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PLAINTIFF'S EXHIBIT

SH-2691

INTEROFFICE MEMORANDUM

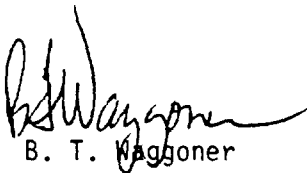
MARCH 25, 1988

FROM: MANAGER, HEALTH & SAFETY
DEER PARK MANUFACTURING COMPLEX

TO: ALL MANAGERS
DEER PARK MANUFACTURING COMPLEX

SUBJECT: HEALTH & SAFETY REVIEW REPORT-OUT

Attached is the data presented by K. C. Crawford and the review team during their report-out meeting of March 11. If you have any questions regarding the data, please contact me on extension 6902.


B. T. Waggoner

BTW/jc

Attachment

cc: Safety Satellite File

LAM 011291

Deer Park Manufacturing Complex

Health & Safety Review

Feb 29 - March 11, 1988

LAM 011292

DPMC-07666

H&S REVIEW PARTICIPANTS

DEER PARK MFG. COMPLEX

COORDINATOR

- K. C. Crawford H.O. H&S M&T

TEAM MEMBERS

- J. H. (Henry) Blunt H. O. H&S M&T
- A. (Aamir) Farid Process Mgr., WMC
- H. L. (Harry) Fidoe Maintenance Mgr., NMC
- R. C. (Bob) Newell H&S Mgr., WRMC
- T. E. (Tom) Meyer Process Mgr. Olefins,
DPMC
- T. A. (Tom) Roberts Maint. Mgr. Fuels
DPMC
- R. E. (Elvis) Green H. O. HS&E S&IH
Industrial Hyg. Serv.
- P. J. (Phil) Snyder H. O. H&S M&T
(part time)
- J. D. (John) Harris H. O. HS&E S&IH
Reg. & Safety Stds.

STRENGTHS	CONCERNS & OPPORTUNITIES
* HIGH RECOGNITION OF SENIOR MANAGEMENT COMMITMENT TO SAFETY.	* SOME FIELD PERSONNEL STATE COMMITMENT FLOWS FROM EXTERNAL (LEGAL?) REQUIREMENTS, E.G., "THEY HAD TO DO IT".
* THERE IS A CURRENT SAFETY PHILOSOPHY STATEMENT.	* NO INTRODUCTORY COMMUNICATION ACCOMPANIED REISSUE OF PHILOSOPHY STATEMENT TO FOCUS PRIORITY.
* HIGH EMPHASIS ON "TECHNICAL ASSURANCE".	
* THERE IS A STRONG COMPLEX-WIDE EMPHASIS ON "COMPLIANCE" TO REQUIREMENTS.	* MULTIPLICITY OF ISSUES INCLUDED IN "COMPLIANCE" REQUIREMENTS, BUT PRIORITIES NOT COMMUNICATED.
	* EMPHASIS ON COMPLIANCE IN SOME AREAS TAKES PRECEDENCE OVER THE INTENT TO INFLUENCE BEHAVIOR.
* HIGH EMPHASIS ON INCIDENT INVESTIGATION WITH MANAGEMENT PARTICIPATION.	
* RESULTS OF SOME SPECIFIED INCIDENTS SHARED COMPLEX-WIDE PER S-106.	* PERSONNEL INJURY INVESTIGATIONS GENERALLY NOT SHARED PER S-106.

LAM 011294

STRENGTHS	CONCERNS & OPPORTUNITIES
* H&S GOALS ARE REQUIRED IN DEPARTMENTS AND FOR SUPERINTENDENTS AND MANAGERS.	* PROSCRIPTION OF OSHA RECORDABLES HAS LEFT LINE MANAGEMENT WITH LTI AND FRII AS KEY NUMERICAL PERFORMANCE TRACKING TOOLS (BUT RECORDABLES TRIGGER ACTION).
* SOME SUPERINTENDENTS ARE VISIBLE IN THE FIELD AND ATTEND SAFETY MEETINGS.	* THERE IS NO APPARENT SENIOR MANAGEMENT EXPECTATION FOR MANAGEMENT (INCLUDING THEMSELVES) VISIBILITY, PARTICIPATION, OR OVERALL H&S ROLE.
* AN HSSG HAS BEEN FORMED TO STRUCTURE "SAFETY PROCESS".	
* THERE IS A SYSTEM TO PROVIDE PERFORMANCE APPRAISALS (INCLUDING H&S) FOR ALL EMPLOYEES, INCLUDING HOURLY.	* IMPACT OF SAFETY PERFORMANCE APPRAISAL IS GENERALLY LOW (WITH A FEW EXCEPTIONS).
* DISCIPLINE IS AVAILABLE AND USED FOR SAFETY RELATED ISSUES.	* SOME EMPLOYEES BELIEVE THAT DISCIPLINE IS BASED SOLELY ON MULTIPLE FRIIS.
* EXPECTATIONS FOR GOOD CONTRACTOR SAFETY PERFORMANCE UNDERSTOOD BY CONTRACTORS.	
* OVERALL HOUSEKEEPING VERY GOOD.	

