

**Shell Oil Company • Shell Chemical Company**

Interoffice Memorandum

JANUARY 4, 1985

FROM: SR. INDUSTRIAL HYGIENIST

TO: SUPERINTENDENT HEALTH, SAFETY AND ENVIRONMENTAL
MANAGER - SAFETY

SUBJECT: 1985 INDUSTRIAL HYGIENE EXPOSURE MONITORING PROGRAM

Attached for your information are two documents on the DPMC exposure monitoring program. The first, Premises For Industrial Hygiene Exposure Surveillance categorizes the underlying reasons for exposure monitoring eg. OSHA compliance, to identify 'exposed' work groups for medical surveillance, etc.

This first document is stamped "draft" in that further guidance is anticipated as a result of an effort in Corporate HS&E to develop a similar package for all manufacturing locations. DPMC Industrial Hygiene is participating in this effort in order to: 1) obtain a more consistent approach to monitoring between plants, and 2) clarify HS&E's expectations in the area of minimum surveillance requirements.

As the current planned monitoring program is "trim", I do not expect this head office project to reduce the level of surveillance at DPMC, only clarify priorities.

The Summary Of Scheduled Exposure Monitoring also attached, is based on the draft monitoring premises which was prepared. This plan varies somewhat from year to year depending on several factors.

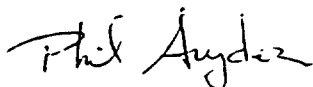
The 1985 plan may be characterized as:

- Re-emphasizing noise dosimetry which has not been conducted since 1982 in the Refinery.
- Incorporating more short term peak measurements, less 8 hour TWA's for benzene (unless dictated by the new benzene regulation).
- Emphasizing special surveys in areas of concern: MEK, BPA, Welding gases, etc.
- Less coverage of turnarounds involving benzene.

LAM 000330

Based on some rough calculations (Table 1) the proposed monitoring plan can be accommodated with the manpower available providing no new work demands are imposed.

I hope this provides further insight into the Industrial Hygiene program here at DPMC. Please let me know if you have any questions.



P.J. Snyder

Attachment

cc: ✓ ECB Satellite
PJS Chron

LAM 000331

TABLE 1

	<u>Est. % Time Allocated To Routine Monitoring</u>	<u>Est. % Time Allocated To Special Studies</u>	<u>Other Job Responsibilities</u>
Jan	50%	5%	*Epidemiology support *Suport to Hazcom *Contractor fit testing *Jep updates
David	75%	5%	*Coordinates JEP updates *Support to MSDS program
Gary	60%	30%	*Respirator Service Center *Lube B Task Force *JEP updates
Benny	95%	-	*Laboratory support *JEP updates
Carl	35%	50%	*Supervision of field work *Special studies coordinator *JEP updates
Phil	-	10%	*Technical supervision/ advisor *Program development *Special studies *HSE interface

819 mandays available
 - 315 adjustment for vacation, weather, training, etc.
 504 mandays available for routine scheduled monitoring

Mandays required for routine scheduled monitoring.

Operations	355 mandays
Maintenance	95
Shutdowns	50
	<u>500 mandays</u>

LAM 000332

DRAFT

January 2, 1985

PREMISES FOR INDUSTRIAL HYGIENE EXPOSURE SURVEILLANCE

The following outlines what monitoring is required to be performed at DPMC on the basis of need ie. OSHA mandated, compliance verification, etc.

I. <u>Exposure Monitoring Specifically Required By</u> <u>OSHA And/Or EPA</u>	<u>Comments</u>
A. <u>Asbestos</u> Per 29 CFR 1910.1001, representative ¹ air sampling required once every 6 months on each job with potential asbestos exposure. <u>Targeted work groups</u> • North Garage brake repair • Transite cutting • Major demolition projects (as they occur)	Short term peak measure- ments required in addition to 8 hour measurements.
B. <u>Vinyl Chloride Monomer</u> DPMC's present compliance plan requires exposure monitoring on each job category identified (1-5 measurements per calendar quarter depending on exposure potential). <u>Targeted work groups</u> • V Operations • Site 3 Operations (shipping) • V Maintenance	
C. <u>Noise Monitoring</u> (1) Routine sound level surveys - All operating, maintenance and distribution work areas are required to receive an annual sound level survey for the purposes of establishing hearing protection areas. This is a minimum requirement, - noise control maps are to be updated within 2 months of any major unit change. (2) Non-routine sound level surveys - Work areas associated with a unit turnaround are to receive a sound level survey to establish temporary	Safety Inspectors responsible. LAM 000333 Safety Inspectors responsible.

hearing protection requirements during the shutdown.

