FILE NAME: Foseco (FOS)

DATE: 1972 June 13

DOC#: FOS025

DOCUMENT DESCRIPTION: Unpublished Inspection Report

RECEIVED
FINANCIAL DEPT.

Fosaco
20200 Sheldon Road
Cleveland, Ohio 44142

Air Sampling Survey
and
Noise Survey
June 13, 1972

by

The Hartford Insurance Group

Joseph T. Flanagan
Technical Consultant
Loss Control Department
Environmental Sciences Unit

FOS-00-0000002923

EXHIBIT
25
PENGAD 800-631-6989

Foseco
20200 Sheldon Road
Cleveland, Ohio 44142

Purpose:

This visit was made at the request of our Cleveland Regional Office in order to evaluate possible exposures to total dust, silica and asbestos dust.

Also a noise survey was conducted in possible noise exposure areas.

A general walk through survey was also done to check for possible industrial hygiene problem areas.

Contacts:

(1) Mr. Robert N. Porter, Engineering Manager, Foseco
(2) Mr. Donald McKenna, Loss Control Representative, Cleveland Regional Office, Hartford Insurance Group
(3) Mr. Russel Mabbia, Loss Control Consultant, Hartford Insurance Group, Home Office, Hartford, Connecticut

Procedure:

The equipment used during the course of the survey consisted of two Mine Safety Appliance Gravimetric Dust Samplers. The two samplers were attached at the breathing zone of two workers working at O-8 Area(Pulper) and O-7 Area (Pulper). Large quantities of both silica and asbestos are utilized at both locations. The sampling rate was 1.7 liters per minute for a two hour sample.

Also a "Gast Pump" was used at O-2 Area (Oven Unloading) for gathering a stationary total dust sample. The sampling rate was 3.0 liters per minute for a three hour sample.

The instrument used for the Sound Level Survey was a Bruel and Kjaer Impulse Precision Sound Level Meter Type 2204 equipped with an octave band filter set and calibrated before and after the survey with a Bruel and Kjaer postop phone, Type 4220.

Noise Survey Results:

Noise levels recorded at the time the survey was made are as follows:

Location	Reading	Duration of Exposure
O-4 Area (Thermum Area)		
(1) Fan Location	91 dbA	Periodic
(2) Core Shooter	104 dbA	(Approx.) ½ hr. per 8 hr. shift
(3) R. Vac # 2	104 dbA	(Approx.) ½ hr. per 8 hr. shift

Location	Reading	Duration of Exposure
O-5 Area Multiple Riser Machine	106 dbA	(Approx.) 1/6 hr. per 8 hr. shift

Comment:

Ear protection is available and worn by operators in O-5 Area I was informed by management. Higher noise levels would prevail when additional machines are in operation.

Conclusion:

Based on readings obtained at the time of the survey and due to short duration of noise exposure no industrial hygiene noise problem existed at the time of the survey.

However current Federal Standards require the employer to provide adequate ear protection and enforce the proper wearing of this protection where the employed is exposed to 90 decibels on the A- weighted scale (dbA) for the normal work period (8 hour day).

Ear protection is considered acceptable only as an interim measure until engineering methods can be implemented to adequately reduce the noise levels.

Permissible exposure times for noise levels in excess of 90 dbA are shown in the table below:

dBA Max. Level	Permissible Hours Per Day
Over 115	None
115	¼
110	½
105	1
102	1½
100	2
97	3
95	4
92	6
90	8

Audiometric examinations as part of a pre-employment physical examination are valuable in screening out hearing loss that has occurred prior to employment. Periodic audiometric examinations can be used to evaluate ear protection programs and detect those individuals susceptible to hearing loss.

Dust Sampling Results

Total Dust Sample No.	Dust Collected (mg.)	Free (%) Silica	Conc. mg/M³	Calculated TLV mg/M³ allowable limit
#9 (0-8 Area Pulper)	3.12	50	15	0.56
#8 (0-2 Area Oven (Unloader)	1.04	5	5	3.70
#2 (0-7 Area Pulper)	1.17	25	6	1.00

Asbestos (All Types)

Sample No.	Asbestos Fibers on Filter	Threshold Limit Value
#9 (0-8 Area Pulper)	12 fibers per ml. greater than 5 microns in length	5 fibers /ml. >5 μ in length
#2 (0-7 Area Pulper)	18 fibers per ml. greater than 5 microns in length	5 fibers /ml. >5 μ in length

Discussion:

In interpreting the results of our air samples we use as a guide the Threshold Limit Values which have been adopted by the American Conference of Governmental Industrial Hygienists (A.C.G.I.H.). These values have been obtained from the experience of many groups in industry and from laboratory studies on animals. They are reviewed annually and changed as necessary. They represent conditions under which it is believed that nearly all workers may be repeatedly exposed for eight hours per day, five days per week without adverse effect.

