

December 21, 1965

TO: Mr. L. O. Griffith, Plant Manager
Pittsburgh Corning Corporation
Port Allegany, Pennsylvania

FROM: Lee B. Grant, M.D., Medical Director
Pittsburgh Plate Glass Company
Pittsburgh, Pennsylvania

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SUBJECT: Initial Medical Plant Visit, October 25-26, 1965

1. Purpose

This visit was made at the request of Mr. Byrl Stout, Vice President of Manufacturing, Pittsburgh Corning Corporation. The principal purpose of this initial visit was to become acquainted with personnel, operations and facilities of the Port Allegany Plant and to consult with and advise plant management on occupational and medical problem areas.

2. Scope

The entry interview was held with Mr. Larry Griffith, Plant Manager, following which each of the plant areas was visited with the superintendent of that area. Plant No. 1, Glass Block, was visited with Mr. Glen Turner; Plant No. 2, Foam Glass, with Mr. R. L. Weaver; Plant No. 5, Fabricating of Foam Glass and Plant No. 6, Foanthane, with Mr. Fred DeVries; Plant No. 8, Unibestos, with Mr. J. W. Tolway. Following the plant visits, discussions were held with Mr. H. J. Baker, Personnel Manager, on the Medical and Safety Programs. Mr. Baker accompanied Dr. Grant on a visit to the Port Allegany Community Hospital. The exit interview was held with Mr. Larry Griffith, and the following comments and/or recommendations were made.

3. Comments and/or recommendations

A. Alleged Lead Intoxication - Glass Block Plant. Mr. Roy Thompson had been employed in the glass decoration operation within this plant for about three years. During the past year, he has been under treatment by his personal physician, Dr. Herman Mosch, from Coudersport, a town of about 18 miles from Port Allegany. His principal complaints were related to a dermatitis of his hands and fingernails, a cramping and soreness of his abdomen, intermittent chest pain, weakness, dizziness and loss of balance. When his physician found he worked in an area in which he was potentially exposed to lead paint, he suspected a relationship between the symptoms and a potential lead exposure. He called Mr. Baker,

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the Personnel Director, who is a friend of his and advised him of his suspicions. This call was about three weeks before the undersigned's visit. Mr. Thompson was removed from his exposure at that time and placed at the foam glass finishing area. His doctor had placed him on EDTA, a chelating agent. The employee has noted an improvement in some of his symptoms since the beginning of this treatment.

The glass decorating operation consists of spraying a base enamel on the glass block, allowing this to air dry and then firing the enamel into the glass block. The spraying is done in a makeshift, but enclosed, ventilated box which is completely enclosed at the time the spraying is done. The spraying is activated by a foot lever outside this box. The wet sprayed block is then removed and placed on a pallet where it is allowed to air dry. The spraying operator wears rubber gloves during this phase of the operation. A fairly large number of blocks are allowed to accumulate in this manner before they are taken into the next room and placed on a conveyor line which carries them through a firing furnace. The firing furnace is exhaust ventilated. Prior to firing, the dried enamel is powdery and can easily be wiped off the glass bricks.

The Technical Director of Pittsburgh Morning, Mr. George Gregory, advised that the base enamel contained between 45 and 51 percent of lead oxide. Mr. Thompson has a history of hypertensive cardiovascular disease. He also has a fungus infection of the fingernails. No special study has been made of his gastrointestinal complaints.

Recommendation

While there is a potential lead hazard, my initial observations of the operation as it was being done at the time of my visit, lead me to believe that it is probable no lead hazard actually exists. However, in view of the question that has been raised in regard to potential lead intoxication, I would strongly suggest obtaining lead urine studies not only on Mr. Thompson but on all of the employees who have recently worked at this operation for significant periods of time. Since these lead urine studies cannot be done in the usual hospital laboratory, upon request, I will make the necessary arrangements to have these studies be accomplished. The studies consist of each employee collecting a 24-hour urine sample in a specially provided lead free flask and analysing the urine for its lead content. If these lead urine studies show evidence of increased absorption of lead in the employees, an industrial hygiene engineering evaluation of the operation should be accomplished in order to detect and control significant lead sources. Here again, upon request, I will also make arrangements for this survey.

B. Foam Glass Plant Stripping Operation. The problem discussed in my Sedalia report, of which you have a copy, are similar to the problems noted at Port Allegany, namely, eye hazards from foreign bodies, heat, particularly during the summer months, and noise. My recommendations are basically the same. A phase of the operation which in part seemed significantly different was the eye hazards from foreign bodies. Mr. Griffith, who had been the plant manager at Sedalia, felt that there were significantly fewer eye injuries at Port Allegany than at Sedalia. There were some differences in the stripping operation at the two plants. At Port Allegany,

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Furnaces 4, 5 and 6 had lahrs which allowed only a horizontal loading of the glass from loaf into the lahr. Furnaces 1, 2 and 3 were high enough to allow vertical loading into the lahr. All lahr loading at Sedalia was of the horizontal type. Another difference between the two operations was that Fort Allegany did not use the edge leveling operation that was used at Sedalia. Apparently, this was not required at Fort Allegany to allow the foam glass leaves to remain level within the lahr. This scrubber appeared to be a significant contributor to the foam glass dust at Sedalia. The air turbulence pattern at Furnaces 5 and 6 were similar to that seen at Sedalia, in that the foam glass dust blew up past the face of the operator; however, Furnaces 1 through 4 had air turbulence patterns which seemed to blow the dust away from the face of the operator. The only differences noted which could account for this difference in air pattern between these furnaces was the relative location of the man cooler. At Furnaces 5 and 6, it seemed to blow from above and slightly from the back of the operator which may have caused a relative vacuum in front of the operator which would suck the dust up past his face. At Furnaces 1 through 4, the man air cooler air current was coming directly down on top of and slightly from in front of the operator, and the dust was blown away from the face of the operator.

