



DOW CHEMICAL U.S.A.

JANUARY 11, 1985

LOUISIANA DIVISION
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DANNIE KENNEDY
ELAYNE HYATT

DISTR. SERVICES
MARINE
MARINE
MARINE
DOCK #1
INDUSTRIAL HYGIENE
SAFETY SUPERINTENDENT

FOR YOUR INFORMATION, ATTACHED ARE PERSONNEL EXPOSURE LEVELS, SHOWN
IN PARTS PER MILLION, FROM BARGE LOADING AND SHIP DISCONNECT OPERATIONS
IN 1984. SAMPLES WERE TAKEN WITH PERSONNEL MONITORING PUMPS. TLV'S
LISTED ARE MAXIMUM ALLOWABLE EXPOSURES.

J. L. Moreau, Jr.
J. L. MOREAU, JR.
INDUSTRIAL HYGIENE
RAILROAD/MARINE

lrj

MARINE

TIME WEIGHTED AVERAGES - PERSONNEL - BARGES

METHYLENE CHLORIDE TLV-100	CHLOROFORM TLV-10	ETHYLENE DICHLORIDE TLV-10	CARBON TETRACHLORIDE TLV-5	METHANOL TLV-200	BENZENE TLV-10	BUTADIENE TLV-50	BENZENE (IN FUEL OIL) TLV-10
9.02	<1.12	3.84	<0.99	<2.73	1.85	0.05	<0.07
<1.73	<1.15	<1.30	<0.91	<2.49	29.98	5.21	<0.12
<1.81	<1.10	1.07	<1.00	<2.80		<0.10	<0.09
	15.57		5.39		12.35	0.45	0.06
3.10		1.86			6.61		0.09
2.08		3.30				2.63	0.08
					<1.10	22.31	
		<1.16			<1.16	22.70	0.27
		<1.78				7.45	1.02
		<1.87			8.27		0.36
		<1.43			2.97	0.08	
						<0.07	0.18
					21.29	<0.06	0.27
					19.44	<0.08	<0.13
						6.76	0.31
						<0.11	<0.24
						12.46	6.90
						4.80	
						2.66	
						0.16	

MARINE

15 MIN. EXCURSIONS - PERSONNEL - BARGES

<u>METHYLENE CHLORIDE TLV-500</u>	<u>CHLOROFORM TLV-50</u>	<u>ETHYLENE DICHLORIDE TLV-15</u>	<u>BENZENE TLV-10</u>
*1 - VOID	*2 - VOID	*5 - VOID	<0.02
			1.04
			0.04
			0.01
			0.45
			0.16
			0.06
			3.67
			5.41
			1.08
			5.77
			*5 - VOID

*VOID - ANALYSIS LIMIT OF DETECTION TOO HIGH

MARINE

LOADING
AREA SAMPLES - BARGES

BENZENE
TLV-10

0.20
2.95
1.60
33.65

0.00
4.15
23.20
20.43

< 1.04

1.63
18.18
< 1.21
20.96

< 0.48
0.60
0.48
1.20

BENZENE MONITORING SURVEY MARINE DOCK #2
SAMPLE CATCHING ONLY WITH NEW HAND-CRANKED SIPHON SAMPLE PUMP

TLV -- 10 PPM (CEILING)

<u>BARGE</u>	<u>DATE</u>	<u>NAME</u>	PERSONNEL PPM <u>HEEL SAMPLE</u>	PERSONNEL PPM <u>FINAL SAMPLE</u>	<u>DURATION</u>
DC-310	4-24	AL WILSON		0.45	0'20"
"	4-24	GARY BENSON		0.16	0'20"
DC-306	4-26	KEN BARTHEL	<0.02		0'20"
"	"	MIKE WETSEL		1.04	1'40"
DC-349	4-27	KEN BARTHEL	0.04		0'20"
"	"	" "		0.01	0'30"
DC-305	5-6	MARK HUTSON		0.06	1'45"
DC-373	5-11	KEN BARTHEL	3.67		0'10"
"	"	KEN BARTHEL		5.41	0'30"
DC-309	5-12	ERNEST WILLIAMS		1.08	0'20"
DC-372	5-15	MIKE WETSEL	5.77		0'10"

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BENZENE MONITORING SURVEY MARINE DOCK #2
BARGE LOADING
TLV 10 PPM (CEILING)

<u>BARGE</u>	<u>DATE</u>	<u>PERSONNEL</u>	<u>AREA CONTROL ROOM</u>	<u>AREA TOP DECK NEXT TO BARGE</u>	<u>AREA CENTER OF BARGE</u>	<u>AREA FAN BLOWER</u>	<u>WIND</u>	<u>SAMPLING TIME</u>
DC-306	6-27-84	1.85					S-0-5 MPH	4-05
"	"	29.98					"	4-05
"	"		0.20				"	3-35
"	"					2.95(N)	"	3-15
"	"			1.60			"	3-15
"	"				33.65		"	3-15
DC-371	7-2-84	12.35					SSW 3-5 MPH	4-55
"	"	6.61					"	4-55
"	"		0.0				"	4-40
"	"					4.15(N)	"	4-25
"	"			23.20			"	4-25
"	"				20.43		"	4-25

NOTE:

DC-306 - Several valves on barge reported leaking at valve stems.