(3) Personnel dosimetry (8 hour monitoring) - 8 hour noise exposure dosimetry is required to: 1) identify exposures which exceed the 90 dB(A) and 115 dB(A) OSHA limits; 2) identify worker groups who do not need audiometric tests; 3) educate field employees; and 4) develop historical exposure data for future defensive litigation purposes.

Targeted work groups

- a) Field work areas which experience any major equipment change or procedural change which may reasonably increase noise exposure to personnel. All such areas are to receive a representative noise dosimetry survey within 2 months of completing that change, and
- b) All work areas and jobs which have mandatory hearing protection requirements are to receive a dosimetry survey at least once every 2 years (represents most operating and maintenance work groups).

D. Chemical Exposure Evaluations For Compliance Verification

Many chemical substances in use at DPMC have associated with them permissible exposure limits (PELS). These are either OSHA limits or Shell internal limits. Although no frequency of air sampling is mandated by OSHA, an appropriate surveillance level is indicated to facilitate and verify compliance with existing PELs.

Comments

-
-

Industrial Hygiene personnel responsible.

Engineering and operations is responsible to notify Industrial Hygiene

LAM 000334

(1) Exposure evaluations performed to assess the impact of a "change"

All significant new chemical applications, uses, or changes in work practices, which (because of vapor pressure and/or toxicity), have the potential for exceeding a permissible exposure limit are to be reviewed with Industrial Hygiene. This evaluation may require baseline monitoring, eg.

- Dicyclopentadiene is to be loaded into tank cars instead of tank trucks
- Carbon disulfide is to be injected into a process for the first time
- Hydrazine is to be handled in a new work application or work area.

(2) Evaluations performed to assess compliance during a unit turnaround

Unit maintenance and decontamination potentially have a higher risk of excessive employee exposure. For some substances (because of vapor pressure and/or toxicity) personnel exposure monitoring is required to be conducted during every shutdown. Typically this will involve the shifts associated with decontamination and initial equipment openings. As a guideline this includes substances with permissible exposure limits below 10 ppm eg. vinyl chloride and epichlorohydrin.

All other unit turnarounds (eg. those involving benzene) will receive a survey once every 3 years.

Engineering and Operations responsible to notify Industrial Hygiene.

LAM 000335

DPMC-16049

D(continued)

(3) Gas chromatograph measurements to identify the status of vessel decontamination, downwind levels of leaks, etc.

Comments

G.C. samples collected by I.H., Safety, Operations and Environmental Supervisors. Analysis usually done by I.H. personnel.

E. Special Investigations

Includes investigations of employee complaints, requirements of the EPA Toxic Substances Control Act (TOSCA).

F. Monitoring Conducted To Maintain A Historical (Compliance) Database

Exposure levels are to be verified on a regular basis per a written schedule for significant chemicals of concern. (Factors influencing this selection include toxicity, exposure potential, or pending regulations). This database will also be used for epidemiology purposes and to modify Job Exposure Profiles (JEPs).

See attached sampling plan.

II. Exposure Monitoring Conducted To Define An Exposure Population For Medical Surveillance Purposes

Representative exposure levels to each work group in a medical surveillance (special emphasis) exam program are to be identified at least once every 3 years, eg. benzene, epichlorohydrin, noise, etc. Personnel not meeting established criteria would be excluded from such medical examinations.

LAM 000336

DPMC-16050

III. Exposure Monitoring Conducted To Develop New

Exposure Information

These evaluations are 'reactive' to new toxicity data, new qualitative information on exposure potential, or pending regulations.

Examples

- Can DPMC meet a lowered exposure limit for butadiene?
- What are the peak exposures at Lube B to MEK?
- What benzene levels occur when draining water off tanks?
- What particle size are BPA workers exposed to?
- What welding exposures occur in the new CCU Reactor?

¹ Definition of "Representative Monitoring"

Representative exposure monitoring means personnel breathing zone exposure monitoring conducted at such frequencies, durations and intervals so as to meaningfully describe and characterize the range of exposure levels experienced and the contributing sources of emission.

As is deemed appropriate, this would include both 8 hour TWA and peak measurements. Representative monitoring is to consider relevant differences between operating conditions, seasons, shifts and personnel.

SUMMARY OF SCHEDULED EXPOSURE MONITORING

The sampling plan described outlines the minimum surveillance requirements for DPMC at this time. A Shell Industrial Hygiene study group is currently outlining a more statistical approach to the issue of determining "substantial compliance", however, the product of this effort will probably shift coverage frequency between units, but not reduce the total amount of sampling required.

