jobs, the following is done:
 - o Area is roped off and signs displayed.
 - o Any person entering roped off area must wear respirator.
 - o Water sprayer used to hold dust to a minimum.
 - o Overhead insulation not allowed to fall.
 - o Coveralls are provided and cleaned by plant.
- e. New installations of asbestos-free insulation are identified "Insulation Asbestos Free."
- f. Permanent exhaust systems are used in shop areas, portable units in field.
- g. X-ray and pulmonary function tests performed on all Insulators annually.
- h. All asbestos-containing damaged insulation which requires major repair is discarded.

2. Employee Communications:

- a. Specific job safety write-up for all jobs involving asbestos or asbestos-containing materials.
- b. Informational group meetings concerning asbestosis and safe use of the material held with Insulators, Supervision and Medical Section started in 1970.

3. Replacement Materials:

- a. All asbestos-containing insulation removed from plant inventory 3/31/74 except for following items for which no acceptable substitute is currently available: asbestos cloth, metal reinforced asbestos tape, asbestos sewing thread, asbestos tape, Tedlar asbestos laminate paper, Marinite, Transite, asbestos tubing. Only Marinite and Transite could cause measurable dusting.
- b. An asbestos-free Marinite spinning machine chimney wing top closure is currently under test.
- c. Marinite and Transite are not fabricated on plant. Fabrications are made by insulation fabrication companies (e.g., North Brothers) which are equipped for such work.

4. Audit Procedures:

- a. Daily supervisory audits of employees to assure compliance with job safety write-ups.
- b. Semi-annual air samples for asbestos fibers in shops and at representative field job sites per Engineering Standard S4T.

June 22, 1976

TO: H. R. LANNOM

FROM: S. R. BALLARD/F. L. BRYANT



Status: Process Hazards Committee Review - Asbestos

Following are the recommendations made by the Process Hazards Committee and our status on each:

- On any job, where Du Pont provides coveralls, skull caps should also be provided. No asbestos contaminated coveralls or skull caps should be stored in a locker that is used for street clothes.

STATUS

- We currently have approximately 20 pairs of coveralls that are available for insulators use. It has been our practice to be somewhat lenient in our approach to providing coveralls. We furnish coverall on some dirty jobs where in our opinion there is no hazard from asbestos fibers. Coveralls are also furnished for asbestos protection on any job where the area is roped off, signs erected, and respirators worn. We feel that the case of asbestos protection is the only time we should require skull caps.

In order to insure that no contaminated coveralls come into contact with street clothes, the following proposal is offered:

- (1) Purchase an additional 20 pairs of coveralls and 20 skull caps.
 - (2) Purchase a heavy duty washing machine and clothes dryer to be installed in the Insulation Shop for daily laundering. (We now pay \$1.00/pair for laundering.)
 - (3) Continue our present practice of providing coveralls. (This, in part, is to avoid a request from Council for 100% coveralls.)
- Asbestos dust sampling should be the responsibility of the Plant Pollution Control Coordinator, as is the case with other air borne contaminants. Currently, the Insulating Supervisor does the sampling.
 - An interlaboratory check should be conducted on a regular basis (recommend 2 times/year) to confirm that the contract laboratory in Richmond that does our analyses is accurate and consistent.

STATUS

- As soon as George Adams returns from vacation (week of 7/1), we plan to transfer the dust sampling job and inter-lab check to the Plant Pollution Control Organization.

SRB/cm

Standard S 4 T 1

Martinsville Status - March, 1977

1. Scope

This standard presents the permissible asbestos dust exposure limits, methods of controlling asbestos dust exposures, respiratory protective equipment and method of sampling asbestos dust concentrations in the work area.

2. General

2.1 Asbestosis and lung cancer have long been associated with exposure to asbestos. Historically, the incidence of these diseases has been significantly higher among asbestos workers than among the general population.

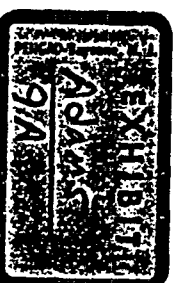
2.1

Any portion of this or referenced document identified with an asterisk is a mandatory requirement of the Williams-Steiger Occupational Safety Health Act of 1970 (OSHA) as published in the Federal Register.

No action required - information only.

2.2

Information only.



- 2 Principal sources of exposure to airborne asbestos dust in Company operations have been:**
- a. Cutting asbestos insulation by power saws in fabrication shops.
 - b. Opening boxes and removal of new asbestos insulation.
 - c. Removing old insulation from lines and vessels.
 - d. Mixing loose asbestos to form cement.
 - e. Removal of clothing after completing asbestos insulating duties.
 - f. Cutting asbestos cement (Transite) siding, roofing, pipe, etc.
 - g. Spraying asbestos insulation or fireproofing
 - h. Asbestos materials used in production of Company products.

2.3 Suitable nonasbestos bearing materials should be sought for substitution where asbestos contributes to a dust concentration exceeding the permissible exposure limits.

Complying. Asbestos containing inventories exhausted 4/1/74 except for following items for which substitutes cannot be found:

Asbestos cloth - Marinite - Transite (used when fabricating F-gird insulation) braided asbestos tubing, asbestos tape (1" & 2" width) tadpole tape, asbestos thread, and Tedlar® F.

Standard S 47

Martinsville Status - March, 1977

2. General (Cont'd)	2.3	(Cont'd) Above items will be used until substitutes become available. No other materials will be purchased containing asbestos. There is no program plan for wholesale replacement of existing, installed asbestos-containing insulation. However, new installations and required replacement of existing systems will use only asbestos free materials.
2.3.1 Materials used containing asbestos also should be investigated for their effect on asbestos dust concentration. For example, calcium silicate insulation may contain up to 20 percent asbestos, and talc also may contain asbestos.	2.3.1	Complying. Asbestos bearing insulation no longer purchased except items listed in Paragraph 2.3.
2.3.2 For asbestos insulation substitutes, see SN-M series of insulation materials specifications.	2.3.2	No action required - information only.
3. Permissible Exposure Limits		
*3.1 Asbestos dust concentrations in air shall not exceed an 8-hour time weighted average (TWA) of 5 fibers longer than 5 microns per cubic centimeter of air. At no time may the concentration exceed a ceiling of 10 fibers longer than 5 microns per cubic centimeter.	3.1	Jobs which have exceeded TWA of 5 fibers longer than 5 microns per cubic centimeter of air and status each are given on attached sheets.
3.1.1 The 8-hour time weighted average (TWA) is the average concentration occurring over a period of 81 continuous hours.	3.1.1	Jobs which have exceeded TWA of 10 fibers longer than 5 microns per cubic centimeter of air and status each are given on attached sheets.
*3.2 After July 1, 1976, the TWA is reduced from 5 to 2 fibers longer than 5 microns per cubic centimeter.	3.2	Jobs which have exceeded TWA of 2 fibers longer than 5 microns per cubic centimeter of air and status each are given on attached sheets.

