

Power II Report

1987

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LOUISIANA DIVISION INDUSTRIAL HYGIENE REPORT

AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY

DEPARTMENT

POWER 2

FILE NUMBER

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DATE

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TITLE

POWER 2 INDUSTRIAL HYGIENE ACTIVITY REPORT FOR 1987

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REVIEWER'S SIGNATURE

Bill Ledford *William E. Ledford 10/20/88*

SUMMARY

The following industrial hygiene activities went on at Power 2 during 1987. Training on Abestos, Hazard Communication Standard Noise and Noise Protection, Reactive Chemicals, and Scott Air Packs was done. A hood survey conducted showed no problems, or rating change in our "A" rated hood. An "A" rated hood requires an average air velocity of 100-125 fpm with a minimum of 100 fpm air velocity at any one point on the facing of the hood. Audio examinations were performed on all personnel. The 1987 noise survey was performed using a Bruel and Kjaer Model 2205 sound level meter. Most of the plant is a high noise area and hearing protection is required in all operating areas.

In 1987, the plant received Coal Derived Synthetic Fuel for the first time. Some work on exposure was done.

In 1988, a noise survey will be conducted and presented to the plant personnel with information on different types of hearing protection available. Training on Abestos, Hazard Communications Reactive Chemicals, and Scott Air Packs will be highlighted.

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THE FOLLOWING WAS DONE IN THE INDUSTRIAL HYGIENE AT POWER
2 IN 1987.

HAZARD COMMUNICATIONS STANDARD TRAINING

All operations and maintenance personnel were trained on the hazardous chemicals in the Power 2 block as part of the Hazard Communications standard which was implemented covering all aspects of the standard in 1986.

HOOD SURVEY

A lab hood survey was conducted to ensure proper flow of air through the hood. The hood was rated as an "A" rated hood which requires an average velocity of 100-125 fpm with a minimum of 100 fpm air velocity at any one point on the facing of the hood.

PHOSPHORIC ACID COMPLAINT

Contract personnel complained of eyes and skin burning while working one day. H_3PO_4 detected was 0.3 milligrams/cu meters. TLV is equal to 1 mg/cu meter. The phosphoric acid was believed to be coming out of insulation that had not cured. Corrective action was to restrict the area for one day. No phosphoric acid was detected the following day.

REACTIVE CHEMICALS TRAINING

All personnel received training on reactive chemicals that are in the Power 2 block.

SYNTHETIC GAS EXPOSURE

Some work on exposure to syn gas was done during the year. There were six different 8 hour samples taken. The results showed very little exposure to CO or the H_2S .

TRAINING ON ASBESTOS

All shifts were trained about the hazards of asbestos, the long term effects of asbestos exposure, where asbestos is in the block, who to contact when work must be done and the monitoring involved when doing the work.

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THE FOLLOWING WAS DONE IN THE INDUSTRIAL HYGIENE AT POWER
2 IN 1987.(cont.)

NOISE EXPOSURE EVALUATION

Audio Examination

All Power 2 personnel were given an audio examination as part of a yearly health survey.

Consequences of Overexposure to Noise

All personnel were trained on the consequences of overexposure to noise, the different types of hearing protection, and the reduction in noise levels the different types provide the person wearing the protection.

Area Surveys

As shown in Attachments 1 and 2, most of the plant is a high noise area (>90 dbA), especially around the turbomachinery. The entire plant is considered an ear protection area. High noise areas are posted with warning signs and these areas are communicated to employees in the annual Industrial Hygiene Safety Meetings.

Personnel Surveys

All of the operations personnel were monitored for a shift. The noise level personnel were exposed to was approximately 85 dBA time weighted average normally with 120 dBA maximum. Hearing protection is required in the block.

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GOALS AND SAMPLING STRATEGY PLAN FOR 1988

1. Noise

Conduct area surveys following insulation of GT-300, and GT-400 (scheduled to be completed in March 1987) and while the plant is being shut-down and started-up.

Gather base line data on Operations personnel using a DuPont MK-2 Audio Dosimeter.

2. Yearly Scott Air Pack Training

Train all operation personnel how to use a Scott Air Pack. Perform fit test on operational personnel.

3. Yearly Reactive Chemical Training

Train all personnel on the dangers on Reactive Chemicals and how to protect themselves.

4. Yearly Hearing Protection Training

Review the different types of hearing protection available and all other pertinent items of the Hearing Protection Standard with operations personnel.

5. Yearly Hazard Communication Standard Training

All components of the Hazard Communications Standard will be reviewed including all chemical hazards.

6. Yearly Abestos Training

A training class will be given concerning Asbestos, Health effects, and How to Handle to prevent long term injury.

7. Biyearly Reactive Chemicals Review

A two year Reactive Chemical Review will be held with the Division Reactive Chemical Committee.

