

FILE NAME: Electrical Insulation (ELEC)

DATE: 1969 July 11

DOC#: ELEC013

DOCUMENT DESCRIPTION: Internal Report – Asbestos and Dust Survey



BETHLEHEM STEEL

July 11, 1969

FILE REF.

TO Wm. S. Johnson, Industrial Health Engineer
A. D. Brandt, Sc.D., Manager of Environmental Quality Control
SUBJECT BETHLEHEM PLANT ASBESTOS SURVEY

A survey of the amount of asbestos-containing material used by various departments of the Bethlehem Plant revealed only two departments where the use of materials and amount consumed could be considered significant. The departments so designated were the Pipefitting Department and the Electrical Repair Shop of the Electrical Department.

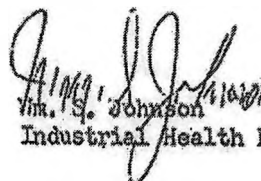
The materials survey revealed a very large quantity of asbestos-containing material to be consumed. For example, in a given calendar year the Plant could be expected to use 459 asbestos coats, 527 pairs of asbestos gloves, 19,366 sheets of wallboard, and 65 tons of miscellaneous insulating cements, blankets, cloth, etc. With the exception of two operations referred to above, however, the consumption and use of the materials noted are in situations where no dust or airborne fibers would be created.

Dust studies were conducted at the operations using asbestos materials in both Electrical and Pipefitting Departments.

The two tables attached show the results of the studies performed. Please note that no operation has produced a concentration of greater than 4.9 fibers per milliliter, and the great majority were below 1.0. The suggested limit or Threshold Limit Value is 12.0 fibers per milliliter.

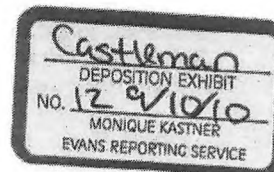
No comment can be made on the dust concentration since magnification used on the microscope was 4.9 times greater than the magnification used for normal dust counting. Visual observation indicated that the dust concentrations were moderately light.

The conclusion indicated by the studies is that there is no asbestos hazard in the Bethlehem Plant.


Wm. S. Johnson
Industrial Health Engineer

WSJ/kah

cc: J. G. Davies, Management's Representative
J. P. Robinson, M.D., Plant Surgeon
W. L. Murphy, Div. Supt., Service Div.



ASBESTOS AND DUST SURVEY

LEHIGH ELECTRICAL SHOP

No.	Date	Sample Time (Mins.)	Location and Description	Comments	Asbestos Conc. fibers/ml		Dust Conc. particles/ml
					> 5 - 10 microns	> 10 microns	
3570	23 April 1969	90.0	Lehigh Electrical Shop - General for West Half of shop	Normal Operation	0.95	0.95	TH*
571	23 April 1969	90.0	Lehigh Electrical Shop - General for East Half of shop	Normal Operation	0.10	ND**	TH
572	24 April 1969	240	Lehigh Electrical Shop - General for East Half of shop.	Normal Operation	ND	0.04	TH
3573	24 April 1969	240	Lehigh Electrical Shop - General for West Half of shop	Normal Operation	ND	ND	TH
3574	24 April 1969	120	Lehigh Electrical Shop - General for East Half of shop	Normal Operation	0.09	ND	TH
3575	24 April 1969	120	Lehigh Electrical Shop - General for West Half of shop	Normal Operation	0.08	ND	TH

*Concentration too heavy to count.
 **None detected.

ASBESTOS AND DUST SURVEY

PIPEFITTERS

No.	Date	Sample Time (Mins.)	Location and Description	Comments	Asbestos Conc. fibers/ml		Dust Conc. particles/ml
					> 5 - 10 microns	> 10 microns	
576	27 April 1969	205	Specific in Breathing Zone of Pipefitter - #2 Machine Shop Air Conditioner Room - insulating pipes	----	0.69	0.28	TH*
577	27 April 1969	75.0	"	----	0.36	0.36	TH
578	27 April 1969	35.0	"	Steady Sawing	2.8	2.2	TH
579	27 April 1969	120	"	----	0.99	1.6	TH
581	7 May 1969	44.0	Specific in Breathing Zone of Pipefitter insulating pipes at #4 Bay DE	----	1.8	1.3	249
582	7 May 1969	25.0	"	10 Mins. fitting	ND**	1.12	259
9583	7 May 1969	32.0	"	----	0.32	1.27	217
9584	7 May 1969	30.0	"	----	0.31	0.62	278
597	14 May 1969	30.0	Specific in Breathing Zone of Pipefitter - #2 Machine Shop Air Conditioner Room - insulating pipes	----	0.66	0.66	137
598	14 May 1969	30.0	Specific in Breathing Zone of Pipefitter Helper - as above	----	0.94	ND	108

concentra - too heavy to count.
one detect

ASBESTOS AND DUST SURVEY

PIPEFITTERS (Cont.)

No.	Date	Sample Time (Mins.)	Location and Description	Comments	Asbestos Conc. fibers/ml		Dust Conc. particles/ml
					> 5 - 10 microns	> 10 microns	
9599	14 May 1969	35.0	Specific in Breathing Zone of Pipefitter - #2 Machine Shop Air Conditioner Room - insulating pipes	Fitting and placing "mud" on joints	4.1	2.4	290
9600	14 May 1969	30.0	Specific in Breathing Zone of Pipefitter Helper - as above	----	0.31	0.31	163
9601	14 May 1969	30.0	Specific in Breathing Zone of Pipefitter - as above	Sealing joints with mud (Asbestos 301 in H ₂ O)	1.1	2.2	132
9602	14 May 1969	30.0	Specific in Breathing Zone of Pipefitter Helper - as above	----	0.62	0.31	144
9603	14 May 1969	30.0	Specific in Breathing Zone of Pipefitter - as above	Fitting gauze cloth over insulation plus sawing	4.9	2.1	123
9604	14 May 1969	30.0	Specific in Breathing Zone of Pipefitter Helper - as above	----	0.62	0.62	129
9605	16 May 1969	40.0	Specific in Breathing Zone of Pipefitter - insulating 8" pipe outside #1 Boiler House	Much sawing	1.89	2.36	356

ASBESTOS AND DUST SURVEY

PIPEFITTERS (Cont.)

No.	Date	Sample Time (Mins.)	Location and Description	Comments	Asbestos Conc. fibers/ml		Dust Conc. particles/ml
					> 5 - 10 microns	> 10 microns	
506	16 May 1969	40.0	Specific in Breathing Zone of Pipefitter - helped pipefitter in sample #9605	Holding pieces of insulation being sawed	3.1	5.2	343
507	16 May 1969	35.0	Specific in Breathing Zone of Pipefitter	Much sawing	1.8	1.8	348
508	16 May 1969	35.0	Specific in Breathing Zone of Pipefitter - similar to #9607	Much sawing	2.9	2.9	351
509	16 May 1969	45.0	Specific in Breathing Zone of Pipefitter	----	0.89	0.20	277
610	16 May 1969	45.0	Specific in Breathing Zone of Pipefitter - simultaneous with #9609	Fitting and light sawing	2.1	1.7	208
611	16 May 1969	50.0	Specific in Breathing Zone of Pipefitter	Fitting and sawing also mixed powdered asbestos	1.6	1.0	287
612	16 May 1969	50.0	Specific in Breathing Zone of Pipefitter	Fitting and sawing man worked with #9611	3.9	1.1	211