DEER PARK MANUFACTURING COMPLEX

JANUARY 1985

ROUTINE MONITORING SCHEDULES

<u>PROGRAM</u>	<u>DESCRIPTION OF SAMPLING COVERAGE</u>
Schedule #1	Three 8 hr. measurements collected on Shift #2 <u>semi-annually</u> .
Schedule #2	Five 8 hr. measurements collected on Shift #2 <u>quarterly</u> .
Schedule #3	Two 8 hr. measurements collected on Shift #2 <u>quarterly</u> .
Schedule #4	One 8 hr. sample collected on Shift #2 <u>quarterly</u> (minimum).
Schedule #5	One 8 hr. measurement collected on 3 craftsmen in each area containing 51% benzene Shift #2 <u>semi-annually</u> .
Schedule #6	<u>Semi-annual</u> measurement(s) collected.
Schedule #7	<u>Annual</u> monitoring.
Schedule #8	Monitored every 2 years. Each job to receive a minimum of 2-3 8 hour tests.

NON-ROUTINE (SHUTDOWN) STUDIES

Monitoring for individual unit shutdowns will be conducted on an "as needed" basis.

LAM 000338

SPECIAL EXPOSURE STUDIES PLANNED FOR 1985

Asbestos	Pipefitter, Insulators and other maintenance personnel.
Metals, Dusts	Bulldozer Driver Environmental North
Vacuum Truck Drivers	Most significant exposures
TEL/EDB	Audit/review of exposures
Low Lead Paint	Spray Painting Exposure Potential
Analytical Lab North	To Be Determined
MEK/Toluene	Lube B
Hydrogen Sulfide	Gas Recovery
Total Hydrocarbons	Development of a test method for establishing respirator requirements when odors are present.
Pentachlorophenol	Carpenters North
Noise	Welders South
Phenol	Baseline survey for area phenol levels at Phenol Acetone and BPA.
Other	Central Maintenance North - See pg. 14.
Short Term Exposure Levels	Sample collection, tank gauging, water draws, filter changes, screen cleaning, decontamination of equipment.
Shift Monitoring	Shifts #1 & #3 for same chemicals as Shift #1.
Special Chemicals	Review of chemicals on unit not routinely monitored.
Welding Gases	Welders/Boilermakers

LAM 000339

UTILITIES SOUTH

Operations Foreman	09310	<u>Schedule #1</u> (6 Sx/Job/Yr) Benzene	<u>Schedule #8</u> Noise
Boiler Inside Operator	09510		Noise
Boiler Outside Operator	09511	<u>Schedule #6</u> (2 Sx/Job/Yr) Hydrazine	Noise
East Utilities Operator	09512		Noise
General Utility Oper.	09513	Benzene	Noise

G OPERATIONS

		<u>Schedule #6</u> (2 Sx/Job/Yr)	<u>Schedule #4</u> (4 Sx/Job/Yr)	<u>Schedule #8</u>
Utility Operator	07517	Chlorine	ECH, TCP	Noise
Operations Foreman	07310		ECH, TCP	Noise
C Unit Operator	04534		AC, ECH, TCP	Noise
G-300	07513		ECH, TCP	Noise
			<u>Schedule #7</u> (1 Sx/Job/Yr)	

C (MS & H)

Utility Oper.	07561	DMK, MIBC, MIBK, Noise MO, DAA, HG
M Plant Oper.	07565	DMK, MIBC, MIBK, Noise MO, DAA

LAM 000340

RESINS DISTRIBUTION

SOLIDS OIS - LRDF DISTRIBUTION	Foreman ER2/6	5331	<u>Schedule #8</u> Noise	
	Foreman LRDF	5330		
	LRDF Drumming Operator	5530	<u>Schedule #6 (2 Sx/Job/Yr)</u> Product Components*	
	Solids OIS ER 2/6 Palletizer Operator	5537	Noise	
	LRDF Small Package Oper.	5531	Product Components*	
	LRDF Bulk Operator	5534	Product Components* (all spots)	
	Solids OIS Shipping & Receiving Oper.	5532		
	Solids OIS ER 2/6 Bulk Loading Oper.	5535	<u>Schedule #4 (4 Sx/Job/Yr)</u> BPA (Hopper Car Loading) Noise	
	Solids OIS ER 2/6 Bagging Operator	5536	Total Dust (Bagging Noise BPA and Resins)	
	LRDF Warehouse Shipping and Receiving Oper.	5533		

*To Include Glycidyl Ethers, Ethyl and Methol Oxitol and MDA.