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J.L. MOREAU, JR.
7-17-84

BENZENE (IN FUEL OIL) MONITORING SURVEY MARINE DOCK #2
LOADING FUEL OIL BARGES - OPEN DOME LOADING

TLV - 10 PPM (CEILING)

<u>BARGE</u>	<u>DATE</u>	<u>NAME</u>	<u>PERSONNEL PPM-BENZENE</u>	<u>DURATION</u>
NMS-1802	5-4	O'NEAL BOSLEY	0.27	5'40"
"	"	AL WILSON	1.02	5'40"
"	"	DENNIS DUPUY	0.36	7'15"
		MIKE WETSEL		
NMS-3101	5-5	O'NEAL BOSLEY	0.06	7'30"
		CARL WOODS		
"	"	MIKE WETSEL	0.09	7'30"
		MARK HUTSON		
"	"	AL WILSON	0.08	7'30"
		FREDDIE JACKSON		
NMS-3100	5-5	CARL WOODS	<0.07	4'45"
"	"	FREDDIE JACKSON	<0.12	4'45"
"	"	MARK HUTSON	<0.09	4'45"

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BENZENE (IN FUEL OIL) MONITORING SURVEY MARINE DOCK #2
LOADING FUEL OIL BARGES

TLV - 10 PPM

<u>BARGE</u>	<u>DATE</u>	<u>NAME</u>	<u>PERSONNEL PPM-BENZENE</u>	<u>DURATION HRS.-MINS.</u>
H-1802	11-10	ALTAZAN/PREJEAN	0.18	20-40
"	"	FRANKLIN/HAMMONDS	0.27	20-45
"	"	BOSLEY/CAVALIERE	< 0.13	20-40
H-2001	11-11	ALTAZAN	0.31	15-50
"	"	BENSON	< 0.24	15-50
"	"	FRANKLIN	6.90	16-0

MARINE DOCK #1

VINYL CHLORIDE SHIP DISCONNECT EXCURSIONS - PERSONNEL

TLV-5

<u>DATE</u>	<u>SHIP</u>	<u>TOP DECK ONLY NO RESPIRATORY PROTECTION</u>	<u>WORKED DISCONNECT USED BREATHING AIR</u>
3/25	PRINS MAURITS	0.29	1.67 2.57
5/15	CORAL ISIS	0.57	2.5 40.04
6/10	CORAL ISIS	0.45	54.99 261.85
6/23	CORAL ISIS	0.29	79.8 18.6
7/18	MERWE GAS	0.34	1.67 0.49
9/15	EPSILON GAS	0.01	1.28 359.3
10/8	EPSILON GAS	21.23	251.9 82.24
ABOVE TLV		1 OF 7	8 OF 14

MARINE DOCK #2

VINYL CHLORIDE SHIP DISCONNECT EXCURSIONS - PERSONNEL

TLV-5

<u>DATE</u>	<u>SHIP</u>	<u>TOP DECK ONLY NO RESPIRATORY PROTECTION</u>	<u>WORKED DISCONNECT USED BREATHING AIR</u>
1/5	PRINS MAURITS	0.9	42.0 17.5
1/18	PRINS MAURITS	0.31	0.98 4.41
1/27	CONCORDIA FJORD	0.41	6.97
1/31	PRINS MAURITS	1.94	33.1 58.3
2/28	PRINS MAURITS	0.03	1.77 0.48
3/12	PRINS MAURITS	0.11 0.0	12.3
3/21	HENRIETTE THOLSTRUP	2.82	44.5 35.5
5/26	CORAL ISIS	4.1	118.1 90.17
6/2	SUSAN MAERSK	38.58	25.39 30.3
6/25	GALCONDA	0.7	26.2 31.9
7/18	LORD KELVIN	0.26	1.12 0.48
7/26	DELTAGAS	1.46	53.12 177.88
8/22	MERWE GAS	0.1	3.68 1.99
9/17	GARLA		750.0 9.56
9/25	HENRIETTE THOLSTRUP	0.18	27.2 470.0

MARINE DOCK #2 (cont'd)

VINYL CHLORIDE SHIP DISCONNECT EXCURSIONS - PERSONNEL

TLV-5

<u>DATE</u>	<u>SHIP</u>	<u>TOP DECK ONLY NO RESPIRATORY PROTECTION</u>	<u>WORKED DISCONNECT USED BREATHING AIR</u>
9/26	EPSILON GAS	0.14	1.99 2.38
10/13	HENRIETTE THOLSTRUP	0.18	3.77 15.46
10/19	EPSILON GAS	0.11	7.58 17.5
11/24	GALCONDA	11.7	241.0 200.7
11/15	EPSILON GAS	0.28	56.6 65.27
12/23	EPSILON GAS		289.0 95.9
ABOVE TLV		2 OF 20	29 OF 40

9/26 EPSILON GAS

ALSO MONITORED EMPLOYEE INHIBITING HYDROQUINONE INTO POT. INHIBITING
OF ALL FOUR VINYL SHIP TANKS WAS MONITORED - TOTAL TIME 43 MINUTES -
RESULT 116 PPM.