JOBS WHICH HAVE EXCEEDED TWA OF
10 FIBERS GREATER THAN 5 MICRONS PER
CUBIC CENTIMETER OF AIR

<u>Jobs</u>	<u>Readings</u>	<u>Status</u>
1. Ripping Unibestos block.	39.3	No longer use Unibestos.
2. Ripping Unibestos block.	80.2	No longer use Unibestos.
3. Removing dust and scrap from dust collector.	14.92	New dust collector and new dust removal procedure eliminates this job.
4. Ripping and routing Marinite in Carpenter Shop. - Four samples: 52.7; 51.1; 20.3; 18.8 made in different locations.		This work no longer done on the plant.
5. Removing prefabricated insulation from S.M. 16.	10.87	Machine roped off; signs posted. Respirator mandatory; coveralls furnished and laundered by Company.
6. Marking and stacking Marinite chimney wing door tops.	23.9 11.3	No longer done.
7. Removing Unibestos - Dow cube area.	14.9	Grab sample - mean less than TWA. Four samples - .26, .81, 3.7, 14.9. Probably inaccurate sample.

JOBS WHICH HAVE EXCEEDED TWA OF
5 FIBERS GREATER THAN 5 MICRONS PER
CUBIC CENTIMETER OF AIR

<u>Jobs</u>	<u>Readings</u>	<u>Status</u>
1. Sawing Calsilite block.	6.48	No longer use this material.
2. Ripping Amosite on table saw. Replacing same in cartons.	9.66	No longer use this material.
3. Fabricating Calsilite Fittings.	6.19	No longer use this material.
4. Removing Unibestos and Kaylo from cartons; placing in bins.	5.33	No longer use these materials.
5. Ripping Kaylo.	6.09 5.17	No longer use this material.
6. Housekeeping S.M. 16 after removal of insulation for overhaul.	6.33	Machine roped off. Signs posted. Respirator must be worn. Coveralls furnished and laundered by Company. Water sprayer used to minimize dust
7. Sawing Marinite.	8.07	Major Marinite fabrication done by vendor.
8. Removing Calsilite block from unit pans.	6.64	Grab sample - mean of samples less than TWA.
9. Removing Kaylo from piping and valves.	6.87 8.54	Grab sample - mean of samples less than TWA.

JOBS WHICH HAVE EXCEEDED TWA OF
2 FIBERS LONGER THAN 5 MICRONS PER
CUBIC CENTIMETERS OF AIR

<u>Jobs</u>	<u>Readings</u>	<u>Status</u>
1. Overhaul and repairing insulation on autoclave.	3.01	In compliance. Now have downdraft tables.
2. Sawing and fabricating Kaylo.	3.09	No longer use this material.
3. Same as No. 2.	2.35	Same as No. 2.
4. Removing grid covers from T-9 units on denier change.	2.85	In compliance. Now have downdraft tables.
5. Fabricating Kaylo block.	2.32	Same as No. 2.
6. Removing Unibestos from tube bundle.	2.08	In compliance. Require respirator.
7. Fabricating with Unibestos.	2.46	No longer in use.
8. Testing filter on vacuum cleaner demonstration.	2.45	No plans to purchase this vacuum cleaner.
9. Removing Kaylo from piping and valves - 3rd Floor Spinning.	3.64	In compliance. Require respirator.
10. Removing Unibestos - Dow cube area.	3.7	In compliance. Require respirator.
11. Removing Kaylo from heater	2.27	In compliance. Require respirator

Standard S 4 T	Martinsville Status - March 1977
4 Control of Asbestos Dusts	
*4.1 Engineering controls; such as, but not limited to; enclosure, vacuum sweeping, and local exhaust ventilation, shall be used to meet the permissible exposure limits, in Section 3. Use of respiratory equipment only is not sufficient; see Section 5	4.1 Vacuum system in all shops OK. Third floor band saw exhaust system questional Engineering Assistance requested to study.
4.2 Handling Asbestos Insulation	
4.2.1 Cartons of asbestos insulation are a potential source of severe dust exposure and should be handled with care. The nature of the material creates dust within the cartons.	4.2.1 Complying
4.2.2 Cartons of new asbestos insulation should be vacuumed upon opening and prior to removal of material to remove dust accumulation.	4.2.2 Complying
4.2.3 Purchase of insulation with a glaze coating is recommended to reduce dusting.	4.2.3 Complying
4.3 Asbestos cutting operations	
*4.3.1 All hand operated or power operated tools which may produce or release asbestos fibers in excess of the permissible exposure limits shall be provided with a dust collection system; see 4.7.	4.3.1 Complying. All Power operated tools are equipped with dust collection systems. Portable work by equipped with vacuum cleaners are used in conjunction with hand tools in the field.
4.3.2 All major power cutting machines should be isolated in a separate working area.	4.3.2 Not in compliance. No changes planned. Mask required when sawing asbestos inhibited materials

Standard S 4 T

Martinsville Status - March, 1977

4.3.3 The work area shall have a vacuum cleanup system. This can be a system of hoses connected to a central vacuum system. All parts of the room should have vacuum cleanup at least daily, to prevent accumulation of dust on ledges, shelves, floors, and machines.

4.3.3

Complying

*Caution: No dry sweeping shall be performed. Air hose is not to be used as an aid in cleanup.

Complying

4.4 Asbestos Material Mixing

4.4.1 Cement, mortar, coatings, grout, and plaster containing asbestos shall be mixed in closed bags or other closed containers.

4.4.1

Complying. No asbestos inhibited material used.

4.4.2 Any dried-out cement should be discarded. Do not attempt to rework it.

4.4.2

Complying.

4.5 Removal of Asbestos Insulation

4.5.1 Atmosphere supplying respirators (per 5.4) and special clothing, (per 6.2) shall be worn by employees engaged in removal or demolition of asbestos insulation or covering.

4.5.1

Information only. No action required. Reference: Paragraph 3.1

4.5.1.1 This requirement does not apply to removal of insulation fabricated and protected to withstand repeated removal and reinstallation for equipment maintenance or other reasons, providing the techniques employed have been demonstrated to maintain asbestos concentrations within allowable limits.

4.5.1.1

Complying. Reference: Paragraph 3.1

Standard S 4 T'

Martinsville Status - March, 1977

4.5 1.2 This requirement does not apply to removal for maintenance or alterations when precautions listed below are followed and sampling has shown the precautions maintain asbestos concentrations within allowable limits.

