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DO 105227

REV
(8/5)

GLYCOL II INDUSTRIAL HYGIENE REVIEW

REVIEWING 1984

MAY 2, 1985

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REVIEW AND CONCLUSIONS

ETHYLENE OXIDE EXPOSURE DATA FOR 1984 SUGGESTS THAT OVERALL WE ARE IN COMPLIANCE; HOWEVER, THE DATA ALSO SUGGESTS THAT THE POTENTIAL FOR PROBLEMS EXISTS. OF THE EIGHTEEN DATA POINTS ON THE SHIFT SOT, 15 WERE B.L.D.'S (BELOW LIMIT OF DETECTION); HOWEVER, THREE EXCEEDED THE ACTION LIMIT (0.5 PPM) AND/OR THE TLV (1 PPM). THE 3.6 PPM DATA POINT RESULTED FROM INCORRECT PLACEMENT OF THE MEASURING DEVICE (THE TUBE WAS MOVED TO CHEST LEVEL RESULTING IN ITS FALLING INTO THE HOOD WHERE SAMPLES ARE HANDLED--THE HEAD WAS OUTSIDE THE HOOD WHERE QUARTERLY HOOD EFFICIENCY EVALUATIONS CONFIRM THERE WOULD BE NO EXPOSURE). THE 1.8 PPM AND 0.8 PPM DATA POINTS COULD NOT BE EXPLAINED. IN AN EFFORT TO AVOID FUTURE EXCURSIONS, WE WILL CONVERT TO A SAMPLE-CYLINDER SAMPLING SYSTEM. THE SAMPLING SYSTEM CONVERSION WILL ALSO APPLY TO THE LOADING PERSONNEL AND WILL REDUCE EXCURSIONS IN THIS JOB; HOWEVER, RESPIRATORY REQUIREMENTS WILL CONTINUE TO APPLY TO THIS JOB BECAUSE OF THE INHERENT POTENTIAL FOR EXPOSURE.

THE AREA DATA SUGGESTS THAT EXCURSIONS ARE POSSIBLE DURING EO STORAGE-TANK CLEANING. SINCE ONE OR TWO WILL BE CLEANED IN 1985, THIS PROBLEM WILL BE ADDRESSED.

THE 1985 SURVEY WILL AGAIN CONCENTRATE ON THE SHIFT SOT, LOADING OT, AND AREA SAMPLES.

A NOISE SURVEY WAS TAKEN IN THE GLYCOL PLANT TO CONFIRM IN-COMPLIANCE LEVELS.

THE CONTROL ROOM HAS A "COMFORT LEVEL" NOISE PROBLEM THAT WAS STUDIED. THE PROBLEM FREQUENCIES ARE ISOLATED AND AN ATTEMPT WAS MADE TO REDUCE THE LEVELS: INSULATION WAS BOUGHT AS A TEST BUT IT TURNED OUT THAT THE REFLECTIVE CHARACTERISTICS OF THE INSULATION WOULD HAVE CREATED ELECTRICAL INTERFERENCE. GROMMETS WERE OBTAINED TO "DAMPER" THE VIBRATION OF THE VENT FANS, BUT THE GROUNDS AND THE FAN FRAMES WERE INCOMPATIBLE.

A COMPLETE PLANT NOISE STUDY WILL BE DONE FOLLOWING THE JULY SHUTDOWN AS SIGNIFICANT PROCESS CHANGES WILL OCCUR IN BOTH THE EO AND EG PLANTS.

GWB/CNH
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EXPOSURE SUMMARY DATA
(VALUES EXPRESSED AS PPM BY WEIGHT)

	JOB			AREA		
	SOT	OTT	OT	STO	FIN	LOAD
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FIRST QUARTER	0	0				
	0	0.3				
		0				
		0.2				
		0.3				

SECOND QUARTER	0	0.3	0	0	0	0
	0	1.0	0	0	0	0
	1.8	0	0	0.7	0.3	0.3
	0	1.5			0	0.3
	0	0			0	21**
	3.6*	2.0			0	
	0					
	0					

THIRD QUARTER	0				0	0.3
	0					
	0					
	0					
	0					

FOURTH QUARTER	0.8	2.1		0	0	0
	0			0	0	0
	0			1.0***	0	0
					1.0***	

NUMBER	18	12		6	11	9
AVERAGE	0.3	0.6	0	0.3	0.2	2.4(0.1)

* TUBE WORN INCORRECTLY

** TWA FOR OTT WORN SAME DAY 2 PPM . . 21 INEXPLICABLE

*** WIND BLOWING FROM STORAGE TO FINISHING WHILE CLEANING
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