DOW CHEMICAL U.S.A.

October 24, 1984

LOUISIANA DIVISION
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Tony Grant - Marine
Donald Fabre - Marine
Shift Supervisors - Marine
Dannie Kennedy - Industrial Hygiene
Elayne Hyatt - Safety Superintendent

NOISE SURVEY MARINE DOCK #1 INTAKE PUMPS/NEW CONTROL ROOM BLDG.

The attached noise survey was made using a B & K Sound Level Meter Model 2219. A previous survey was made before the new control room building was erected and these results also were below the OSHA standard of 85 decibels (dBA).

The new control room building interior noise levels are well below the OSHA standard.

All survey results are shown in decibels (dBA).

J. L. Moreau, Jr.

J. L. Moreau, Jr.
Industrial Hygiene
Railroad/Marine

Attachment

lrj

MARINE

ACCOMPLISHMENTS - 1984

EMPLOYEE EDUCATION PROGRAM - 100% PARTICIPATION

SPECIAL SURVEYS SUCH AS MONITORING BENZENE IN FUEL OIL AND BENZENE EXPOSURES WHEN SAMPLING BARGES WITH NEW SAMPLE PUMP.

SELECTIVE AND MEANINGFUL PERSONNEL MONITORING DETERMINED BY REVIEW OF PREVIOUS EXPOSURE DATA.

NOISE SURVEY DOCK #1 - INTAKE PUMPS/NEW CONTROL ROOM BUILDING.

NORTH END DOCK #2 - FAN BLOWER VENT SYSTEM, USED TO VENT BENZENE VAPORS AWAY FROM PERSONNEL LOADING BARGES. ALSO USED TO PURGE SPOOL PIECE ON VINYL SHIP DISCONNECTS. (NOW HAVE BLOWERS ON BOTH NORTH AND SOUTH ENDS.)

NEW CRANE DOCK #2, ELIMINATING MANHANDLING OF LOAD HOSES, ETC.

BEGAN CHECKING TOD ON WING AND RAKE TANKS ON BARGES AND ALSO ON OPEN HOPPER TYPE BARGES BEFORE DISCHARGING WATER TO RIVER.

MARINE

GOALS - 1985

PROTECTING THE PHYSICAL WELFARE OF EMPLOYEES BY REDUCING CHEMICAL EXPOSURES.

CONTINUING 100% EMPLOYEE EDUCATION - CONSEQUENCES OF OVEREXPOSURE TO CHEMICALS AND NOISE, SURVEY RESULTS, ETC.

SELECTIVE AND MEANINGFUL MONITORING DETERMINED BY REVIEW OF PREVIOUS EXPOSURE DATA.

CONTINUED EMPHASIS ON REDUCTION OF VINYL CHLORIDE SHIP DISCONNECT EXPOSURES.

COMPLETION OF BUILDING PROGRAM DOCK #1.

NEW CONTINUOUS AIR MONITOR DOCK #1.

NEW CHROMATOGRAPH TO ANALYZE AIR SAMPLES FOR VESSEL ENTRY. DOCK #1.

WARM WATER SAFETY SHOWERS AND EYE WASH FOUNTAINS - COMPLETE INSTALLATION ON BOTH DOCKS.

INDUSTRIAL HYGIENE ANNUAL REVIEW 2-20-85
RR/TANK CAR CLEANING - MARINE

COMMENTS:

✓ 1- ANALYSIS RESULTS - DO NOT SHOW "0" (ZERO). SHOW ND OR BLD.

✓ 2- NEXT TO DATA RESULTS SHOW RESPIRATORY PROTECTION USED.

FABRE
3 - MARINE: WRITTEN RESPIRATOR POLICY ON CARTRIDGE CHANGE, ALSO COVERED BY EDUCATION.

FABRE
4 - DONALD FABRE: ANNUAL REPORT ON MEASURES TAKEN TO REDUCE VINYL EXPOSURES.

✓ 5- LOOK FOR PATTERN OF HIGH EXPOSURES BY SAME PERSON.

✓ 6- AIR CIRCULATION - 4104 STOCK WAREHOUSE.

✓ 7- WATER SAMPLES WHEN VENTING E.O. TO SCRUBBER.

SHRINK . SHIRT THESE SAMPLES FOR 1985 =

TANK CAR CLEANING

8-30	CHLOROFORM	06553-54
9-23	METHYLENE CHLORIDE	06558-59
9-26	CHLOROFORM	06560-61-62
11-8	CARBON TET.	06585-86-87-
11-11	CHLOROFORM	06588-89-90
11-14	ETHYLENE OXIDE	06594-95-96-97-98
11-19	ETHYLENE OXIDE	06599-06600-06801
11-21	BUTADIENE	06802-03-04

DOCK #1

10-4	METHYLENE CHLORIDE	06563-64-65-66-67-68-69
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DOCK #2

10-21	BENZENE	06576-77-78-79-80-81
12-16	BENZENE	06819-06821

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