4.5.1.2

Complying. See Paragraph 3.1

a. Dampen insulation prior to and during removal.

b. Remove fasteners with care. Support insulation temporarily until it can be put into proper containers (see 4.6). Do not drop.

c. Avoid sawing where possible. Knife cutting is preferred.

d. Maintain good housekeeping. Vacuum equipment shall meet requirements of 4.8.2.

e. Others to suit local conditions.

4.6

Complying.

*4.6 Waste Disposal. Asbestos waste, including items such as scrap, empty bags or clothing to be discarded, vacuum system collection, and other wastes which may create airborne dust concentrations, shall be collected and disposed of in sealed, impermeable bags or containers. Caution labels shall be attached conforming to 7.6 and Figure 2.

4.6.1

Complying. Moorefield Laundry notified in writing by Purchasing.

*4.6.1 Asbestos contaminated clothing to be laundered shall be handled in sealed, labeled bags as in 4.6. Persons involved shall be instructed in proper handling.

4.7

Complying.

*4.7 Asbestos Spraying. Employees engaged in spraying asbestos for insulation or fireproofing shall wear atmosphere supplying respirators, see 5.4.

Standard S 4 7	Martinsville Status - March, 1977
*4.8 Exhaust ventilation and dust collection system shall be in accordance with ANSI Z9.2, Fundamentals Governing the Design and Operation of Local Exhaust Systems.	4.8 Complying
4.8.1 Caps or dampers should be provided in each intake hose and machine connection to maintain capacity of the system. However, care should be taken to assure that connections are open at the equipment being operated.	4.8.1 Complying
4.8.2 Discharge should be into a cyclone separator or into bag filters which meet the following criteria: a. Cotton bag filters should have an air flow permeability not exceeding 20 cfm/sq. ft. b. No bypass devices. c. No leakage of unfiltered air. d. Ability to empty hoppers without creating visible emissions of particulate matter. e. No torn or ruptured bags. f. No worn or threadbare bags. g. No improperly positioned bags. h. Dust samples shall be taken at the dust collection discharge periodically as necessary to assure satisfactory performance of the system, see Section 3.	4.8.2 Complying
5. Respiratory Equipment	
*5.1 Respiratory protection shall be provided to all personnel in areas where the permissible exposure limits may be exceeded under the following conditions *a. During the time necessary to install engineering controls and work practices per 4.1 *b. In situations when the above controls are technically not feasible or insufficient to meet the limits in Section 3. *c. In emergencies. Refer S211 for general description and vendors of respirator equipment.	5.1 Complying

Standard S 4 Tr		Martinsville Status - March, 1977
*5.2 Mechanical filter-type respirators are required when the TWA or ceiling concentrations are reasonably expected to exceed no more than 10 times the limits in Section 3.	5.2	Complying.
5.2.1 Filters shall meet Bureau of Mines Schedule 21C. Manufacturer's recommendations must be followed for their application and maintenance. Such filters should not be used where the oxygen falls below 19.5 percent.	5.2.1	Complying.
*5.3 Powered filter-type respirators are required when the TWA or ceiling concentrations are reasonably expected to exceed 10 times, but not 100 times, the limits in Section 3.	5.3	Complying.
5.3.1 These filters are seldom used on Company plants and those of 5.4 are substituted.	5.3.1	Information only. No action required.
5.4 Atmosphere supplying respirators (Type "C" supplied air or self-contained) are required when the TWA or ceiling concentrations are reasonably expected to exceed 100 times the limits in Section 3. Also, they are required for the spraying of asbestos. For removal or demolition, see 4.5.	5.4	Complying.
5.4.1 Filters shall meet Bureau of Mines Schedule 19B.	5.4.1	Information only. No action required.
5.5 Respiratory Equipment Use and Testing. A respirator program in accordance with the requirements of ANSI Z88.2 Practices for Respiratory Protection shall be established.	5.5	Complying. Dust-Fee 66 Bureau of Mines approved to each employee in insulation shop, also to all borrowed employees. Available in Stores when required by others.
5.5.1 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.	5.5.1	Complying.
5.5.2 Respirators shall be cleaned and disinfected regularly. Those issued for the exclusive use of one worker should be cleaned at least after	5.5.2	Complying

Standard S 4 T

Martinsville Status - March, 1977

6. Hygiene

*6.1 A change room and duplicate lockers must be provided for employees exposed to concentrations which exceed either the TWA or the ceiling limit in Section 3. This is to prevent contamination of employees' street clothes from their work clothes.

6.1

Complying

*6.2 Special clothing shall be provided for employees exposed to concentrations which exceed the ceiling limit in Section 3, and for those employees engaged in the spraying of asbestos. For removal or demolition, see 4.5.

6.2

Complying. Coveralls are provided and laundered Company on all jobs when TWA in doubt or job is dirty or combination of both.

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

6.3

Complying.

6.4 Medical examinations, controls and records relative to asbestos dust exposure are directed by the Employee Relations Department, Medical Division.

6.4

Information only.

7. Sampling

*7.1 Monitoring is required where employees are exposed to asbestos dust to determine the employee's exposure.

7.1

Complying; 180 taken since 1970.

*7.1.1 Sampling of each operation must be taken in a frequency and pattern to represent accurately the employee's exposure over his work period. If results indicate a level of asbestos dust in excess of the limit, the operations shall be reviewed to reduce exposure, see 4.1, and resampled. The initial sampling program must determine the 8-hour time weighted average. Intervals between samples shall not exceed six (6) months. The duration of each sampling should be at least 15 minutes.

7.1.1

Complying

Standard S 4 T

Martinsville Status - March, 1977

7. Sampling (Cont'd)

7.2 Equipment. Samples may be taken with a portable battery operated air sampler attached to an employee's belt or placed in the work area.

CAUTION: Unless specifically approved for use in hazardous atmospheres, air samplers shall not be used in hazardous areas, as defined in DEID, without a permit to use a spark-producing device.

7.2.1 Pumps recommended Model C115 or Micronaire (Bendix).

7.3 Procedure

7.3.1 Flow through the pump should be calibrated, with the filter in line for each pump.

7.3.2 Clip filter holder to lapel or shirt pocket as close as possible to the person's nose and mouth. Filter should be horizontal or slightly down, never facing up. This is sometimes referred to as personnel sampling and is preferred.

7.3.3 At times it may be advantageous to collect samples from a fixed location representative of a more general work area. This is sometimes referred to as environmental sampling. In such cases, the filter should be located as close as possible to a person's breathing zone at the job or in the area being monitored. The type of sampling should be chosen to determine most accurately the employees' exposure.

