

November 1992

IN THE ABRAHAMIS

TO: MANOR, PA
George Meanor
Personnel Relations Manager

HBBB-0007171

INDUSTRIAL HYGIENE AND AUDIT REPORT

OF

INDUSTRIAL MATERIALS DIVISION

BEDFORD, PA

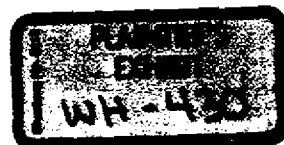
ON

MARCH 22, 1983

Conducted and Reported by:

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July 13, 1983

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SUMMARY

A Corporate Industrial Hygiene Audit was performed at the (W) Bedford, PA facility on March 22, 1983 by Diane Whittier, a Senior Industrial Hygiene Engineer. The audit included a review of the facility's existing industrial hygiene programs and procedures, and a walk-through survey of the physical plant. This report details the audit and offers recommendations.

Bedford uses a large number of toxic chemicals, and has performed a few air monitoring surveys of its employees to date. An air sampling program is being planned for 14 solvents plus asbestos. Other programs which should follow include: (1) medical surveillance based on hazardous chemical/material exposure; (2) a labeling program; (3) a hazard control evaluation (including periodic checks of engineering controls such as local exhaust ventilation); and finally (4) more comprehensive employee education on hazardous chemicals/materials.

The sections of the plant which should receive top priority are the Mix Room and the Treaters. These areas have the highest potential for occupational exposure.

An effective industrial hygiene program involves knowledge and recognition of all chemical and material hazards; a thorough evaluation of these hazards; and finally an effective control of the hazard. Recognition is achieved by a complete survey and inventory of all toxic/hazardous materials and physical agents in the plant. Based on the survey, evaluation is done by systematically taking air samples in the breathing zone (or hearing zone of the employees). Control refers to the implementation of administrative or engineering controls to reduce hazards which were found during the evaluation.

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I. INTRODUCTION

A. Purpose

An audit was conducted at the Industrial Materials Division facility in Bedford, PA on March 22, 1983 to evaluate the facility's industrial hygiene program. The audit and a survey of the physical plant were performed by Diane Whittier (W) Corporate Senior Industrial Hygiene Engineer at the recommendation of C. Wayne Bickerstaff, Manager of Corporate Industrial Hygiene.

B. Description of the Facility and Industrial Hygiene Programs

The products which are manufactured at the Bedford plant are flexible laminants (treated paper or fibrous glass) and transformer insulation paper. The facility is about 14 years old and covers 55,000 square feet. At the time of the audit, the plant employed 15 salaried and 19 hourly employees on the day shift. In addition, there were about 10 hourly workers on each of the second and third shifts.

A physician was on contract to perform the pre-placement medical examinations. During pre-employment physicals, all employees receive the same basic examination. In addition, audiometric tests are given to all employees who work in the shop. Professional Health Services, Inc. (PHS), a mobile van service, provides annual medical tests. The tests include physical measurements, blood pressure, cardiograph, chest x-ray, spirometry, audiometrics, and several lab analyses on blood and urine. Any employees requiring follow-up tests were referred to Bedford Hospital.

There were three Industrial Hygiene Programs: the hearing conservation program, the respirator program and air monitoring. The hearing conservation program consisted of baseline audiometric exams and accessibility to ear plugs or muffs. Sound level meter readings had been taken in the plant and were all in the 70 to low 80 decible range. Bedford also had a written respirator program.

There had been a lot of personal and area air sampling done at Bedford and a recent memo indicates that periodic samples will be taken for all of the solvents used at the facility. Samples will also be obtained whenever asbestos products are processed. Asbestos samples have been obtained about twice a year in the past. The plant is well equipped with industrial hygiene

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equipment and all samples are analyzed at Waltz Mill. The air sample records are maintained on file in chronological order and by substance sampled. The record forms were fairly complete and the sampling times were long enough. The results of the monitoring were given to the employees involved, in writing. There were, however, no records of local exhaust ventilation system measurements.