LAM 000341

MAJOR RESINS

LIQUID RESINS AND SOLID RESINS			<u>Schedule #4</u> <u>(4 Sx/Job/Yr)</u>	<u>Schedule #8</u>
			DMK, ECH	Noise
	Finishing Operator	4520		
	Operations Foreman	4340	DMK, ECH	Noise
	Liquids Reaction Operator	4521	DMK, ECH	Noise
	Tank Farm Operator	4522	DMK, ECH, Methyl Oxitol	Noise
	Belt Oper.	4541	ECH, MIBK	Noise
	Solids Reaction Operator	4543	ECH, MIBK	Noise

RESIN SOLUTIONS

			<u>Schedule #4</u> <u>(4 Sx/Job/Yr)</u>	<u>Schedule #8</u>
			ECH, MIBK, Ethyl and Methyl Oxitol plus other product components	Noise
	EPON III Kettle Operator	4551		
			<u>Schedule #6</u> <u>(2 Sx/Job/Yr)</u>	
	Flaker Charge Operator	4552	BPA (Dust)	Noise
	Operating Foreman	4350	ECH, MIBK plus other product components	Noise
	Auxiliary Operator	4557	ECH, MIBK, Ethyl and Methyl Oxitol plus other product components	Noise

LAM 000342

DPMC-16056

LIGHT OLEFINS

		<u>Schedule #3</u> <u>(8 Sx/Job/Yr)</u>	<u>Schedule #8</u> <u>Noise</u>
Auxiliary Operator	1550	Benzene	Noise
Compression Operator	1551	Benzene	Noise
Operations Foreman	1350	Benzene	Noise
Fractionator Operator	1552	Benzene	Noise
Refrigeration Operator	1553	Benzene	Noise
Treaters Operator	1554	Benzene	<u>Schedule #6</u> <u>(2 Sx/Job/Yr)</u> Hydrazine Noise
Utility Operator	1555	Benzene	Noise

SBA

No Scheduled Chemical Monitoring

			<u>Schedule #8</u> <u>Noise</u>
BPA	BPA 1/Rec. Operator	4510	No Scheduled Chemical Monitoring
	BPA 2 Oper.	4511	Noise
	Operations Foreman	4310	Noise
	Recovery/Utility Entry	4514	Noise
	3C Operator	4513	Noise
	3R Operator	4512	Noise

LAM 000343

OP III PYROLYSIS III

			<u>Schedule #3</u> <u>(8 Sx/Job/Yr)</u>	<u>Schedule #8</u> <u>Noise</u>
E. Kerosene Operator	1540	Benzene		
Ethane Furnace Operator	1541	Benzene	<u>Schedule #6</u> <u>(2 Sx/Job/Yr)</u> <u>Hydrazine</u>	Noise
Fractionation Operator	1542	Benzene		Noise
Gas Oil Operator	1543	Benzene		Noise
South Tank Farm	1545	Benzene		Noise
West Kerosene Operator	1544	Benzene		Noise
Operations Foreman	1340	Benzene		Noise
Firewatch	1546	-		

OP III BUTADIENE/

HYDROTREATER

			<u>Schedule #1</u> <u>(6 Sx/Job/Yr)</u>	<u>Schedule #8</u> <u>Noise</u>
BD-III 100 Operator	1532	ACN, BD		
BD-III 200/ 300/400 Oper.	1533	ACN, BD		Noise
HT-II Fract- ionator Operator	1534	<u>Schedule #3</u> <u>(8 Sx/Job/Yr)</u> Benzene		Noise
HT-II Reactor Operator	1535	Benzene		Noise
HT-III Operator	1536	Benzene		Noise
Operations Foreman BD/ HT-II/III	1330	Benzene		Noise
Isoprene Operator	1513	Benzene	<u>Schedule #6</u> <u>(2 Sx/Job/Yr)</u> DCPD T.T. Loading	Noise

LAM 000344

DISTRIBUTION
OLEFINS, INTER.
AND SOLVENTS

Site III	Facilities Operator	05527	<u>Schedule #4</u> <u>(4 Sx/Job/Yr)</u> VCM	<u>Schedule #1</u> <u>(6 Sx/Job/Yr)</u> Butadiene	
	Foreman Site III/ West Rack	05321	VCM		
	Tank Car Operator	05526	<u>Schedule #2</u> <u>(20 Sx/Job/Yr)</u> VCM	Butadiene	
	Tank Truck Operator	05525		Butadiene	
	Denaturing Plant Oper.	05521			
	Assigned Shell Maint.		<u>Schedule #4</u> VCM	<u>Schedule #4</u> Butadiene	
West Rack	Drumming Operator	05524		<u>Schedule #6</u> <u>(2 Sx/Job/Yr)</u> AC, ECH,	<u>Schedule #8</u> Noise
	Tank Truck Operator	05523		ECH, Acetone, MIBK, IPA, MEK	
	Tank Car Operator	05522		ECH, Acetone, MIBK, IPA, MEK	
	Operations Foreman	05320			