LAM 011295

STRENGTHS	CONCERNS & OPPORTUNITIES
* THE ORGANIZATION HAS ACCEPTED THE PRINCIPLE THAT "SAFETY IS A LINE RESPONSIBILITY", E.G., PERMITTING, COMPLIANCE AUDITS (SOME DEPARTMENTS), MANDATORY TRAINING.	* IMPLEMENTATION OF H&S RESPONSIBILITY IS IMPEDED BY LACK OF: RESOURCE (FULL PLATTER); KNOW-HOW; EXPECTATIONS (INCLUDING PRIORITY TIMETABLE); AND JOB SECURITY CONCERNS.
* MANY HOURLY EMPLOYEES STATE PERSONAL ACCEPTANCE OF RESPONSIBILITY.	* A NUMBER OF HOURLY PERSONNEL HAVE NOT ACCEPTED PERSONAL H&S RESPONSIBILITY.
	* UNDERSTANDING OF ROLE OF H&S INSPECTOR IN "FUTURE STATE" UNCLEAR -- NEEDS MORE DETAIL RE: ROLE AND TRANSITION PLAN.
	* CONCERNS EXIST IN THE FIELD RE: THE CREDIBILITY OF LINE ASSUMPTION OF HIGH RISK PERMITTING (TECHNICAL) SKILLS AND OPERATIONS "COMPROMISE" FOR PRODUCTION VERSUS SAFETY.

LAM 011296

STRENGTHS	CONCERNS & OPPORTUNITIES
* RESPONSE TO SAFETY CONCERNS EXCELLENT IN SOME AREAS (E.G., USING QUALITY PROBLEM RESOLUTION FORM OR SAFETY MEETING MINUTES).	* CREDIBILITY SUFFERS IN SOME AREAS DUE TO LACK OF FEEDBACK AND COMMUNICATIONS.
* MANY DEPARTMENTS HAVE UNIQUE H&S PROGRAMS - NEAR MISS, AUDITS, JSAS, STRUCTURED SAFETY, SRI.	* MANAGERS/SUPERINTENDENTS DO NOT OFTEN MAKE OPPORTUNITY TO LEAD SAFETY MEETINGS.

LAM 011297

STRENGTHS	CONCERNS & OPPORTUNITIES
* NUMEROUS ONGOING SAFETY AWARENESS PROGRAMS: - SAFETY CALENDAR & CONTEST - MONTHLY SAFETY BULLETINS - "FAMILY SAFETY" MAGAZINE TO HOMES - BULLETIN BOARD POSTERS - SAFETY DINNERS	* GENERAL EMPLOYEE INVOLVEMENT IN AWARENESS PROGRAM DEVELOPMENT IS VERY LOW.
* SPECIAL EMPHASIS CAMPAIGNS: - BACK SCHOOL - OPEN HOUSE PARTICIPATION - SHUTDOWN SAFETY PLANNING & PARTICIPATION	* "RUN & MAINTAIN" AWARENESS ACTIVITIES LOW, DESCRIBED BY SOME AS COMPLACENCY.
* SAFETY RECOGNITION: - PERSONAL - JOSEPH B. HOLMES AWARD - DEPARTMENTAL - 6 MO. W/O RECORDABLE - COMPLEX - MILLION SAFE HOURS	* CURRENT AWARD PROGRAMS BASED ON INJURY STATISTICS (INCLUDING OSHA RECORDABLES), NOT PREVENTION ACTIVITIES.
* SOME DEPARTMENTAL CAMPAIGNS INVOLVE EMPLOYEES, E.G., "BMOST", SAFETY AWARENESS TEAMS, SAFETY SUGGESTIONS, NEAR MISS, AND CONTESTS.	* NEAR MISS REPORTING IS A VIRTUALLY UNUSED TOOL IN ALL BUT A FEW AREAS.
* SRAS HAVE BEEN GIVEN FOR SAFETY PERFORMANCE.	