There was very little training given to employees on how to handle and work with toxic/hazardous materials. Most training was the initial on-the-job training which included use of protective gloves and use of respirators. This was supplemented with occasional "safety" films shown to all of the employees periodically. Training sessions are not documented.

According to our corporate records, Ed Traynor is the industrial hygiene representative for the Bedford plant, while George Meanor, as Manager of Personnel Relations, has some responsibility for the entire Insulating Materials Division. Ed has not attended any Corporate Industrial Hygiene Courses. George has attended a couple of Safety and Industrial Hygiene Workshops which give an update of OSHA, (W) Corporate and (W) divisional activities.

The Bedford plant does not have a Safety Observer Program as has been recommended by Corporate Safety, or a Site Safety Policy Committee. They do, however, have a "Safety Committee" consisting of the plant manager, engineering manager, manufacturing supervisor, purchasing and plant engineering which meets as needed. Recent discussions have concerned the respirator program and various chemical problems.

Many chemicals are used at Bedford and the (W) Material and Purchasing Department Specification (M/PDS) system is used on over 90% of the materials. Not all containers of materials are labeled with the M/PDS number when they are shipped to the plant nor are the (W) Precautionary Labels used on containers in the plant.

Material Safety Data Sheets (MSDS) are received from suppliers on many of the chemicals purchased. Engineering retains the MSDS on file. Don Lindahl and Ed Traynor receive the (W) Safe Practice Data Sheets and updates.

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II. SURVEY

A. Drum Storage Room

Solvents, varnishes and resins are stored in this room. Some drums do not have M/PDS numbers marked on them, including some drums from Manor. There were few warning labels on the drums.

The room had ceiling exhaust ventilation. The door to the mix room was wide open, but there was a fire door on the doorway between the mix room and the rest of the plant.

Recommendations

- Require suppliers to label all drums with (W) M/PDS number.
- Apply (W) Precautionary Labels to drums and containers of hazardous materials when they are received.

B. Mix Room

At the time of the audit, one employee was working in the mix room. He was mixing toluene (18 parts) with a phenol resin (6 parts). The mixing vat was about 4-5 feet in diameter and about 4 feet deep. There were three flexible ducts--about 10" diameter--hanging over the edge of the vats to exhaust the vapors.

There were no labeling or signs in the area to indicate what chemicals were being used or what the hazards were. There wasn't even a "No Smoking" sign.

The employee did not know what chemicals he was working with.

Recommendations:

- Designate the mixing room as a "No Smoking" area.
- Educate the workers about the substances with which they work. Use appropriate (W) Safe Practice Data Sheets (SPDS).
- Monitor the mixer(s) periodically for the chemicals they are exposed to.

C. Line 32

A bonding resin is applied to paper in this operation. There is an overhead canopy above the resin application and the ovens are vented to the outside. The line is automatic so the operator does not usually work close to the resin.

There was a drum of (flammable) resin near Line 32 which was not grounded as it was dispensing.

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Recommendations:

- Ground all drums of flammable materials while dispensing.
- Monitor the line operator for exposure to chemicals used on the line.

D. Laminating

This was not in operation at the time of the audit. About 40 different laminants are produced here on polyester paper or bonded asbestos. There appeared to be good exhaust ventilation over the operation.

E. Treater, Line #40

This line, which treated paper, was not in operation. There was exhaust ventilation around the treating tank.

F. Treaters #20, #21, #22

Fibrous glass was coated with a resin containing cellosolve solvent. The coating was pumped from an open tank under the treater. These treaters were verticle operations with the ovens on the second floor and the exhaust ventilation on the third floor.

The resin had been put into a used varnish drum after it was mixed to transport it to the treater area, but the drum was not relabeled to indicate the new contents.

Recommendations:

- Monitor employes for exposures.
- Relabel drums if a different substance is put into them. Use the appropriate name, M/PDS number and (W) Precautionary Label.

G. Finishing

Rolls of treated paper, fibrous glass, or asbestos were cut to desired widths. The housekeeping was good, but there was no local exhaust ventilation in the area.

Recommendation:

- Take air samples on employes when they cut asbestos containing rolls.