7.3.4 Remove top section of the filter to expose the full filter face.

7.2 Complying.

7.2.1 Not in compliance. Monitoraire #08-92814 M.S.A. approved. Equal to pumps recommended.

7.3.1 Complying.

7.3.2 Complying.

7.3.3 Complying.

7.3.4 Complying

Standard S 4 T

Martinsville Status - March, 1977

7. Sampling (Cont'd)

7.3.5. Turn on pump and set at approximately two (2) liters per minute rate (1 - 2.5 lpm range). Estimate sampling time (X) in minutes as follows (15 minute minimum):

$$X = \frac{316}{\text{pump rate (lpm)} \times \text{expected fiber count}}$$

Assume a fiber count of 2 per cubic centimeter for first test if no better information is available. (This equation optimizes ease and accuracy of the fiber count.) Record actual pump rate periodically. When finished sampling, turn off pump and record elapsed sampling time. Typical sampling record forms, EN-2731 (see Figure 3) are available from Stationery Stores, Engineering Department, Wilmington, Delaware.

7.3.6 Replace filter top after sample is collected and seal with tape prior to shipment. Stoppers furnished with filter units must be replaced before sealing.

7.4 Analysis. Complete samples (exposed Filters) are placed in a mailing tube, sealed, and sent to a qualified laboratory with two copies of the sampling record.

7.4.1 It is recommended that an unexposed filter be included with each batch of samples for reference.

*7.4.2 All determinations shall be made by the membrane filter method at 400 - 450 X (magnification) (4 mm objective) with phase contrast illumination.

7.3.5 Complying.

7.3.6 Complying.

7.4 Not in compliance. We send only one copy and do not send in tubes.

7.4.1 Not complying. Laboratories say they don't need unexposed filter.

7.4.2 Complying.

Standard S 4 T

Martinsville Status - March, 1977

7. Sampling (Cont'd)

7.4.3 Qualified Laboratories

7.4.3

Complying.

G. W. Hiddemen
E. I. du Pont de Nemours & Co.
Marshall Laboratory
3500 Grays Ferry Avenue
Philadelphia, PA 19146

Morton Corn, PhD
Attention: Felix Stein
Graduate School of Public Health
University of Pittsburgh
Pittsburgh PA 15213

W. A. Burgess
38 Fox Hill Street
Westwood, MA 02090

7.5

Complying.

*7.5 Record Keeping. Records of personnel and environmental monitoring shall be maintained for three (3) years and made available upon the request of authorized representatives of OSHA and NIOSH (National Institute of Occupational Safety and Health)

Standard S 4 T'

Martinsville Status - March, 1977

*7.6 Caution Signs and Labels

*7.6.1 Caution signs conforming to Figure 1 shall be posted at all approaches to areas where asbestos concentrations may be above permissible exposure limits. They shall be placed at a sufficient distance to permit an employee to read the signs and take necessary precautions before entering the area.

7.6.1

Complying.

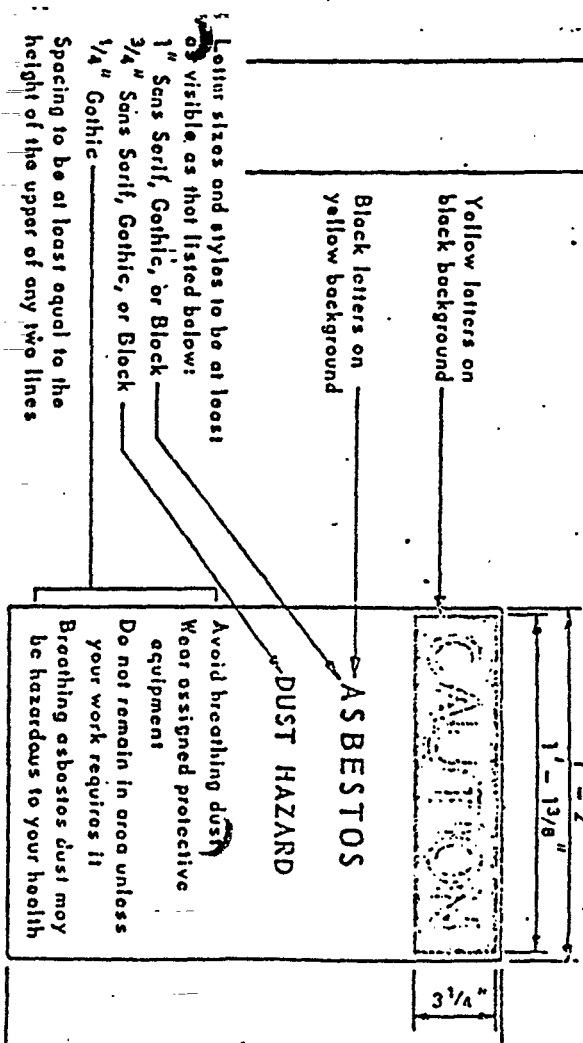


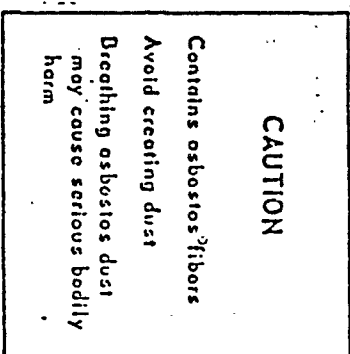
FIGURE 1 - CAUTION SIGN - ASBESTOS DUST

Standard S 4 T'

Martinsville Status - March, 1977

*7.6.2 Caution labels conforming to Figure 2 shall be used to identify containers of raw materials scrap, waste, other products containing asbestos, and asbestos contaminated clothing.

7.6.2 Complying.



Label size and printing to be readily visible and legible.

FIGURE 2 - TYPICAL CAUTION LABEL*

* Available from M & M Displays, Maiden Lane, Philadelphia, Pa.

Martinsville, Virginia
September 23, 1977

TO: J. O. EXLEY
FROM: W. T. SMITH
AREA MAINTENANCE SUPERVISOR



ASBESTOS DUST CONTROL

- Precautions used to control exposure:
 - A. Martinsville Plant is in compliance with 1910.1001 OSHA standards and Textile Fibers dust exposure guidelines (ref.: J. A. Sigman; June, 1974).
 - B. All asbestos containing materials, except where no acceptable substitute is available, have been eliminated from use.
 - C. Insulation shop policy - no smoking, eating, or drinking allowed in Insulation Shop.
 - D. Dustfoe 66, MSA approved, respirators are required on jobs where past experience and/or sampling checks have revealed exposure greater than permissible limits.
 - E. Downdraft tables and dust collection facilities provided in all Insulation Shops.
 - F. All damaged (existing) asbestos containing insulation is discarded when removed and replaced with asbestos free (AF) insulation.
 - G. Insulation materials are discarded in accordance with OSHA 1910.1001 paragraph (h) (2) to minimize dusting by sealing in dust-proof containers.
 - H. When working in applicable areas, all outer clothing is furnished and laundered by the Company. Dual lockers are also provided to prevent exposed clothing contact with individuals' street clothes. (Ref.: OSHA 1910.1001 (d) (3 & 4).
 - I. Identified wetting procedures, OSHA 1910.1001 (c) (2), are used during removal of asbestos inhibited materials.
- Communications used to inform those exposed:
 - A. All employees dealing with asbestos are fully aware of hazards and personal protection procedures/equipment.
 - B. Caution signs posted per OSHA 1910.1001 (g) at entrance to each Insulation Shop.
 - C. Each insulation worker is given training on the precautions necessary for the protection of this health (i.e., respirator program OSHA 1910.1001 (d) (2) (iv).