STRENGTHS	CONCERNS & OPPORTUNITIES
* SIGNIFICANT RESOURCES DEVOTED TO TRAINING: - MANDATORY TRAINING - OPERATOR JOB TRAINING - OPERATOR MAINTENANCE TRAINING - CRAFT SPECIALTY TRAINING - QUALITY TRAINING * OPERATING DEPARTMENTS HAVE H&S TRAINING RECORDKEEPING AND TRACKING SYSTEMS. * MAINTENANCE HAS EXCELLENT SYSTEM FOR TRACKING MANDATORY TRAINING AND IDENTIFYING CLOSURE NEEDS. * ALL OPERATING DEPARTMENTS HAVE AN IDENTIFIED TRAINING FOCAL POINT.	* MANDATORY TRAINING: - REQUIREMENTS NOT FULLY UNDERSTOOD. * SOME OPERATORS MAY BE DOING MAINTENANCE BEYOND THEIR CURRENT SKILL LEVEL. * RECORDKEEPING RESPONSIBILITY IS FRAGMENTED BY TYPE OF TRAINING AND TRAINER WITH NO CENTRAL FOCUS -- CLOSURE CAN BE DIFFICULT. * CONFLICTING DEMANDS COMPETE FOR TRAINING RESOURCE TIME: - COMPLIANCE AUDIT - CONSOLIDATION - ADMINISTRATIVE

LAM 011299

STRENGTHS	CONCERNS & OPPORTUNITIES
* STRUCTURED TRAINING PROGRAMS EXIST FOR SOME PARTS OF THE TECHNICAL ORGANIZATION. * EXTENSIVE TRAINING AUDIO/VISUAL RESOURCES AVAILABLE. * SPECIFIC VIDEO PRODUCED FOR CONTRACTOR TRAINING (HAZ-COM, PHENOL). * ORDERS ARE REVIEWED IN SAFETY MEETINGS.	* SAFETY "MEETINGS" RANGE FROM WELL STRUCTURED CLASSES TO INDIVIDUALS READING MATERIAL RECEIVED IN THE MAIL. * QUALITY MAY SUFFER IN LARGE SAFETY MEETINGS OR THOSE CAUSING OVERTIME.

LAM 011300

STRENGTHS	CONCERNS & OPPORTUNITIES
* THERE IS A COMPREHENSIVE SET OF COMPLEX ORDERS WHICH ARE APPROACHING UNIFICATION.	* DESPITE THE EXISTENCE OF COMPLEX-WIDE ORDERS, THERE ARE SIGNIFICANT AREA-TO-AREA DIFFERENCES: - HISTORICAL INTERPRETATION (REFINERY & CHEMICAL, DEPARTMENTAL) - FUTURE STATE IMPLEMENTATION STATUS (ESPECIALLY PERMITS).
* PROCEDURES HAVE BEEN ESTABLISHED TO ENSURE NEW ORDERS ARE REVIEWED BY USERS AND ARE ACCOMPANIED BY IMPLEMENTATION PLANS.	* THE REVISED PROCEDURE HAS RESTRICTED ORDERS ISSUANCE DUE TO LIMITED RESOURCE ALLOCATION (LEADING TO FRUSTRATION IN MAINTENANCE AND SAFETY).
* SIMPLIFICATION OF ORDERS PLANNED.	* CURRENT ORDERS ARE NOT NECESSARILY WRITTEN IN "QUALITY" LANGUAGE AND MAY TRY TO COVER TOO MUCH TERRITORY.

LAM 011301

STRENGTHS	CONCERNS & OPPORTUNITIES
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| <p>* PERMITTING PROCESS IN PLACE AND USED.</p> | <p>* PERMITTING PROCEDURE NONCONFORMANCE EXISTS:
 - PERMITS ARE NOT NORMALLY WRITTEN AT JOBSITE
 - JOINT JOBSITE VISITS MAY NOT BE MADE
 ° OPERATIONS/CRAFT AGREEMENT
 ° CRAFT HESITANCY(?) ESPECIALLY CONTRACTOR
 ° GEOGRAPHY
 - JOBS ARE SELDOM "CLOSED" WITH POST-JOBSITE VISIT
 - UNTIL-COMPLETE PERMITS NOT ALWAYS UPDATED.</p> |
| <p>* LOCKOUT/TAGOUT PROCEDURES GENERALLY FOLLOWED.</p> | <p>* SOME NONCONFORMANCE RELATED TO ELECTRICAL LOCKOUT PROCEDURE (I.E., SHARING OF KEYS; MISUSE OF TAGS; NOT SIGNING OFF LOCKOUT LOG AT JOB COMPLETION).</p> |
| <p>* FORMAL PROCEDURE (M-113) ADDRESSES HOISTING PERSONNEL.</p> | <p>* M-113 DOES NOT INCLUDE ALL THE ELEMENTS REQUIRED IN OSHA'S COMPLIANCE INSTRUCTION.</p> |
| <p>* DEPARTMENTAL OPERATING/EMERGENCY PROCEDURES BEING UPDATED/WRITTEN (MAJOR EFFORT).</p> | |