H. Clean Room

There were two operations in this room: the clean room treater and a foil coating operation. The treater used bonded inorganic paper (i.e. asbestos).

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The line was vented but not effectively because there was a strong odor of solvent near the end of the line. The treated paper was cured with infra-red heaters.

Recommendation:

- Take air samples for asbestos and solvent exposure on the treater operator(s).

I. Laboratory

There were several solvents on the shelf which were used for testing and there were signs noting that "Flammable" materials were used here. There were also three laboratory hoods available for testing procedures. The curing ovens, which didn't get very hot, were vented by means of two ceiling room vents.

Recommendation:

- The solvents should be stored in an approved flammable storage cabinet.

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III. GENERAL RECOMMENDATIONS

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1. Since Bedford handles a large number of chemicals, a priority list must be developed from the inventory list so that the personal air monitoring program will be most effective. Priority must be based on toxicity and volume of use. Employee training about hazards of chemicals will also benefit from this priority list. The industrial hygiene representative should maintain a file of all Material Safety Data Sheets (MSDS) received from suppliers. The MSDS give valuable emergency information on first aid, fire, toxicity and spills.
2. When the air monitoring program is established, insure that employees working with hazardous substances are monitored at least once a year for each substance. Sampling equipment can be rented from Corporate Industrial Hygiene and the analyses should be performed at the (W) Waltz Mill Laboratories. The completed Air Sample Record Forms must be filed and maintained for 60 years. Sampling records are legal documents; therefore, the sampling procedures and completion of the record forms must be done carefully and correctly. It is very important in today's legal climate to document every employee's exposure to the chemicals he/she works with.

The results of employee air samples will also determine if additional medical surveillance is necessary.
3. Each (W) site should use the (W) Precautionary Labels on all toxic/hazardous chemicals used on site. This is important for two reasons. First, OSHA has proposed a Hazard Communication (labeling) Standard which may be in effect soon. Second, labeling will help inform employees of the hazards of the materials with which they work. All of the incoming containers must be marked with the (W) M/PDS number as requested on the purchase order. The receivers can then easily refer to (W) SPDS L-4 to determine the appropriate (W) Precautionary Label number. The labels can be ordered from (W) Trafford Printing as needed.

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4. Another important part of the industrial hygiene program is education and training of employees regarding the hazardous substances in their work area. The training must be given when the employee is first assigned to the job, and annually thereafter. The first line supervisors may give the training--after they have been trained by the industrial hygiene representative. The (W) SPDS may be used for training. Also refer to the suppliers' MSDS on chemicals used in each area.

It is important for you to know that the State of Pennsylvania may soon pass a "Right to Know Law" which will state that employees have a right to know what chemicals they work with and how these chemicals will affect their health. The industrial hygiene training program should meet that requirement.

Respirator usage should also be a part of the annual education/training program. All training sessions must be documented as to date, subjects covered and attendance roster. These records must be retained for at least 5 years.

5. Finally, industrial hygiene control measures must be documented. For example, if a local exhaust ventilation system is installed on an operation, the record of installation must be maintained on file. This record should include installation date, fan type and capacity, face velocity, etc. A periodic (i.e., quarterly) check of all local exhaust ventilation systems must be performed and the records of these measurements must be maintained on file.

Control measures for noise and heat must also be documented. Also, whenever there is a change in a process or operation, all controls should be rechecked for their effectiveness. The individuals working in the areas must also be re-sampled after a process change.

Some of the local exhaust systems could be improved.

All of the recordkeeping mentioned in the preceding paragraphs should be maintained in an organized manner in the office of the industrial hygiene representative. Retrieval of records is simplified if the records are maintained in alphabetical order of employee's last name. These records may be of crucial importance in future legal defense.

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It is important that Ed Traynor, as the plant's industrial hygiene representative, attend the corporate industrial hygiene courses offered through the (W) Education and Training Department. These courses are very technical. They include instruction on air sampling techniques and procedures, workplace evaluations and interpretation of new governmental standards. They will also teach recognition of potential problems.

Feel free to contact Corporate Industrial Hygiene for further advice or guidance on improving your plant's industrial hygiene program.

APPROVED:

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