Recommendation

The air current effect should be studied further to see if, in fact, there are fewer eye cases among the strippers working on Furnaces 1 through 4 as compared with Furnaces 5 and 6. Also, an industrial hygiene survey should be made of the potentially hazardous noise to which the stripping operators and the mold filling operators are subject. The purpose of this survey would be to determine whether a noise hazardous exposure existed and, if it did, the principal sources of noise contributing to this hazard along with recommendations, if feasible, for the control of this noise. If the noise hazard exists and could not be controlled, a hearing conservation for the employees subject to this noise should be initiated. Upon request, the undersigned will make arrangements for this survey.

C. Foamthane Plant. Potential toluene diisocyanate (TDI) exposure. Shortly after the initiation of this plant in 1961, the Industrial Hygiene Foundation performed an industrial hygiene survey and found that the control of TDI vapors was adequate at that time. However, since then, several employees have apparently become sensitized to TDI and have had to be taken out of the area to control their symptoms. TDI is a strong sensitizer and concentrations above the threshold limit value of one-tenth part per million (.1 ppm) will cause allergic sensitization in a significant percentage of the exposed population. Basically, the operation has not changed significantly since the Industrial Hygiene Foundation Survey in 1961 with the exception that within the past few weeks, additional local exhaust ventilation has been installed within the hot wire cutting operation so that the fumes are being drawn off closer to their source in addition to being captured by the plastic ventilated hood covering the operation. This should significantly reduce the potential for TDI exposure.

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Comment and Recommendation

Pre-employment evaluation of employees who will work with TDI should include a careful history of allergic disease. These persons should be excluded from work with TDI. Furthermore, periodic physical examinations should be made of all employees potentially exposed to TDI to detect earliest evidence of allergic manifestations. A reevaluation of the potential environmental exposures should be made. This could be done during the industrial hygiene engineering survey of other operations as discussed in this report.

D. Unibestos Plant. Asbestos Dust Exposure. In June of 1964, shortly after the beginning of operation of the unibestos plant, the Department of Health of the State of Pennsylvania performed an industrial hygiene survey. They reported that a hazardous asbestos dust condition existed at several locations throughout the plant. They made a number of recommendations as to how this dust exposure could be controlled. Following this survey, a number of steps were taken to improve dust control. During the present visit, the outside temperatures were low so that all of the windows and doors were closed. No provision, apparently, had been made to provide the rather large amount of make-up air required by the dust collection systems throughout the plant. As a result, the effectiveness of these systems was materially reduced. This resulted in some dustiness of the air in the general area of the loading and building operations. Less general air contamination was noted at the sawing operation. There are 48 employees who come directly under the unibestos operation supervisor. In addition, there are six maintenance employees who spend most of their time in the unibestos area. All of these employees were provided a pre-employment x-ray examination. None of them, however, as yet have had a periodic chest X-ray. While all of the employees in the area were provided with dust respirators, the only person observed to be wearing the dust respirator was the employee working in the loading area.

Recommendation

Prolonged exposure over a number of years to hazardous amounts of asbestos dust will produce the pulmonary disease - asbestosis. Since the Pennsylvania State studies in 1964 indicated certain areas of the plant where a hazardous dust condition existed, it is imperative to determine the effectiveness of corrective action taken since that time and to show, if possible, that a hazardous dust condition does not exist. This industrial hygiene engineering survey should be done other than by the State of Pennsylvania. Further, it should be done by a group universally recognized as competent to perform such a survey. Upon request, I will arrange to have such a survey accomplished. Pre-employment medical examinations of asbestos workers should include a thorough history of previous chest disease as well as a chest x-ray examination. Any history of chest disease, however benign, or x-ray evidence of such disease should exclude that individual working in an asbestos exposure. Periodic chest X-rays should be taken at least every two years on all asbestos workers. These X-rays should be read by a Board certified roentgenologist. These recommendations are important to prevent the development of asbestosis among your employees at some future time.

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E. Eye Safety Program. Several sawing and grinding operations were observed in the lean glass fabricating plant in which the operators were not utilizing safety glasses.

Comment: A continuing effort is required to educate employees of the importance of protecting their eyes and the necessity of wearing appropriate eye protection when performing eye hazardous tasks.

F. In-Plant Medical Program. The in-plant medical program consists of foremen or supervisors treating illness or injury from a number of first-aid kits scattered throughout the plant. This is not adequate for a plant of this size particularly with the number of potential hazards that exist within the plant.

Recommendation

An in-plant medical program should be established. An adequately equipped dispensary, staffed with a nurse and/or trained first-aid attendants under the professional direction of a licensed physician is needed. The physician must visit the plant on a regular basis and maintain a thorough knowledge of plant and dispensary operations so that he can provide professional guidance to the dispensary staff and professional consultations to plant management on industrial medical problems. The purposes of this in-plant medical program would be to provide proper treatment of work related illness and injury, and to provide a preventive medical program which, in view of the many potential hazards in the plant, can significantly contribute to the maintenance of a healthy and effective work force. Assistance will be provided as required to establish an in-plant medical program.

Lee B. Grant, M.D.

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cc: Mr. E. M. Stout
Mr. E. C. Underwood

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