LAM 000345

VINYL CHLORIDE

		<u>Schedule #2</u> <u>(20 Sx/Job/Yr)</u>	<u>Schedule #8</u> <u>Noise</u>
EDC-100 Operator	07530	EDC, VCM	
		<u>Schedule #4</u> <u>(4 Sx/Job/Yr)</u>	
HCIN-II/III Operator	07532	EDC, VCM	Noise
Operating Supervisor VCM Unit	07231	EDC, VCM	Noise
Oxychlorin- ation 150 Operator	07533	EDC, VCM	Noise
		<u>Schedule #2</u> <u>(20 Sx/Job/Yr)</u>	
Operations Foreman (VCM)	07330	EDC, VCM	Noise
Utility Operator	07534	EDC, VCM	Noise
VCM 200 Oper.	07535	EDC, VCM	Noise
Assigned Shell Maintenance		<u>Schedule #4</u> EDC, VCM	Noise

VCM CONTRACTOR MAINTENANCE

		<u>Schedule #4</u> <u>(4 Sx/Job/Yr)</u>
B&R Boilermaker	99539	EDC, VCM
B&R Foreman	99301	EDC, VCM
B&R General Mechanic	99543	EDC, VCM
B&R Pipefitter	99542	EDC, VCM

LAM 000346

TECHNICAL - SOUTH
QUALITY CONTROL
LAB OP II/III

Lab Tech 40464
Olefins

Schedule #4 (4 Sx/Job/Yr)
Benzene

TECHNICAL - SOUTH
QUALITY CONTROL
LAB SOLVENTS/
INTERMEDIATES

Lab Tech 40455
Solvents

DMK, IPA,
MEK, MIBK

Lab Tech 40456
Intermediates

VCM, AC, ECH

Lab Tech 40474
Resins

ECH, MEK, MIBK,
Methyl Oxitol

A OPERATIONS

		<u>Schedule #7</u> <u>(1 Sx/Job/Yr)</u>	<u>Schedule #8</u>
DPS-LPG Operator	07541	IPA	Noise
Furnace Operator	07542	DMK, IPA	Noise
IPA Reactor Operator	07543	IPA	Noise
IPA Stripper Operator	07544	IPA	Noise
Operations Foreman	07340	IPA, DMK	Noise
A Distillation Operator	07562	DMK, IPA	Noise
B Distillation Operator	07563	DMK, MIBC, MIBK, MO IPA	Noise
A Gauger Operator	07560	DMK, MEK, IPA, MO, MIBK, MIBC	Noise

LAM 000347

ENVIRONMENTAL SOUTH

		<u>Schedule 4</u> <u>(4 Sx/Job/Yr)</u>	<u>Schedule #8</u>
Rover Opr.	52510	Benzene	Noise
Effluent Treater Operator	52512		Noise
Filter Press Incinerator Operator	52511		Noise

BA/SR

		<u>Schedule #4</u> <u>(4 Sx/Job/Yr)</u>	<u>Schedule #8</u>
BA Finishing Operator	07550	2EH, NBA, IBA	Noise
BA Reactor Operator	07551	2EH, NBA, IBA	Noise
HBAX Operator	07554	2EH, NBA, IBA	Noise
Gas EHA Operator	07553	2EH, NBA, IBA	Noise
LPG Operator	07555		
Operations Foreman	07350	2EH, NBA, IBA	Noise
		<u>Schedule #4</u> <u>(4 Sx/Job/Yr)</u>	
(EP) Girbitol Operator	07556	Benzene	Noise
(EP) EA Weigh Room Operator	07558		
(EP) Sulfur Recovery Operator	07557		Noise
Utility Operator	07559	Benzene	Noise