- D. Routine air sample quality checks are made to determine asbestos particles in breathing air. Insulation employees and/or their representatives are given a reasonable opportunity to observe monitoring and review results of dust samples taken.
- E. All air samples taken in the past two years have not exceeded either OSHA or TF guidelines.
- Program and timetable for replacement if hazard can be eliminated by use of alternate materials:
 - A. No asbestos containing material is used in new installations with the following exceptions (no acceptable substitute available):
 1. "A" cloth (dustless)
 2. Tadpole tape
 3. Asbestos thread
 4. Asbestos tape
 5. Asbestos tubing
 6. Tedlar paper
 7. Transite

Items 1-6 create minimum dust when used. Of all samples taken on Plant involving these materials, none have been over the exposure limits. Item 7 is used to reinforce the bottom of grid insulation. Fabrication of transite is done by outside contractors. If minor field work is required, OSHA and TF guidelines are followed.

- B. The following materials are currently under evaluation as potential replacements:

- Nomex® - phenolic and woven
- Fiberglass
- Kevlar®

Although substitutions on low temperature applications are acceptable due to brittleness and wearability. Martinsville has followed other fibers plants lead in using asbestos-free fiberglass and TIW wool ("soft" insulation) on certain applications.

- Audit procedures and frequency to determine if proper precautions are being utilized:
 - A. Annual pulmonary checks are made by Plant Medical per OSHA 1910.1001 (j) (3).
 - B. Routine air sample determinations are conducted semi-annually ref.: OSHA 1910.1001 (f) (2) (ii) 7. Additional checks on infrequently performed or questionable jobs are taken as necessary.
 - C. Additional air sample checks are conducted by other independent Plant groups (i.e., Plant Environmental).
 - D. Daily safety and housekeeping inspections are conducted on all Insulation Shops and personnel.

cc: G. B. Adams
E. B. Avery
E. D. Barea
D. M. Cloud
J. R. Ferrill
J. B. Lamkin*
H. R. Lammom

Martinsville, Virginia
March 3, 1978

TO: K. W. BARROW*
G. F. BAYLOR*
M. L. ADKINS*
F. J. CUMMINGS
R. B. PETERS*
E. SAUNDERS
G. K. TOWE*



FROM: D. L. SWATS* D-5

DISPOSAL OF ASBESTOS CONTAINING INSULATION

A meeting was conducted on 2/28/78, to discuss the disposal of pipe and vessels covered with asbestos containing insulation. It was determined that our current disposal procedures (selling pipe and vessels through Salvage without removing insulation or advising buyer of asbestos hazard) was not in compliance with current OSHA or EPA regulations. Therefore, the following procedures will be implemented immediately until a suitable disposal procedure can be found:

- Salvage (J. B. Lamkin) will designate and rope-off an area as a collection point for pipe and vessels covered with asbestos containing insulation. Warnings will be posted as necessary to advise personnel of the asbestos hazard.
- All pipe and vessels covered with asbestos containing insulation will be removed in accordance with WEP E/J - 623, tagged with an asbestos caution tag (form G-322, Stores Item No. 14418), and sent to Salvage. Pipe covered with asbestos containing insulation will not be placed in scrap hoppers; it will either be delivered to Salvage or placed on a pallet for pick-up by a Salvage operator.

J. B. Lamkin and D. L. Swats respectively will contact the Surplus Material Division and the Division Engineer's office for additional guidance on proper disposal procedures.

*Attended meeting.



cc: J. B. Lamkin

Martinsville, Virginia
May 9, 1978

TO: B. M. CLOUD

FROM: D. L. SWATS DLS

DISPOSAL OF ASBESTOS CONTAINING INSULATION

(Ref: Letter, dated 3/3/78)

J. B. and I respectively contacted the Surplus Material Division and the Division Engineer's office for additional guidance on proper disposal procedures for pipe and vessels insulated with asbestos containing insulation. Both offices recommended removal of all asbestos containing materials prior to sale, or disposal in accordance with procedures for asbestos containing materials.

We feel the least expensive method will be to have contractors (BWB) remove the insulation, then sell the uncovered pipe and vessels. J. B. is scheduling a meeting with Jerry Cummings to discuss this proposal.

We are currently following the procedures outlined in referenced letter; however, to date, Salvage has only received four steam chests which are covered with asbestos containing insulation. Therefore, we do not believe that removing the insulation prior to sale will have much impact.

I will keep you advised as to how we resolve the disposal problem.

DLS/hh

cc: B. M. Cloud C. C. Smith
 N. A. Ferrante K. W. Stueber
 P. T. Griffin H. P. Varn
 J. F. Hesselberth R. M. Wells
 W. H. G. Kouk



Martinsville, Virginia
 May 16, 1980

TO: R. H. ABBITT O. H. FITZGERALD (4) W. K. MOLES (2)
 G. B. ADAMS (4) A. Z. FRESCO (7) H. W. MUIR
 I. L. ANDERSON (5) F. L. FUNDERBURK (9) R. F. NOYES (6)
 B. A. BAKER (4) J. S. GRAHAM (4) C. D. RAINEY
 E. D. BARCO (9) J. W. GRANT (4) D. E. REEVES (2)
 H. L. BARROW (8) D. A. HAZLEHURST (4) H. P. REID (9)
 R. A. BRUGGE (5) W. H. KOTKIN E. SAUNDERS
 J. B. BUSH (11) H. R. LANNOM (6) T. J. SAYERS (9)
 R. E. CHANEY J. E. LAYTON J. S. WATKINS (10)
 R. A. CHESNEY (10) J. C. MCCLELLAN A. C. WATTLINGTON (6)
 H. H. CLARK A. L. MANCINI R. A. WILKENS
 C. S. EDMISTON (12) A. H. MERRILL J. M. YATES (3)

FROM: J. M. PICKENS

USE OF ASBESTOS
MARTINSVILLE PLANT STATUS

In order to minimize personnel exposure, the use of asbestos containing materials has been discontinued where acceptable substitutes are available. As a result, no asbestos containing material is now being used in new installations with the following exceptions:

- Pump and valve packing
- Gasket material
- Brake linings

Generally speaking, these items are asbestos impregnated and are therefore unlikely to present a health hazard. However, handling of these items can cause asbestos fibers to become dislodged over a period of time. Therefore these items should be stored in a manner that prevents the accumulation of asbestos containing dust. For example, a peg board is an acceptable method for storing gaskets. If the material must be stored in a drawer or bin, it should be placed in a plastic bag. The storage place should be cleaned periodically to prevent dust buildup.

