Environmental Control Department
Research & Engineering Center
February 2, 1970

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C. B. Burnett - GHQ
H. M. Ball - GHQ
J. B. Jobe - DHQ
K. V. Lindell - Asbestos 1500
A. B. Marchant - GHQ
A. C. Smith
Ivan Sabourin
F. J. Solon, Jr. - GHQ
W. L. VanDerbeek
Dr. G. W. Wright

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REPORT OF MEETING
ENVIRONMENTAL CONTROL SUBCOMMITTEE
JANUARY 29, 1970

Present at the meeting were: H. M. Jackson
K. V. Lindell
W. L. VanDerbeek
Dr. G. W. Wright
E. M. Fenner

The agenda as issued on January 13, 1970 (Attachment 1) was followed for this meeting.

(1) Special Jeffrey Survey

In accordance with Dr. Wright's recommendations 15 membrane filter asbestos fiber dust samples were taken in Jeffrey Mill;

5 in the under 6 F/cc range
5 in the 6 to 12 F/cc range, and
5 in the over 12 F/cc range.

All samples have been counted by light microscope by three different technicians and four of the samples have been counted by electron microscope. A preliminary report (Attachment 2) details the light microscope and electron microscope results on these four samples.

It was arbitrarily decided that the smallest fiber that could be seen by the standard light microscope evaluation technique was 0.6 micron diameter. Since the main purpose of this study is to determine the number of fibers in a sample that are not visible by light microscope, efforts were concentrated on determining these quantities. They are shown in Attachment 2 in the first column under the heading "electron microscope". The other two sets of figures under electron microscope were obtained to determine if any correlation could be established between light microscope and electron microscope results. This, as is apparent from the data, is not possible. The reason appears to be either the effect of

AJ-1

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the special sample preparations required for electron microscopy, or statistical inaccuracy because of the small number of fields counted. Further experience will be required to establish the degree of correlation possible.

At a meeting on January 20, with J. P. Leineweber, E. M. Fenner and G. L. Swallow, it was decided to continue this program with additional samples from Jeffrey and to include ambient air and baghouse return air samples in the program. Dr. Leineweber will determine the number of samples that need be taken to obtain reasonable statistical accuracy. Dr. Leineweber also will check with the Environmental Sciences Laboratory at Mount Sinai to assure that our respective techniques with the electron microscope will permit comparison of results.

(2) January Production Meeting

The revised schedule for the Environmental Control presentation (Attachment 3) at this meeting was distributed.

(3) Document on Control Techniques for Asbestos Emissions

The background of Johns-Manville's proposed participation in the preparation of a National Air Pollution Control Administration document on control techniques for asbestos fiber is detailed in a letter (Attachment 4) from E. M. Fenner to W. L. VanDerbeek. Johns-Manville's agreement to participate is in a letter (Attachment 5) from E. M. Fenner to Cottrell Environmental Systems, Inc. Similar letters have been sent to Research Resources, Inc., Division of TRW, and Recon Systems, Inc.

(4) Threshold Limit Values - Asbestos Fiber

Dr. Wright stated that, in his opinion, the ACGIH recommended Threshold Limit Value for asbestos fiber dust concentrations, to be issued in April 1970, will be 5 F/cc. After discussion of this proposed level, and Johns-Manville's present Threshold Limit Values which are:

12 F/cc - respiratory protection required (present ACGIH proposed value)
6 F/cc - station out of control and corrective measures required
2 F/cc - engineering standard for new and rebuilt dust control systems

the Environmental Control Subcommittee recommended that the new Johns-Manville standards be:

5 F/cc - respiratory protection required
2 F/cc - station out of control and corrective measures required; and engineering standard for new and rebuilt dust control systems.

AJ-1

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(5) Industrial Hygiene Conditions - Pittsburg Plant

A report (Attachment 6) of the out of control dust stations at Pittsburg Plant was reviewed. In addition, a report on the present status of corrective measures (Attachment 7) also was reviewed. No decision was made as to the next step to be taken concerning this situation.

(6) Air and Water Pollution Problems

A listing of Johns-Manville's present and potential air and water pollution problems (Attachment 8) was issued and discussed. At Mr. Lindell's request, the report has been revised to include our long range estimate as to the cost of corrective measures.

(7) Meeting Place - March Subcommittee Meeting

It was decided that the March Subcommittee meeting would be held at the Research & Engineering Center and that it would be devoted to discussion and examination of industrial hygiene techniques used in sampling and evaluating asbestos fiber dust concentrations. Electron microscope determinations would also be included in the program.