LAM 000348

DPMC-16062

<u>R Area - Maintenance South</u>		<u>Epon V</u>	<u>Monitoring Coverage*</u> <u>Solutions</u>	
Boilermaker	22501			
Electrician	22503	ECH, DMK	ECH, MIBK	-
Instrument	22504			-
Machinist	22507			
Pipefitter	22601			
<u>Olefins Area - Maintenance South</u>		<u>PY</u>	<u>LO</u>	<u>BD</u>
Boilermaker	25501	BZ	BZ, N ₂ H ₂	BD, Acetonitrile
Electrician	25503			
Instrument	25504			
		<u>HT II/III</u>	<u>ISOPRENE</u>	
Machinist	25501	BZ	BZ	
Pipefitter	25601		DCPD	
<u>A Area - Maintenance South</u>			<u>G 300</u>	
Boilermaker	28511		AC, DD	
Electrician	28513		ECH, TCP	
Instrument	28514	<u>M & H</u>	<u>A</u>	<u>C</u>
Machinist	28517	MO	IPA	AC
		MIBK	DMK	ECH
Pipefitter	28611	MIBC	(MIBC)	TCP
		DMK	(MIBK)	
			(MO)	
<u>E Area - Maintenance South</u>		<u>BA</u>	<u>VCM</u>	<u>SITE III</u>
Boilermaker	28531	NBA	VCM	VCM
		EHA	EDC	
Electrician	28533	IBA		
Machinist	28534			
Instrument	28537			
Pipefitter	28631			

LAM 000349

* Monitoring will approximately be semiannually with measurements of 3 craftsmen in each area; data to be collected along with operations surveys.

* Noise monitoring to be determined.

SOUTH - MAINTENANCE SOUTH

Boilermaker	31511	
Carpenter	31512	-
Electrician	31513	-
Instrument	31514	No Scheduled
Machinist	31517	Chemical Monitoring
Painter	31519	
Pipefitter	31611	
Tinner	31613	
Welder	31614	

(Noise monitoring to be determined)

LAM 000350

DPMC-16064

MAINTENANCE WEST - MAINTENANCE NORTH

Boilermaker - Tank Farm	36500	Schedule #5
Boilermaker - West Operations	36502	Schedule #5
Pipefitters - West Operations	36526	Schedule #5
Machinist - West Operations	37540	Schedule #5

(Noise monitoring to be determined)

CENTRAL MAINTENANCE - MAINTENANCE NORTH

Shop Painters	35512	Study needed on exposure to paint containing low Pb levels.
Painters Plannable	35513	
Truck Drivers (Gasoline)	36522	Total HC, BTX, (Noise) 5 day survey required
Shop Carpenters	35507	Study required on pentachlorophenol treated wood

LAM 000351

SOUTHEAST MAINTENANCE

Boilermaker	35502	Schedule #5: Benzene
Machinist	38500	Schedule #5: Benzene
Arom., Gas Rec.		
Pipefitter	35522	Schedule #5: Benzene
Gas Rec., Arom.		
Carpenter	35508	
Pipefitter	35521	
CCU, Hydro.		
Electrician	37500	
Gas Rec., Arom.		
Electrician	37504	
CCU, Hydro.		
Instrument	37521	
Mechanic		
Arom., Gas Rec.		
Instrument	37523	
Mechanic		
CCU, Hydro.		
Machinist	37541	
CCU, Hydro.		

(Noise monitoring to be determined)

NORTHEAST MAINTENANCE - MAINTENANCE NORTH

		<u>Lube B</u> <u>MEK/Toluene</u>	<u>Phenol</u> <u>Benzene, Cumene, Toluene</u>
Boilermaker Lube/P.A.	35503	(Special	
Instrument Mechanic	35509	Exposure Study)	
Pipefitter, Lube A,B,C	35523		
Pipefitter P.A.	35524		Schedule #3
			All others schedule #4
Insulator	36510		
Electrician, Lube/PA	37505		
Machinist, Lube/PA	37542		

(Noise monitoring to be determined)

LAM 000352

CATALYTIC CRACKING

Compressor Operator	10530	No Scheduled Chemical Monitoring	<u>Schedule #8</u> Noise
Control Board Operator	10531	-	Noise
Fractionator Operator	10532		Noise
Operations Foreman	10330		Noise
Reactor-Regen. Operator	10533		Noise
General Operator	10534		Noise

PHENOL A

Cleavage Oper.	16510	<u>Schedule #3</u> (8 Sx/Job/Yr) Benzene, Cumene, Toluene	<u>Schedule #8</u> Noise
Cumene Operator	16511	Benzene, Cumene, Toluene	Noise
Operations Foreman	16310	Benzene, Cumene, Toluene	Noise
Oxidation Operator	16512	Benzene, Cumene, Toluene	Noise

