



INTERNAL CORRESPONDENCE

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APR 28 1988

T. W. Sands

EHMD-MS
(UNIT)

TO T. Sands

DATE April 25, 1988

FROM E. R. Goltra, M.D.
Corp. Medical DirectorSUBJECT Southwestern Refinery
Turnaround Monitoring

Attached are the results of an air monitoring survey conducted during turnaround activities in the Sulfolane Unit at Southwestern Refinery on February 18-24, 1988.

Your response to items 88-01 through 88-03 is required by May 16, 1988.

Should you have any questions concerning this report, please call me on extension 2909.

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MAY 13 1988

ERG/lh

attachment

xcs: C. DeYong
W. Litton
J. Warn

T. W. Sands

*W. Litton**SEE COMMENTS ON
PAGE 2.**MLJ
4-28-88**REPLY
SENT**5-16-88*

SWRf/Asbestos 1151

1H 000648

INTERNAL CORRESPONDENCE

 EHMD-MS (UNIT)	TO E. R. Goltra, M.D.	DATE April 22, 1988
	FROM Janet Smith <i>JS</i> Caroline DeYong	SUBJECT Southwestern Refinery Turnaround Monitoring

On February 18-24, 1988, air monitoring was conducted during turnaround activities in the Sulfolane Unit at Southwestern Refinery to determine employee benzene exposure during non routine activities. Asbestos air monitoring was also conducted during removal of pipe insulation inside the unit. This report summarizes the findings and recommendations for the survey.

Benzene

A total of 46 samples were obtained during six days of monitoring. The personnel monitoring results have been forwarded, in writing, to each employee monitored. A graphic summary of the personnel monitoring results is found in Table I and graphic area monitoring results are found in Table II. Table III A lists numerical values for employee exposures and area time weighted averages are found in Table III B.

During the initial shut down of the Sulfolane Unit, designated safety employees monitored the unit with benzene detector tubes. In areas where airborne benzene levels equaled or exceeded 1.0 ppm, employees were required to wear full facepiece respirators with organic vapor cartridges.

The data indicated benzene levels varied over a wide range with the highest levels recorded during steaming operations. The peak exposure "ceiling" value was measured on February 19, at approximately 12:30 a.m. when there was a sudden release of benzene to the atmosphere. At this time, area monitoring results inside the control room reflected a rapid rise in airborne benzene concentration.

Prior to the release, samples obtained on employees working in the area outside the control room were about three times the OSHA Permissible Exposure Limit of 1.0 ppm. Excursions during the monitoring period exceeded ACGIH recommended guidelines and the OSHA "ceiling" value. (Table I - Slashed Graph).

Based on this information, the following comments and recommendations are submitted:

88-01 Comment:

The nature of the turnaround activities are such that fluctuations in benzene levels routinely occur and sudden releases resulting in high levels are likely to occur. Since every area cannot be measured during the activities for determining potential exposure, employees may encounter exposure situations without having adequate respiratory protection, if wearing of protection is based only on detector tube readings for various areas.

GET OPERATIONS TO PUT TOGETHER
A UNIT SHUTDOWN PROCEDURE THAT
ADDRESSES RESPIRATORY REQUIREMENTS

Recommendation:

Until the system has stabilized, i.e., after initial bleeding and steaming activities have been completed, wearing of respiratory protection by employees is recommended. Guidelines regarding the use of respirators should be incorporated into the sulfolane shut down procedure plan.

88-02 Comment

Full facepiece respirators with organic vapor cartridges are approved for airborne concentrations of benzene less than or equal to 50 ppm.

Recommendation:

IS SHE TALKING ABOUT DURING THE SHUTDOWN STAGE FOR USING FULL FACEPIECE RESPIRATORS? HOW MANY ARE WE TALKING ABOUT? Given the excursion values observed during this turnaround, the facility should consider upgrading respiratory protection to full facepiece powered air-purifying respirators with organic vapor canisters. Jan - 1/18.

88-03

Comment:

The benzene levels varied significantly during the activities and included the sudden release that resulted in elevated levels in the control room. Engineering controls to prevent such occurrences may be possible and W. Litton has contacted the engineering department about methods and changes that may be indicated.

Recommendation:

WHERE DOES THIS STAND. KEEP ME INFORMED ON WHAT IS BEING DONE.

The development of engineering controls to prevent introduction of benzene into the control room from the air intake located on top of the building should be followed up. Another means of reducing benzene entering the control room consists of procedures that limit access to doorways designated with consideration of wind direction.

Toluene/Xylene

Employee monitoring results for toluene and xylene were well below OSHA Permissible Exposure Levels. It should be noted that not all samples were analyzed for toluene and xylene. A summary of this monitoring is found in Table IV.

Asbestos

Two employees were monitored on February 22nd while removing insulation from piping in the Sulfolane Unit. One sample was deleted due to moisture interference with the filter media. The second sample, (#2673; B. Terrell) indicated asbestos levels of 0.45 f/cc for the 273 minute monitoring period. The 8-hour time-weighted average for this sample is 0.25 f/cc. This value exceeds the OSHA 0.2 f/cc Permissible Exposure Level and is somewhat higher than past samples obtained during glove bagging operations. The employee was

wearing appropriate respiratory protection and the area was barricaded. It is possible that moisture in the air during the sample period interfered with the filter media resulting in a higher than expected value.

Questions concerning this memo should be directed to J. Smith, extension 2534 or C. DeYong (KMNET: 8-323-2375).

JS/CD/lh

attachments