E. M. Fenner, Secretary
Environmental Control Subcommittee

EMF/ems

Attach. (8)

cc: H. M. Jackson - DHQ
File:
G. L. Swallow
C
F. L. Pundsack
J. P. Leineweber

AJ-1

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(Attachment 1)

January 13, 1970

Agenda
Environmental Control Subcommittee Meeting
January 19, 1970

1. Progress report on the electron microscope analysis of asbestos fiber dust samples collected at Jeffrey Mill in accordance with the program recommended by Dr. Wright at the September 15th Environmental Control Subcommittee Meeting.

2. Review of the Environmental Control presentation for the January Production Meeting.

3. National Air Pollution Control Association's request for the preparation of a document on control technique for asbestos emissions.

4. Discussion of proposed Threshold Limit Values for asbestos fiber.

5. Examination of latest Industrial Hygiene Survey at Pittsburg Plant to determine course of action.

6. Review of present and potential air and water pollution problems.

7. Determination of meeting place for March Subcommittee Meeting.

AJ-1

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AJ-1

January 16, 1970

SPECIAL SURVEY - JEFFREY MILL
RECOMMENDATION OF DR. WRIGHT

Sample No.	Light Microscope Can. I. H. ≥5μ	Can. I. H. Tot.	East. I.H. ≥5μ	East. I.H. Tot.	REC ≥5μ	REC Tot.	Electron Microscope ≤0.6μ Diam. Tot.	≥0.6μ Diam. ≥5μ	≥0.6μ Diam. Tot.
8	8.5	34.2	7.2	11.4	6.4 (12.9)	19.3	59.5	0.83	2.5
9	10.6	25.6	5.9	9.2	4.2 (7.9)	12.1	106.0	7.9	9.1
11	12.1	51.0	8.7	13.0	8.3 (15.6)	23.9	72.0	3.9	5.7
14	21.2	124.0	25.5	35.8	17.1 (36.2)	53.3	72.5	13.7	20.8
3	4.4	7.5	2.1	2.8	0.9	2.4	15.5	0.9	1.3
10	10.6	32.4	7.7	11.3	9.0	22.7	68.9	3.7	5.1
12	13.2	43.0	6.6	10.0	3.4	10.9	318.0	5.1	8.8
15	31.8	114.0	62.0	82.2	4.2	15.5	194.0	17.3	19.6

Note: Electron microscope results from Samples 3, 10, 12 and 15 were obtained after the Subcommittee report had been prepared, but are being included on this attachment to amplify the data presented.

(Attachment 2)

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(Attachment 3)

December 29, 1969

January Production Meeting
Hollywood Beach, Florida
Environmental Control Presentation
Thursday, January 29, 1970

Scheduled Time

10:40 A.M. - 12:15 P.M.

Introductory Remarks	E. M. Fenner	5 Minutes
Community Environmental Control	E. M. Fenner	10 Minutes
Occupational Environmental Control	G. L. Swallow	15 Minutes
Housekeeping Accomplishments	E. M. Fenner	10 Minutes
Process Change For Improved Environmental Control	C. J. DeBiase	10 Minutes
Equipment Modifications For Improved Environmental Control	R. B. Gresham.	10 Minutes
A Medical Authority Looks at Johns-Manville	Dr. G.W. Wright	35 Minutes

AJ-1

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Environmental Control Department
Research & Engineering Center
January 8, 1970

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W. L. VanDerbeek

Document on Control Techniques for Asbestos Emissions

As set forth in the attached copy of the first page of the COMMERCE BUSINESS DAILY of December 19, 1969, the National Air Pollution Control Administration is soliciting bids for the preparation of a "Document on Control Techniques for Asbestos Emissions". Specifically, the document will discuss the origin, quantity and causes for omission of asbestos from sources such as mining operations, product manufacturing and product use; and will describe the current best methods of control, including cost and cost effectiveness.

Johns-Manville has been approached by three possible prime contractors who wish to bid on this project to determine if we would be their subcontractors. These three firms are:

Cottrell Environmental Systems
Division of Research Cottrell, Inc.
Finderne, N. J.

Resources Research, Inc.
Reston, Virginia

Recon Systems, Inc.
Princeton, N. J.

The first two firms contacted J. Goldfield. I attended a meeting with Goldfield and A. P. Konopka of Cottrell. As a result of this meeting, Mr. Konopka wrote a letter to Goldfield, copy attached. Resources Research, Inc. was requested by Goldfield to forward a similar letter, not yet received.

Recon Systems, Inc. contacted J. S. Parkinson, who referred them to me. A copy of their letter is also attached.