Of course, existing asbestos insulation is in place all across the site. Attachment I is a listing of these installations. Each area should inspect their asbestos insulation for conditions which could lead to employee exposure to airborne asbestos fibers

- 2 -

(i.e. badly damaged insulation). Conditions needing repair should be reported to J. W. Cobler, Insulation Supervisor, ext. 2781. Jimmy can also help identify asbestos. Obsolete asbestos materials should be discarded and good housekeeping maintained in storage areas. Asbestos containing materials should not be stored with respirators, respirator filters, food, gum, cigarettes or any other item which may be placed in the mouth.

If you have any questions on asbestos, contact me on ext. 2302.

JMP/hh

EXISTING PLANT ASBESTOS INSTALLATIONS

• GENERAL PLANT

- Insulation (all hot service insulation unless noted to be asbestos free)
- Gasket material
- Transite walls and louvers
- Pump and valve packing
- Roofing felt
- Asbestos floor tile
- All vehicle and chain hoist brake linings

• CHEMICAL LABORATORY

- Transite box and trays
- Transite lined hoods

• COUPLED SPINNING

- Asbestos cloth block heater covers
- Marinite chimney wing insulation with Tadpole tape (T-28)
- Asbestos cloth cozy heaters
- Asbestos lacing for cozy heaters
- "A" cloth gasket seal between hot chest blower and hot ch

• FIELD MAINTENANCE

- Brake lining on band saw in Building Mechanic Shop
- Brake lining on metal brake in Millwright Shop

• POWER

- Transite sheeting around cyclone hoppers
- Soft pads on power generators

• SALT AND POLYMER

- Soft asbestos cloth insulation
- Asbestos cloth cozy heaters
- Asbestos lacing for cozy heaters and soft insulation

• SOLUTIONS

- Transite walls on drum tempering cabinets

• TECHNICAL LABORATORY/SEMI-WORKS

- Asbestos cloth cozy heaters
- Asbestos lacing for cozy heaters

- TEXTURED TEXTILE AND INSPECTION

- Marinite in hot iron ovens
- Spindle brake shoes

- TYPE 8 SPINNING

- Marinite in hot iron oven
- Transite in unit preheaters
- Marinite chimney wing insulation with Tadpole tape (T-8B)
- Transite in grid covers

- TYPE 8 TEXTILE

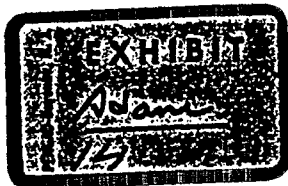
- Marinite in hot iron ovens
- Spindle brake shoes

- TYPE 9 SPINNING

- Marinite chimney wing insulation with Tadpole tape
- Marinite in hot iron oven
- Transite in "B" grid covers
- Transite in unit preheaters

- Type 9 TEXTILE

- Clutch disc plates
- Marinite in hot iron ovens
- Marinite on hot iron press
- Spindle brake shoes
- Turret waste cutter brake shoes



cc: B. M. Cloud C. C. Smith
W. A. Ferrante K. W. Stueber
P. W. Griffin H. P. Varn
J. F. Hesselberth R. M. Wells
W. H. G. Kouk

Martinsville, Virginia
January 12, 1981

TO: R. H. ABBITT O. H. FITZGERALD (4) A. H. MERRILL
 G. B. ADAMS (3) A. Z. FRESCO (6) W. K. MOLES (2)
 I. L. ANDERSON (5) F. L. FUNDERBURK (9) H. W. MUIR
 B. A. BAKER (4) D. W. GILLEY (8) G. E. NICK
 E. D. BARCO J. S. GRAHAM (5) R. F. NOYES (8)
 H. L. BARROW (8) J. W. GRANT (4) J. M. PICKENS
 R. A. BRUGGE (5) D. A. HAZLEHURST (4) D. E. REEVES (2)
 J. B. BUSH (11) C. C. HOUSH (10) H. P. REID (9)
 R. E. CHANEY (6) R. L. JENKINS (9) E. SAUNDERS
 R. A. CHESNEY (15) E. R. LANNOM (15) J. S. WATKINS
 H. H. CLARK J. E. LAYTON A. C. WATLINGTON (9)
 C. S. EDMISTON B. R. MANNING J. M. YATES (3)

FROM: J. E. FETTER
 MAINTENANCE

CONTROL OF ASBESTOS MATERIALS

On recent audits observations of exposed damaged insulation and asbestos gloves available for use have pointed out the need to review control of asbestos materials throughout the plant.

It has been plant policy to eliminate the use of asbestos insulation and other asbestos containing products which could release fibers during normal use or disposal. Currently, the only permissible asbestos containing materials now in use for new installations are:

- pumps and valve packing
- gasket material
- brake linings

These items are asbestos-impregnated and thereby unlikely to present a health hazard. However, handling of these items can cause asbestos fibers to become dislodged and therefore should be stored in a manner that prevents the accumulation of asbestos containing dust.

A peg board is an acceptable method for storing gaskets but if asbestos material is stored in a drawer or bin, it must be placed in a plastic bag. The storage place should be cleaned periodically to prevent dust buildups.

Asbestos containing materials must not be stored in the same cabinet or drawer with food, gum, cigarettes or any other items which come in contact with the mouth. In addition, asbestos containing materials will not be stored with respirators or respirator filters.

Permanent asbestos insulation is still in place across the plant. Each area should inspect their insulation for conditions of badly damaged insulation which could lead to employee exposure to airborne asbestos fibers. Conditions needing repair should be reported to the Insulation Supervisor on ext. 2781. He may also be helpful in identifying questionable materials containing asbestos and the safe disposal of such material.

The attachment lists those items across the plant which contain asbestos material. It is suggested that each area review this list to make sure it is correct and all other asbestos containing materials have been eliminated. If any items have been eliminated or replaced with asbestos free material or you have questions on asbestos, contact the writer on ext. 2302.

