WALK-THROUGH SURVEY REPORT

Courtney and Company, Inc.
Texas City, Texas 77590

DATE OF SURVEY:
March 16, 1982

SURVEY CONDUCTED BY:
Harry M. Donaldson
Thomas F. Bloom

REPORT PREPARED BY:
Harry M. Donaldson

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Industrial Hygiene Section
Industrywide Studies Branch
Division of Surveillance, Hazard Evaluations and Field Studies
National Institute for Occupational Safety and Health
Cincinnati, Ohio

DISCLAIMER

Mention of company names or product in this report does not constitute endorsement by the National Institute for Occupational Safety and Health.

PLANT VISITED:	Courtney and Company, Incorporated 3828 Farm Road 1765 Texas City, Texas 77590
EMPLOYER REPRESENTATIVES:	Mr. Don Williams, Vice-President Courtney Enterprises, Incorporated Mr. Don Robertson, Vice-President Courtney and Company, Incorporated
EMPLOYEE REPRESENTATIVE:	Mr. Herby Beard, Area Representative International Brotherhood of Painters and Allied Trades
PURPOSE OF VISIT:	To observe abrasive blasting practices involving the use of silica sand and copper slag for the purpose of planning a future industrial hygiene evaluation.
ACKNOWLEDGEMENTS:	Mr. Bob Wright, Managing Consultant, Silica Safety Association P.O. Box 144 Hitchcock, Texas 77563
STANDARD INDUSTRIAL CLASSIFICATION:	1721

Introduction

The National Institute for Occupational Safety and Health (NIOSH) is the primary Federal agency engaged in research to improve the health and safety of the American worker. A current study involves abrasive blasting practices with attention being focused on workers exposed to new abrasive blasting media such as coal slag, copper slag, and nickel slag recently introduced into the industry as a substitute for sand.

This report describes a walk-through survey of Courtney and Company, Inc., intended to observe abrasive blasting practices involving the use of sand and copper slag so as to facilitate the planning of a future industrial hygiene evaluation. During the survey the feasibility of sampling for worker exposure to sand and copper slag dust was determined by placing a filter cassette and cyclone assembly operated by a personal pump under the workers' supplied air hood. This technique would allow the estimation of worker exposure to respirable dust.

Description of Facility and Operations

Courtney and Company was incorporated around 1942 as an industrial painting and general maintenance contractor. One phase of their work consists of on-site maintenance of both the inner and outer surfaces of large steel petrochemical storage tanks, process piping, and related equipment. Periodically these surfaces need refurbishment. This requires that rust and old paint be removed before the application of a fresh protective coating. The removal of rust and old paint is accomplished by abrasive blasting of the surface. Typically, abrasive blasting and painting are done concurrently at multiple locations at a given work site. Also, depending upon the particular job, there may be small parts and equipment which can be more conveniently abrasive blasted and painted on Courtney premises. Here a copper slag is used as the abrasive blasting agent, because the Texas Air Control Board will not permit the use of silica sand at the Courtney facility. Silica sand as an abrasive blasting media however may be used at those work sites which up to a certain date have been continually maintained utilizing silica sand as the abrasive blasting media (the so called grandfather clause).

Description of Workforce

The work force consists in general of painters and abrasive blasters, and both tasks may at times be done by either group. The painters and abrasive blasters essentially all belong to the International Brotherhood of Painters and Allied Trades. During this visit company officials estimated that as many as 200 abrasive blasting workers are employed at various locations. However the actual number at any one time varies widely according to the work load.

At the time of the NIOSH visit only one blaster and one painter were at work on the company premises. No other work groups were in the area since the work load had fallen off drastically due to current economic conditions.

Description of Abrasive Blasting Activity

At Courtney's Texas City yard an employee was observed doing abrasive blasting using copper slag, Apache 1200, as the blasting media. The blasting was done

out of doors with a brisk wind blowing. The compressor air pressure was about 120 psig and blasting pressure about 10 to 20 psig lower. The employee wore a Clemco air supplied hood along with heavy gloves and clothing. The air for the air supplied hood is bled off the air line used for blasting. The breathing air is first passed through a carbon filter where it is purified, then passes through a regulator valve before it is fed to the air supplied hood. The blaster, in addition to the air supplied hood, also wore a disposable type 3M respirator. After completion of the abrasive blasting, he removed the air supplied hood, however he continued to wear the disposable respirator. The blaster then assisted a painter who spray painted the parts. The painter wore a half-mask cartridge respirator fitted with paint-spray filters. (Approved filter cartridge No. TC 23C-149).

Also on company premises is a large building where indoor blasting is done. This building is equipped with two vertical ventilation hoods placed at floor level and designed to capture dust produced during the blasting operations. The building is large enough to permit the blasting of vehicles, as well as smaller objects. The dust collected is conveyed to a cyclone dust collector which removes dust from the air stream.

After abrasive blasting and spray painting activities were observed on the company premises, NIOSH personnel were taken on a tour of other worksites in Texas City where the company had either on-going maintenance contracts (no activity at the present time) or were preparing to bid on prospective contracts. The majority of the sites observed were either oil or petrochemical tank farms or petroleum processing companies.

Medical Program

Courtney and Company has no medical program per se. Preemployment, periodic, or termination, physical examinations, are not provided.

It appears that the only medical records kept by the company are these related to on the job injuries which might involve Workman's Compensation. If illness or injury occurs while working, the employee is treated at a local clinic, or at the medical facility, if one is available at the plant where the company happens to be working. It is NIOSH's understanding that the Union does have some medical records of health and benefit claims through their insurance carrier, which does give diagnosis of injury or disease and the hospital where the individual was treated. It is understood that these records are retained at the local union headquarters where the program is managed.

Safety Program

Company employees appear to observe safety standards required by their employer. The employee who performed the abrasive blasting was observed to be using earplugs and a supplied air sand blasting helmet manufactured by Clemco, along with a disposable type respirator. The employee who performed spray painting wore a twin cartridge half mask respirator.

Conclusions

A survey of abrasive blasting at the Courtney yard in Texas City, Texas (where Apache Blast, a copper slag is used as the blasting agent) would be a satisfactory facility for an indepth study of a small abrasive blasting yard. Various types of equipment are blasted both out of doors and indoors with a copper slag different than is usually found in other parts of the country. However, surveys using different copper slags in other industries may generate adequate information on abrasive blasting. For this reason, a final decision on the need to do an indepth survey of the site will be postponed until a broader picture of the use of low silica abrasives is obtained.

Recommendations

It is suggested that the company consider the implementation of a pre-employment medical screening program for all employees as well as an ongoing surveillance program, especially for those employees performing abrasive blasting.