FILE NAME: Asten Hill (AH)

DATE: 1964 Aug 26

DOC#: AH034

DOCUMENT DESCRIPTION: PA Department of Health Report

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF HEALTH

1400 West Spring Garden Street
Philadelphia, Pennsylvania 19130

26 August 1964

Asten-Hill Manufacturing Company
Henry and Roberts Avenues
Philadelphia, Pennsylvania 19129

Attention: Mr. D. R. Holmes
Plant Manager

Gentlemen:

A follow-up survey was conducted at your request on 15 July 1964 to re-evaluate employees' exposure to asbestos dust at the bobbin winding operation. An evaluation at this operation was included in the last general plant survey concluded on 4 June 1964, and the data obtained at that time indicated additional controls were warranted. An analysis of the data obtained on 15 July 1964 confirms the need for additional control measures at the bobbin winding operation. Because of these findings, it is again recommended that:

> The employees' exposure to asbestos dust at the bobbin winding operation be reduced to levels which do not exceed the threshold limit value.

You are requested to notify this office within 30 days following the receipt of this letter concerning your plans for carrying out the above recommendation. Two suggestions for accomplishing the recommendation are incorporated in the survey report, which is enclosed.

Very truly yours,

Leon T. Gonshor

Leon T. Gonshor
Regional Industrial Hygienist

Enclosure
LTG:LS:cmm

PLAINTIFF'S EXHIBIT
SF 819.5

Commonwealth of Pennsylvania
Department of Health
DIVISION OF OCCUPATIONAL HEALTH

Report of Survey

Asten-Hill Manufacturing Company
Henry & Roberts Avenues
Philadelphia, Pennsylvania 19129

Following a request by Mr. D. R. Holmes, plant manager, a survey was conducted on 15 July 1964 to reevaluate employees' exposure to asbestos dust at the bobbin winding operation.

DETAILED FINDINGS

The bobbin winding operation is performed on four machines, each with a capacity of 20 bobbins. Each machine can process 10 bobbins on a side, and each is equipped with a device to "wet" the yarn when asbestos is being wound. The yarn, however, did not come in contact with the wetting device at all locations.

The type of yarn being processed varies with production demands. Any combination of asbestos, cotton, rayon or dacron yarns may be processed at any one time. In addition, the asbestos yarns may be either spool yarn (direct from the twisting machines) or stock yarn (passed through an intermediate winding operation).

Two machines, each processing 10 bobbins, were in operation at the time of this survey. The combinations of asbestos, cotton, rayon and dacron yarns were varied to simulate several different production conditions. Most of the asbestos yarn processed was stock yarn.

Atmospheric dust samples were collected using midget impingers with 95 percent ethyl alcohol as the collecting medium. Dust counts were made microscopically using a standardized light-field technique.

AHD 0000663

As expected, the dust concentrations varied with the combination of yarn being wound. The following conditions and dust concentrations occurred during this survey.

1. Dust concentrations ranged from 3.4 to 7.5 million particles per cubic foot of air (m.p.p.c.f.) when 7 or more of the bobbins were being wound with asbestos-dacron or asbestos-orlon stock yarn. The average concentration for 5 samples was 5.5 m.p.p.c.f.
2. With 3 bobbins being wound with asbestos-dacron spool yarn and 7 with cotton yarn, dust concentrations ranged from 2.6 to 5.5 m.p.p.c.f., and the average for 3 samples was 3.7 m.p.p.c.f.
3. With 4 bobbins being wound with asbestos-dacron stock yarn, 4 with cotton yarn and 2 with dacron yarn, dust concentrations ranged from 1.1 to 3.2 m.p.p.c.f., and the average for 5 samples was 2.2 m.p.p.c.f.
4. With all 10 bobbins being wound from cotton yarn, the dust concentrations were 0.9 and 1.3 m.p.p.c.f.

These findings indicate that exposures to asbestos dust in excess of the threshold limit value of 5 m.p.p.c.f. can occur when asbestos yarn is being wound. The magnitude of these exposures depends on the number of machines operating, the number of bobbins being processed on each machine and the type of yarn being used. The highest dust concentrations can be expected when asbestos spool yarn is being used (since it has not passed through the intermediate winding operation) and when the bobbin winding machines are operating at full capacity, i.e. 20 bobbins per machine.

The dust problem at this operation can probably be controlled by either of the following methods. The first would be to equip the bobbin winding machines with local exhaust ventilation systems of such design and capacity as to maintain dust concentrations at acceptable levels under all operating conditions. The second

AHD 0000664

would be to control the operating conditions by:

a. maintaining a balance between the number of asbestos and non-asbestos yarns being wound on any one machine at any one time,

b. using stock yarn wherever possible

c. limiting the number of bobbins per machine to 10 when other machines are available, and

d. maintain contact between the asbestos yarns and the wetting device.

A Table of dust concentrations follows.

AHD 0000663