JEF/hh
Att:

EXISTING PERMISSIBLE PLANT ASBESTOS INSTALLATIONS

• General Plant

- Insulation (all hot service insulation unless noted to be asbestos free)
- Gasket material
- Transite walls and louvers
- Pump and valve packing
- Roofing felt
- Asbestos floor tile
- All vehicle and chain hoist brake linings

• Chemical Laboratory

- Transite box and trays
- Transite lined hoods

• Coupled Spinning

- Asbestos cloth block heater covers
- Asbestos cloth cozy heaters
- Asbestos lacing for cozy heaters
- "A" cloth gasket seal between hot chest blower and hot chest
- Asbestos and transite on "B" grid covers

• Field Maintenance

- Brake lining on band saw in Building Mechanic Shop
- Brake lining on metal brake in Millwright Shop

• Power

- Transite sheeting around cyclone hoppers
- Soft pads on power generators

• Salt and Polymer

- Soft asbestos cloth insulation
- Asbestos cloth cozy heaters
- Asbestos lacing for cozy heaters and soft insulation

• Solutions

- Transite walls on drum tempering cabinets

• Technical Laboratory/Semi-Works

- Asbestos cloth cozy heaters
- Asbestos lacing for cozy heaters

- Textured Textile and Inspection
 - Marinite in hot iron ovens
 - Spindle brake shoes
- Type 8 Spinning
 - Marinite in hot iron oven
 - Transite in unit preheaters
 - Marinite chimney wing insulation with Tadpole tape (T-8B)
 - Transite in grid wells
- Type 8 Textile
 - Marinite in hot iron ovens
 - Spindle brake shoes
- Type 9 Spinning
 - Marinite chimney wing insulation with Tadpole tape
 - Marinite in hot iron oven
 - Transite in unit preheaters
 - Asbestos and transite on "B" grid covers
- Type 9 Textile
 - Clutch disc plates
 - Marinite in hot iron ovens
 - Marinite on hot iron press
 - Spindle brake shoes
 - Turret waste cutter brake shoes



cc: B. M. Cloud C. C. Smith
N. A. Ferrante K. W. Stueber
P. T. Griffin H. P. Varn
J. F. Hesselberth R. M. Wells
C. O. Holliday B. H. Wright

Martinsville, Virginia
January 4, 1982

TO: G. B. ADAMS (3) J. S. GRAHAM (5) W. K. MOLES (6)
B. A. BAKER J. W. GRANT (5) H. W. MUIR
E. D. BARCO (5) H. W. HARRIS (4) W. H. NAU
H. L. BARROW (8) D. A. HAZLEHURST (4) R. F. NOYES (8)
G. F. BAYLOR (10) W. H. KOTKIN (12) C. R. PAYET (6)
R. A. BRUGGE (8) W. H. G. KOUK D. E. REEVES (3)
J. B. BUSH (4) H. R. LANNOM (11) H. P. REID (9)
R. A. CHESNEY (11) J. E. LAYTON W. T. SMITH
H. H. CLARK W. L. LEATHERWOOD J. S. WATKINS
C. S. EDMISTON (10) A. F. MALAFRONTA A. C. WATLINGTON (12)
J. R. FERRILL B. R. MANNING J. M. YATES (6)
O. H. FITZGERALD (4) A. H. MERRILL

FROM: J. E. FETTER
MAINTENANCE

CONTROL OF ASBESTOS MATERIALS

During the past year, audits have revealed good control in handling asbestos materials across the plant. With a new year ahead, it is a good time to remind ourselves of asbestos concerns so we will continue to take positive steps to maintain control in the future.

It has been plant policy to eliminate the use of asbestos insulation and other asbestos containing products which could release fibers during normal use or disposal. Currently, the only permissible asbestos containing materials now in use for new installations are:

- pumps and valve packing
- gasket material
- brake linings

These items are asbestos-impregnated and thereby unlikely to present a health hazard. However, handling of these items can cause asbestos fibers to become dislodged and therefore should be stored in a manner that prevents the accumulation of asbestos containing dust.

A peg board is an acceptable method of storing gaskets, but if asbestos material is stored in a drawer or bin, it must be placed in a plastic bag. The storage place should be cleaned periodically to prevent dust buildups.

Asbestos containing materials must not be stored in the same cabinet or drawer with food, gum, cigarettes or any other items which come in contact with the mouth. In addition, asbestos containing materials will not be stored with respirators or respirator filters.

Asbestos insulation is still in place across the plant. Each area should inspect their insulation for conditions of badly damaged insulation which could lead to employee exposure to airborne asbestos fibers. Conditions needing repair should be reported to the Insulation Supervisor on ext. 2781. He may also be helpful in identifying questionable materials containing asbestos and the safe disposal of such material.

The attachment lists those items across the plant which contain asbestos material. It is suggested that each area review this list to make sure it is correct and all other asbestos containing materials have been eliminated. If any items have been eliminated or replaced with asbestos free material or you have questions on asbestos, contact the writer on ext. 2302.

Attachment
JEF/jeh

EXISTING PERMISSIBLE PLANT ASBESTOS MATERIALS

• General Plant

- Insulation (all hot service insulation unless noted to be asbestos free)
- Gasket material
- Transite walls and louvers
- Pump and valve packing
- Roofing felt
- Floor tile
- All vehicle and chain hoist brake linings

• Chemical Laboratory

- Transite box and trays
- Transite lined hoods

• Coupled Spinning

- Asbestos cloth block heater covers
- Asbestos cloth cozy heaters
- Asbestos lacing for cozy heaters
- "A" cloth gasket seal between hot chest blower and hot chest

• Field Maintenance

- Brake lining on band saw in Building Mechanic Shop
- Brake lining on metal brake in Millwright Shop

• Power

- Transite sheeting around cyclone hoppers
- Soft pads on power generators

• Salt and Polymer

- Soft asbestos cloth insulation
- Asbestos cloth cozy heaters
- Asbestos lacing for cozy heaters and soft asbestos insulation

• Solutions

- Transite walls on drum tempering cabinets

- Technical Laboratory/Semi-Works
 - Asbestos cloth cozy heaters
 - Asbestos lacing for cozy heaters
- Textured Textile and Inspection
 - Marinite in hot iron ovens
 - Spindle brake shoes
- Type 8 Spinning
 - Marinite in hot iron oven
 - Transite in unit preheaters
 - Marinite chimney wing insulation with Tadpole tape (T-8B)
 - Transite in grid wells
- Type 8 Textile
 - Marinite in hot iron ovens
 - Spindle brake shoes
- Type 9 Spinning
 - Marinite chimney wing insulation with Tadpole tape
 - Marinite in hot iron oven
 - Transite in unit preheaters
- Type 9 Textile
 - Clutch disc plates
 - Marinite in hot iron ovens
 - Marinite on hot iron press
 - Spindle brake shoes
 - Turret waste cutter brake shoes

REVISIONS	REVISOR JUL 29 1992	TITLE: WORKING WITH ASBESTOS CONTAINING INSULATION
	REVIEWED	

AREA: ALLDATE: 12/15/77AUTHOR (S): J. E. CollierSIGNATURE/ACT. TEST BY: J. E. CollierAPPROVED: J. E. CollierITEM SUBJECT FOR ANNUAL REVIEW: Insulation

I. PURPOSE: To outline the procedure for working with asbestos containing insulation.

II. REFERENCES:

Marine III Plant Asbestos Free

III. EQUIPMENT:

A. Insulation tools

B. Respirator - 3M Model 8710

1. Mandatory when removing non-prefab insulation containing asbestos. Not required for removal of prefab asbestos insulation.
2. Not required when removing asbestos free insulation.