On Wednesday, December 7, 1969, at a meeting in General Headquarters with [illegible], W. P. S. Breese, and W. P. Raines, this matter was discussed. It was our unanimous opinion that Johns-Manville should participate and offer our services as subcontractor to any potential, prime contractor who contacted us. Mr. Ball was of the opinion that the final decision as to Johns-Manville's participation should be made by you.

E. M. Fenner

EMF/ems

Attach. (3)
cc: H. M. Ball - GHQ
W. P. S. Breese - GHQ
[illegible] - GHQ
W. P. Raines - GHQ
M. D. Jamin
[illegible]

AJ-1

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January 21, 1970

Mr. A. P. Konopka
Manager, Client Services
Cottrell Environmental Systems
Division of Research-Cottrell, Inc.
P.O. Box 750
Bound Brook, N. J. 08805

Dear Mr. Konopka:

This letter will confirm Johns-Manville's verbal agreement to participate as your subcontractor in the preparation of a "Document on Control Techniques for Asbestos Emissions". The National Air Pollution Control Administration advertised for submittals concerning this document in the December 19, 1969 issue of THE COMMERCE BUSINESS DAILY.

Johns-Manville is prepared to furnish technical assistance and information to the extent available on the following:

(1) The origin, quantity, nature and causes of asbestos emissions on a statistical basis. Quantative emissions on an individual basis for specific plants or locations will not be disclosed.
(2) Current best methods of control, including cost data and specific examples.

Personnel available for consultation and assistance on this project include:

Director; Environmental Control and staff.

Manager; Production Control Section, General Plant Engineering Department and staff.

Chief; Heating, Ventilating, and Dust Control Section, General Plant Engineering Department, and staff.

Chief; Basic Chemistry Section, Research Center, and staff.

Chief; Basic Physics Section, Research Center, and staff.

Our charges for this subcontract work will vary between $120 and $150 per man day, depending upon personnel required.

Very truly yours,

Edmund M. Fenner

Edmund M. Fenner, Director
Environmental Control

AJ-1

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PITTSBURG PLANT
SURVEY OF NOVEMBER 10-14, 1969
STATIONS OVER TLV

(Attachment 6)

Station Number	Station Location	Hazard	Survey Result	TLV	Prev. Surveys Over TLV Since 1/1/65	Personal Protective Equipment
D-1F	William Crusher Operator	Asbestos	14.1 F/cc	6.0	1	MSA Dustfoe Respirator
D-2F	Wet Machine - Asbestos Feed Station Operator (Flexboard)	Asbestos	6.2 F/cc	6.0	0	MSA Dustfoe Respirator
D-6F	End Trim Saw - Feed Operator (Flexboard)	Asbestos	6.9 F/cc	6.0	New	None
D-7F	End Trim Saw - Take-off Operator (Flexboard)	Asbestos	7.4 F/cc	6.0	0	None
D-9F	Flat Transite Saw Operator (Flexboard)	Asbestos	7.1 F/cc	6.0	0	None
RIGID SHINGLES						
D-2RS	Grain Roll - Machine Tender	Asbestos	7.7 F/cc	6.0	New	MSA Dustf Respirat
D-3RS	Grain Roll - Dry Veneer Mixer Operator	Silica	22.2 MPPCF 23.3 MPPCF	16.7	5	MSA Dustfo Respirato
D-7RS	Washer - Take-off Operator	Asbestos	6.0 F/cc	6.0	1	None
D-8RS	Washer - Palletizer	Asbestos	6.1 F/cc	6.0	New	None
D-9RS	Shingle Punch Press - Feed End	Asbestos	9.2 F/cc	6.0	2	None
D-10RS	Shingle Punch Press - Take-off	Asbestos	7.0 F/cc	6.0	0	None
D-11RS	Shingle Punch Press - Machine Tender	Asbestos	6.9 F/cc	6.0	New	MSA Dustfoe Respirator
ROOFING, PAINTS & PUTTIES						
D-1R	Witteman Mixer Operator	Asbestos	6.3 F/cc	6.0	0	MSA Dustfoe Respirator
D-5R	Roofing - Blend Operator General Area Sample	Silica	30.6 MPPCF 21.7 MPPCF	16.7	2	MSA Dustfoe Respirator

AJ-1

(Attachment 6 - Cont'd.)