However these values are set only as guides for the best practice and are not to be considered absolute values. There is reasonable assurance that occupational disease will not occur if exposures are kept below these values.

Also OSHA, the Federal Occupational Safety and Health Act of 1970 (P.L. 91-596), enacted to assure "working people safe and healthful conditions and preserve human resources," has as its basic objective protection of employees against safety and health hazards.

Under OSHA rules, Federal rules, Federal Register Vol. 36, No. 105, May 29, 1971 Subpart G # 1910.93 "Air Contaminants" the permissable levels for silica and asbestos are contained in Table G-3 "Mineral Dusts".

Also the same reference above contains the requirements set by Federal Law for noise in Subpart G Section 1910.95 "Occupational Noise Exposure"

A copy of this reference should be obtained from Federal Labor Department if it is not already available in your plant.

Conclusion:

Dust Survey

Based on the results of our air samples (Refer to page 3) it would indicate that properly designed local exhaust ventilation is needed in the following areas:

(1) O-8 Area (Pulper)
(2) O-2 Area (Oven Unloading)
(3) O-7 Area (Pulper)

In order to control employee exposures to asbestos and silica dust the Threshold Limit Value for silica and asbestos dust was exceeded in all of the above areas.

Noise Survey

Refer to pages 1 and 2 of this report.

Recommendations

Based on the results of air samples taken at your plant on June 13, 1972 the following methods of control are suggested.

1. Basic good engineering practice dictates where possible that your operations be controlled at the source. The areas of concern are O-8 Area (Pulper), O-2 Area (Oven Unloader), O-7 Area (Pulper). This can be accomplished by installing local exhaust systems with virtually full or partial enclosures in the pulper areas in unbagging and filling operations. (Refer to Page 6).

2. A less hazardous material may be substituted instead of asbestos perhaps some other mineral fiber.

3. Use of respiratory protective equipment for pneumoconiosis producing dusts approved for exposure by the United States Bureau of Mines should be initiated and properly worn by the operators in areas where unbagging and filling operations with asbestos take place (mainly pulper areas). This however should be considered as a temporary control measure. Respiratory protective equipment should not be considered as a substitute for adequate local exhaust removal, elimination of the contaminant, or containment.

4. The dusty works may be performed in a separate building or may be isolated by partitions to reduce the number of employees exposed to the dust. The employees who are still being exposed should be protected by respiratory protective equipment.

5. Plant housekeeping should be improved by continually vacuuming areas where asbestos is spilled on floors and walls. This could possibly be done at night or on weekends when most employees are not in your plant.

6. Supervisors and foremen should make sure that operators are informed of the potential hazards associated with handling asbestos and silica dusts. Machines and work areas should be kept clean and washroom floors should be cleaned daily. The supervisors should train employees in prescribed control measures for transporting materials and handling and supervise them closely to see that they take the necessary precautions to prevent or minimize exposure to dust.

FOS-00-2000002528

EXHAUST SYSTEMS

An effective exhaust system can be a very definite control measure if properly designed, installed, and maintained.

The approach to an properly designed exhaust system is as follows:

1. Design each system for the specific operation.
2. Insure that the exhaust system is effective in controlling potential exposures.
3. Document the design standards for each unit, face velocities, ect
4. Measure air flows semi-annually to determine that the unit is functioning as designed.
5. Calculate the total volume of air exhausted and provide an equal volume of make-up air.
6. Keep doors and windows closed.
7. No pedestal or window fans should be used.
8. Review overall exhaust systems annually.

References

(1) American Conference of Governmental Industrial Hygienists, Committee on Industrial Ventilation, P.O. Box 453, Lansing, Michigan 48902. Industrial Ventilation — A manual of Recommended Practice.

(2) American Foundrymen's Society, Golf and Wolf Des Plaines, Illinois. "Engineering Manual for Control of In-Plant Environment in Foundries. 1961.