C. Coveralls

1. Furnished and laundered by the plant for all jobs which have potential for exposure to asbestos.
2. Coveralls will be changed daily when working on any job which has potential for exposure to asbestos.
3. Coveralls worn for protection from asbestos will be placed in a sealed plastic bag and identified with an asbestos caution tag prior to delivery to stores.

IV. OTHER SAFETY PRECAUTIONS:

- A. Rope off area and display safety signs indicating asbestos containing insulation is being removed when uncovering tanks or vessels specifically required by another W.E.P. or supervision.
- B. Do not smoke, eat, or drink, or have open cigarettes or food in immediate vicinity during work with asbestos containing insulation.
- C. Assume that insulation on all hot service facilities contains asbestos unless denoted otherwise by an "asbestos free" sign with arrow pointing toward the asbestos free area.



V. PROCEDURE AND SAFETY PRECAUTIONS:

477

- A. In order to minimize the risk of exposure, all asbestos materials must be carefully sealed and labeled before removal.
- B. For removal of non-pertinent asbestos insulation use of insulation during removal.
- C. All scrap and waste material containing asbestos must be placed in sealed plastic bags and tagged with an asbestos caution tag before disposal. Sealed plastic bags will be taken to dumpster for disposal.
- D. Good housekeeping is mandatory on all jobs. Do not use except one vacuum, sweeping, or power washing for clean-up.

VI. HEALTH HAZARDS:

Asbestos fibers are an OSHA declared carcinogen; however, we do not expect anyone to be exposed to an asbestos concentration in excess of OSHA limits. If asbestos containing insulation is handled under controlled conditions as outlined in this procedure.

SUPERVISOR_____
MECHANIC_____
DATE REVIEWED

/bs

cc: B. M. Cloud K. W. Stueber
N. A. Ferrante H. P. Varn
P. T. Griffin R. M. Wells
J. J. Kleinschuster B. H. Wright
V. Singh



Martinsville, Virginia
January 6, 1983

TO: G. B. ADAMS (3) J. W. GRANT (5) R. F. NOYES (8)
M. L. ADKINS H. W. HARRIS (4) C. R. PAYET (6)
B. A. BAKER (2) C. J. HOLLANDSWORTH J. M. PICKENS
E. D. BARCO K. W. KIRKLAND J. M. PRESTON (6)
H. L. BARROW (8) W. H. G. KOUK C. D. RAINEY
G. F. BAYLOR (20) H. R. LANNOM (15) H. P. REID (9)
R. A. BRUGGE (5) J. E. LAYTON R. L. SHOWALTER (9)
R. A. CHESNEY (11) B. R. MANNING C. C. SMITH (10)
H. H. CLARK A. H. MERRILL W. T. SMITH
C. S. EDMISTON (10) W. K. MOLES J. S. WATKINS
O. H. FITZGERALD (4) W. H. NAU A. C. WATLINGTON (12)
J. S. GRAHAM (5) J. M. YATES (6)

FROM: J. E. FETTER

CONTROL OF ASBESTOS MATERIALS

With a new year ahead, it is a good time to remind ourselves of asbestos concerns so we will continue to take positive steps to maintain control in the future.

It has been plant policy to eliminate the use of asbestos insulation and other asbestos containing products which could release fibers during normal use or disposal. Currently, the only permissible asbestos containing materials now in use for new installations are:

- pumps and valve packing
- gasket material
- brake linings
- power cords

These items are asbestos-impregnated and thereby unlikely to present a health hazard. However, handling of these items can cause asbestos fibers to become dislodged and therefore should be stored in a manner that prevents the accumulation of asbestos containing dust.

A peg board is an acceptable method of storing gaskets, but if asbestos material is stored in a drawer or bin, it must be placed in a plastic bag. The storage place should be cleaned periodically to prevent dust buildups.

Asbestos containing materials must not be stored in the same cabinet or drawer with food, gum, cigarettes or any other items which come in contact with the mouth. In addition, asbestos containing materials will not be stored with respirators or respirator filters.

CONTROL OF ASBESTOS MATERIALS

Page 2

Asbestos insulation is still in place across the plant. Each area should inspect their insulation for conditions of badly damaged insulation which could lead to employee exposure to airborne asbestos fibers. Conditions needing repair should be reported to the Insulation Supervisor on Ext. 2781. He may also be helpful in identifying questionable materials which could contain asbestos and the safe disposal of such material.

The attachment lists those items across the plant which contain asbestos material. It is suggested that each area review this list to make sure it is correct and all other asbestos containing materials have been eliminated. If any items have been eliminated or replaced with asbestos free material or you have questions on asbestos, contact the writer on Ext. 2302.

JEF/ee
Attachment

ATTACHMENT

A

EXISTING PERMISSIBLE PLANT ASBESTOS MATERIALS

- General Plant
 - Insulation (all hot service insulation unless noted to be asbestos free)
 - Gasket material
 - Transite walls and louvers
 - Pump and valve packing
 - Roofing felt
 - Floor tile
 - All vehicle and chain hoist brake linings
- Chemical Laboratory
 - Transite box and trays
 - Transite lined hoods
- Modernized Spinning
 - Asbestos cloth block heater covers
 - Asbestos cloth cozy heaters
 - Asbestos lacing for cozy heaters
 - "A" cloth gasket seal between hot chest blower and hot chest
- Field Maintenance
 - Brake lining on band saw in Building Mechanic Shop
 - Brake lining on metal brake in Millwright Shop
- Power
 - Transite sheeting around cyclone hoppers
 - Soft pads on power generators
- Salt and Polymer
 - Soft asbestos cloth insulation
 - Asbestos cloth cozy heaters
 - Asbestos lacing for cozy heaters and soft asbestos insulation
- Solutions
 - Transite walls on drum tempering cabinets
- Technical Laboratory/Semi-Works
 - Asbestos cloth cozy heaters
 - Asbestos lacing for cozy heaters
- Multi-Product Spinning
 - Marinite in hot iron oven
 - Transite in unit preheaters
 - Marinite chimney wing insulation with Tadpole tape
 - Transite in grid wells
 - Booster pump power cords
- Textile
 - Marinite in hot iron ovens
 - Marinite on hot iron press
 - Spindle brake shoes
 - Turret waste cutter brake shoes
- Modernized Inspection and Beaming
 - Warper brakes