PHENOL B

Acetone Oper.	16520	<u>Schedule #4</u> (4 Sx/Job/Yr) Benzene, Cumene, Toluene	<u>Schedule #8</u> Noise
Effluent Oper.	16523	<u>Schedule #3</u> (8 Sx/Job/Yr) Benzene, Cumene, Toluene	Noise
Phenol Fractionator Oper.	16521	<u>Schedule #4</u> (4 Sx/Job/Yr) Benzene	Noise
Recovery Oper.	16522	Benzene, AMS	Noise

LAM 000353

DISTILLING				<u>Schedule #8</u>
				Noise
	DU-3 Operator	13532		
	DU-1 Primary Operator	13534		Noise
	Secondary DU-1 Operator	13535		Noise
	DU-2 Crude Operator	13530		Noise
			<u>Schedule #1 (6 Sx/Job/Yr)</u>	<u>Schedule #8</u>
	DU-2 Auxiliary Operator	13531	Benzene & Toluene	Noise
	Naphtha Hydro-treater Oper.	13533	Benzene & Toluene	Noise
	Operations Foreman	13330	Benzene & Toluene	Noise
	DU-2 Vacuum Flash Operator	13536		Noise
ENVIRONMENTAL NORTH			<u>Schedule #3 (8 Sx/Job/Yr)</u>	
	Rover Operator	52501	Benzene, Toluene, Xylene	
	Effluent Treater Oper.	52502		
			<u>Schedule #3 (8 Sx/Job/Yr)</u>	
	Oil Recovery Operator	52503	Benzene, Toluene, Xylene	
	Shift Foreman Treaters	52301		

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THERMAL CRACKING

		<u>Schedule #1 (6 Sx/Job/Yr)</u>	<u>Schedule #8</u>
Dubbs Pumphouse Operator	13540	Benzene & Toluene	Noise
Flashers #1	13541		Noise
Flashers #2	13542		Noise
Operations Foreman	13340	Benzene & Toluene	Noise
Primary Cracking Operator	13543	Benzene & Toluene	Noise
Secondary Cracking Oper.	13544	Benzene & Toluene	Noise

SOLVENTS AND TREATING

		<u>Schedule #1 (6 Sx/Job/Yr)</u>	<u>Schedule #8</u>
LOFU-A Operator	13521	Benzene	Noise
LOFU-C Operator	13522	Benzene	Noise
Operations Foreman	13320	Benzene	Noise
Treater Operator	13520	Benzene	Noise

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NORTH LAB

Schedule #1 (6 Sx/Job/Yr)

Bottlewasher	43710	Benzene, Cumene, Toluene, Xylene
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Gasoline Distilling Tester	43522	Benzene
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GLC Sample Shipping Special Tester	43510	Benzene
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Gas Oil Distillation Tester	43521	Benzene
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Misc./Motor Lab Special Tester	43511	
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Schedule #3 (20 Sx/Job/Yr)
Benzene

Motor Lab Special Tester	43512	
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Catalyst Tester	43520	
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RA Special Tester	43513	
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RI Special Tester	43514	Benzene
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RVP Special Tester	43515	Benzene
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Sample Carrier	43610	Benzene
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Stability Special Tester	43516	Benzene
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UVA Special Tester	43517	Benzene
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Viscosity Special Tester	43518	
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Wax Special Tester	43519	
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DPMC-16070

DISPATCHING TANK FARM

Blender Operator	13551		
Board Operator	13550		
Operations Foreman	13350	<u>Schedule #1</u> (6 Sx/Job/Yr) Benzene	
Solvents Racks Operator	13554	Total Hydrocarbon, BTX	
Pumper Gauger	13552	Benzene	
Tank Car Loading Rack Operator	13553		<u>Schedule #8</u> Noise
Railroad Foreman	13351		Noise
Railroad Operator	13655		Noise
Railroad T.C. Repairman	13656		Noise
No.1 Switchman	13657		Noise
No.2 Switchman	13658		Noise

CENTRAL POWER STATION

B.T.G. Operator	19530		<u>Schedule #8</u> Noise
Station Operator	19533		Noise
Operations Foreman	19330		Noise
Systems Operator	19531	<u>Schedule #6</u> (2 Sx/Job/Yr) Hydrazine	Noise
Water Treater Operator	19532		Noise

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UTILITIES DISTRIBUTION

Operations Foreman	19340	No Scheduled Chemical Monitoring
UCC #1/UCC #2 Operator	19540	
Utility Operator	19541	
CW System Oper.	19542	
East Operator	19523	

UTILITIES NORTH

			<u>Schedule #8</u>
Operations Foreman PP #2	19321	No Scheduled Chemical Monitoring	Noise
650 2B Operator	19527		Noise
650 #2-A-Operator	19526		Noise
Surface Water Clarifier Operator	19528		
I.W.T. Operator	19529		