PITTSBURG PLANT
SURVEY OF NOVEMBER 10-14, 1969
STATIONS OVER TLV

Station Number	Station Location	Hazard	Survey Result	TLV	Prev. Surveys Over TLV Since 1/1/65	Personal Protective Equipment Worn
SERVICES						
D-4S	Unloader - Unloading R. R. Car of Asbestos	Asbestos	15.7 F/cc	6.0	New	MSA Dustfoe 77 Respirator
D-5S	Fork Lift Operator - Unloading R. R. Car of Asbestos	Asbestos	9.7 F/cc	6.0	New	MSA Dustfoe 77 Respirator
D-6S	General Area Sample - Silica Unloading Bet. #1 &2 Bldgs.)	Silica	38.7 MPPCF	16.7	3	MSA Dustfoe 66 Respirator

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(Attachment 7)

PITTSBURG PLANT

STATIONS OVER TLV - SURVEY OF NOV. 10-14, 1969

Station Number	Station Description	Action & Status
FLEXBOARD DEPT.		
D-1F	Williams Crusher Operator	New Hoods completed 12/2/69
D-2F	Asbestos Feed Operator	No action
D-6F	End Trim Saw - Feed Operator	New Hoods & Ductwork being installed. 70% complete, to be completed 1/15/70
D-7F	End Trim Saw - Take-off Operator	Same as D-6F above
D-9F	Flat Transite Saw - Operator	Hood being designed. Installation to be completed 1/31/70
RIGID SHINGLE DEPT.		
D-2RS	Grain Roll Machine Tender	Appropriation being written
D-3RS D-7RS D-8RS D-9RS D-10RS D-11RS	Dry Veneer Mixer Operator Washer - Take-off Operator Washer - Palletizer Shingle Punch Press - Feed End Shingle Punch Press - Take-off Shingle Punch Press - Machine Tender.	To be submitted to DHQ week of 1/19/70; $22,000. To include Bag Opening Station, Hoods & Ductwork - Tie-in to existing Dust collector, to cover all stations shown, D-2RS through D-11RS.
ROOFING DEPT.		
D-1R	Witteman Mixer Operator	No action
D-5R	Roofing - Blend Operator	Open A/R 048-IR-1358 to be completed May 1970. Covers automatic granule blending-eliminates blend operator exposure
SERVICES		
D-4S	Unloader - Unloading R.R. Car of Asbestos	No action
D-5S	Fork Lift Operator - Unloading R.R. Car of Asbestos	No action
D-6S	General Area Sample - Silica Unloading Between Bldgs. 1 & 2	Appropriation 1503A - Approved 12/16/69. Covers new silica & cement unloading equipment, $6,300. To be completed 5/1/70.

AJ-1

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AIR AND WATER POLLUTION PROBLEMS

FUNDED PROJECTS

Water Pollution		
Parkersburg	$83,500	Divert Sanitary Wastes to Municipal Treatment System
North Bay	$266,900	Process Close-up
Toronto	$118,800	Connection To City Sewer System
Richmond	$100,500	Close-up #2 SX Line
Air Pollution		
Manville	$ 73,100	HEAF - Saturator Effluent
Corona	$ 37,000	Smoke From PT Machine

PROBLEMS UNDER STUDY

Water Pollucion		
*Nashua	$200,000	Pollution of Nashua River
*Jarratt	$100,000	Pollution of Chetocric Creek and Nottoway River
* Alexandria	$150,000 (1)	Pollution of Mud and Pike Creeks
Penbryn	$250,000	Phenolic Contamination of Swamp land
New Orleans	$150,000	Untreated Effluent to Storm Sewer
Air Pollution		
*Fort Worth	$ 62,200 (2)	Saturator Emissions
*Madison	$ 70,000	Saturator Emissions
*Waukegan	$400,000	Saturator Emissions
*Florence	$240,000	Process Stacks
Jeffrey	$1,400,000	Emissions From Ore Dryers
*Parkersburg	$1,500,000	Fluoride Emissions and Phenolic Odors
Waterville 07	$50,000	Fly Fiber
Toronto	$750,000	Emissions From Mineral Wool and Fiber Glass Operations

* These plants have officially been cited by pollution control authorities.

(1) $33,000 of the estimated amount already approved for purchase and

(2) Total amount approved

AJ-1

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January, 16, 1970

POTENTIAL PROBLEMS

Water Pollution

None.

Air Pollution

Lompoc	$750,000		Rotoclone Exhaust
Zelienople	$250,000		Sulfur oxides from Kiln
Defiance G-26	$1,000,000		Fluoride Emissions and Phenolic Odors
Richmond	$1,000,000		Smoke, Particulate and Odors
Waukegan	$150,000		Emissions From Powerhouse and RF Furnace.
Waterville 01	$250,000	(1)	Fluoride Emissions From New Glass Tank

Note: The cost estimates for problems under study and potential problems are very preliminary and based on limited data without engineering study. These estimates may be significantly revised when engineering studies are completed.

(1) This amount included in approved appropriation for Waterville Expansion Program.

AJ-1

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