8. Biyearly Chemical Exposure Index Review

A two year Chemical Exposure Index Review will be held with the Division Safety Committee concerning Chlorine.

9. Yearly Synthetic Gas Exposure

Exposure levels will be checked when the plant is on synthetic fuel to ensure that no high exposure levels are present.

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ONGOING INDUSTRIAL HYGIENE PROGRAM
POWER 2 PRODUCTION PLANT

TABLE 1

REVIEW OF PAST INDUSTRIAL HYGIENE MONITORING
DATA SUMMARIZATION

COMPOUND	Job	% of Allowable	Number	Date
	Classification	(8-Hour TWA)	of Samples	
Noise	Operations Technician	54.3	4	1987
	Senior Oper. Technician	51.7	4	1987
	Operations Specialist	27.5	1	1987

Carbon Monoxide
TLV = 50 PPM

	8-hr TWA(ppm)	STEL	Number	Date
			of Samples	
Operations Technician	.92	50	1	1987
Engineer	1.85	50	1	1987

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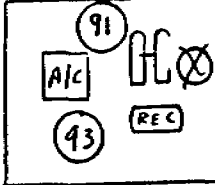
NOISE SURVEY
WITH 30# VENT
BLowing GT-100
GT-200 Down
4/7/87 EMM

WARE
HOUSE

3702

ATTACHMENT #1

1000
AIR SYSTEM



COAL
GAS
SCRUBBER

HEAT
EXCHANGER

CNTL
BLDG
3703

BOILER
200

BoILER
100

ROLL AIR
COMPRESSOR

3701
CA
ADM.
BLDG

COOLING
TOWER

COOLING
TOWER

COOLING
TOWER

COOLING
TOWER

COOLING
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COOLING
TOWER

MCC
BLDG
3704

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File



DOW CHEMICAL U.S.A.

July 17, 1987

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ASBESTOS SURVEY - BLOCK 37, POWER II PLANT

An asbestos identification survey was performed on July 14, 1987 for the permanent buildings located in Block 37, Power II.

The survey included a walk-through visual inspection of areas likely to have asbestos-containing materials such as hot water heater/air conditioning rooms and restroom/locker room facilities and areas above drop ceilings. A summary of the asbestos found is as follows:

<u>Building</u>	<u>Location</u>	<u>Comments</u>
3702, Old Warehouse	Exterior	Transite
Six process cooling towers	Exterior	Transite
3701, CA Admin.	Old hot water heater	Asbestos insulation good condition
3704, MCC	Electrical insulation between boxes	Transite - damaged on one end, encapsulate

Other areas inspected but no asbestos found:

<u>Building</u>	<u>Location</u>	<u>Comments</u>
3703, Main office	Hot water heater	
	Control Room	
	Computer Room	
	Ladies Room	
	Men's Room/Locker Room	
	Control Room Restroom	

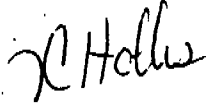
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<u>Building</u>	<u>Location</u>	<u>Comments</u>
3706, MCC		
3705, Warehouse/Shop		
3707, MCC		
3708, MCC		
GT-400 MCC		
GT-300 MCC		
3701	Office area restrooms	
3702, Old Warehouse	Insulated Steamlines	

Our recommendations are as follows:

1. Process area asbestos insulation was not identified on this survey; however, Power II maintenance supervision and personnel need to identify and document all asbestos. Our suggestions are as follows:
 - a. Signs can be placed entering process areas containing asbestos insulation, as long as the appropriate documentation and training records are maintained, or
 - b. Asbestos lines can be stenciled or labeled with stickers for asbestos identification.
2. B-3704 motor control center has transite (asbestos-containing material) as electrical insulation between the boxes. One end is damaged and should be encapsulated. (Encapsulant is available from the insulators, call maintenance, radio 640.)
3. Transite is also located on the exterior of the cooling towers and the old warehouse. The areas under this transite should be kept free of debris and damaged edges should also be encapsulated.
4. Asbestos insulation must be maintained, handled properly, and personnel trained according to the Louisiana Division Asbestos Guidelines.
5. A permanent file should be maintained identifying asbestos location, maintenance, and training records.

6. Signs should be placed at the Power II block entrance identifying the presence of asbestos in the block. Industrial Hygiene will order and distribute signs when our division-wide survey is complete. (Please tell me how many signs will be needed.)
7. The results of this survey identify the location of asbestos-containing materials in the Power II Plant's permanent buildings; however, caution is advised during the demolition of any building materials (i.e. flooring, insulation).
8. If further information, sampling, or material identification are required, please contact Industrial Hygiene (Ext. 6163) or Maintenance (Ext. 6443, or Radio 640).



Leslie Hollis
Industrial Hygiene

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