CAT REFORMING

		<u>Schedule #3 (8 Sx/Job/Yr)</u>	<u>Schedule #8</u>
Auxiliary Operator	10540	Benzene, Toluene, Xylene	Noise
CR-3 Reactor Oper	10541	Benzene, Toluene, Xylene	Noise
CR-3 Regen. Oper.	10542	Benzene, Toluene, Xylene	Noise
Offsite Operator	10543	Benzene, Toluene, Xylene	Noise
Operations Foreman	10340	Benzene, Toluene, Xylene	Noise
Sats Gas Plt. Oper.	10544	Benzene, Toluene, Xylene	Noise
Orthoxylene Oper. Aromatics East	10513	<u>Schedule #1 (6 Sx/Job/Yr)</u> Ethyl Benzene, Xylene	

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GAS RECOVERY

			<u>Schedule #8</u>
CFH Operator	10550	Assessment of potential H ₂ S exposure planned.	Noise
DHT Operator	10551		Noise
Fractionator Oper.	10552		Noise
Mol Sieve Oper.	10553		Noise
Operations Foreman	10350		Noise
Treaters Operator	10554		Noise

HYDROPROCESSING

			<u>Schedule #8</u>
HP-1 Operator	10560		Noise
Hydrogen Plant			
Board Operator	10561	<u>Schedule #1</u> (6 Sx/Job/Yr)	Noise
Olefin Feed		Benzene	
Hydrotreater			
Utility Oper.	10562	Benzene	Noise
Olefin Feed			
Hydrotreater			
Operations Foreman	10360	Benzene	Noise
Board Oper.	10563		Noise
SR5/SCOT			
Utility Oper.	10564		Noise
SR5/SCOT			

LUBE A

			<u>Schedule #8</u>
DA Operator	16530	No Scheduled Chemical Monitoring	Noise
HVI Operator	16531		Noise
LVI Operator	16532		Noise
Operations Foreman	16330		Noise
Phenol Extraction Unit No. 1 Operator	16533		Noise
Phenol Entry Operator	16534		Noise

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LUBE B

		<u>Special Exposure Study</u>	<u>Schedule #8</u>
		MEK & Toluene	Noise
Control Board Operator	16540		
DO Filter Oper.	16541	MEK & Toluene	Noise
DW Filter Oper.	16542	MEK & Toluene	Noise
Operations Foreman	16341	MEK & Toluene	Noise
Recovery Operator	16545	MEK & Toluene	Noise
Refrigeration Operator	16546	MEK & Toluene	Noise
LHT Operator No.1	16543		Noise
LHT Operator No.2	16544		Noise
Operations Foreman LHT 2	16340		Noise

LUBE C

			<u>Schedule #8</u>
			Noise
FPPH Operator	16550	No Scheduled Chemical Monitoring	
Greer Operator	16551		Noise
Operations Foreman	16350		Noise
Perc Operator	16552		Noise
Rackman Operator	16554		Noise
ABC Pumpers	16553		Noise
Wax Pumper/ Utility Operator	16555		Noise
Christenson Wax Helper	99501		Noise

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AROMATICS WEST

		<u>Schedule #3</u> (8 Sx/Job/Yr)	<u>Schedule #8</u>
BEU Operator	10520	Benzene, Hexane, Toluene, Xylene	Noise
East ACU Oper.	10521	Benzene, Hexane, Toluene, Xylene	Noise
Gauger	10522	Benzene, Hexane, Toluene, Xylene	Noise
Operations Foreman	10320	Benzene, Hexane, Toluene, Xylene	Noise
ABC/B Column Operator	10523	Benzene, Hexane, Toluene, Xylene	Noise
West ACU Oper.	10524	Benzene, Hexane, Toluene, Xylene	Noise
HDU #1 Operator	10512		Noise

ALKYLATION

			<u>Schedule #8</u>
Compressor Oper.	13510	No Scheduled Chemical Monitoring	Noise
Fractionator Operator	13511		Noise
Operations Foreman	13310		Noise
Reactor Operator	13512		Noise
Refrigeration Operator	13513		Noise

DISPATCHING DOCKS

		<u>Schedule #3</u> (8 Sx/Job/Yr)
Cargo Inspector	13560	
Construction/Maint. Dockman	13561	
Dockman Operator	13562	Benzene, ECH, EDC, MTBE, Toluene and Xylene
Operations Foreman	13361	Benzene, ECH, EDC, MTBE, Toluene and Xylene
Pumper Gauger	13563	Benzene, ECH, EDC, MTBE, Toluene and Xylene

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