STRENGTHS	CONCERNS & OPPORTUNITIES
* INSPECTION INTERVALS HAVE BEEN SET FOR ALL RELIEF VALVES AND ARE ADJUSTED PER EXPERIENCE; 100% COMPLIANCE. RECORDS IN PLACE.	
* PRESSURE VESSEL AND BOILER INSPECTION INTERVALS BEING MET.	* CURRENT BOILER INSPECTION CERTIFICATES AVAILABLE, BUT NOT ALWAYS POSTED.
* TURBINE TRIP CHECK PROGRAM IN PLACE AND NEAR 100% COMPLIANCE.	
* MAJOR EMPHASIS ON PIPE RACK INSPECTION PROGRAM. ALL CLASS I LINES INSPECTED.	
* LINES ARE IDENTIFIED AT PLOT EDGE AND IN VARIOUS RACKS (CLASS I LINES).	
* UTILITY/SWAN STATIONS GENERALLY IN GOOD CONDITION.	
	* SOME SAFETY SHOWERS AND EYEWASHES HAVE INADEQUATE FLOW NOT MEETING SHELL 17 EG-1. SOME CASES OF RUSTY WATER IN EYEWASHES.

LAM 011303

H&S REVIEW 6-1

STRENGTHS	CONCERNS & OPPORTUNITIES
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| * P&ID, ELECTRICAL "ONE LINES" AND INSTRUMENT LOOP FOLDERS ARE IN THE PROCESS OF BEING UPDATED. CURRENT STATUS VARIED (GOAL TO COMPLETE IN 1988). | |
| * STRONG EXPECTATION FOR "AS BUILT" DRAWINGS FOR NEW OR REVISED FACILITIES (P&ID, ONE-LINE, LOOP FOLDERS, UNDERGROUND LINES, & PLOT PLANS). | |
| * SYSTEM IN PLACE FOR SAFETY/OPERABILITY REVIEW FOR ALL CAPITAL PROJECTS AND PLANT CHANGE WITH AFE. | * TEMPORARY INSTALLATIONS AND MINOR PLANT CHANGE MAY NOT BE REVIEWED. |
| | * THERE IS NO "QUALITY" REVIEW OF SAFETY/OPERABILITY REVIEW FOR SMALL PROJECTS. |
| * ENGINEERING INVESTIGATING SCOPE REQUIRED TO DEVELOP "SAFEGUARDING" MEMORANDA FOR ALL UNITS. | |
| * PROCESS ENGINEERING WORKING TO INCORPORATE SAFETY & OPERABILITY REVIEW CONCEPT FOR PROCESS CHANGES. | |

LAM 011304

STRENGTHS	CONCERNS & OPPORTUNITIES
* ALL LARGE LIFTING EQUIPMENT INSPECTED REGULARLY (MONTHLY & ANNUALLY); SPECIAL EMPHASIS ON JIB CRANES.	* SOME SMALL EQUIPMENT REMAINING IN FIELD MAY NOT BE INSPECTED (SLINGS, CHOKERS, CHAIN HOISTS, COME-ALONGS).
* PRESSURIZED CONTROL ROOMS AND FIXED HYDROCARBON MONITORS CHECKED MONTHLY WITH COMPLIANCE REPORT ISSUED.	
* CONTAMINANT CAPTURE VENTILATION SYSTEMS APPEAR TO HAVE OWNERSHIP AND EFFECTIVENESS IS BEING REVIEWED.	* QUANTITATIVE TESTING NOT INCORPORATED IN ALL MONITORING PROGRAMS.
* PLUGS AND BLEEDERS GENERALLY GOOD.	* SOME UNITS HAVE LOWER CONFORMANCE FOR PLUGS AND BLEEDERS.

LAM 011305

HEALTH & SAFETY REVIEW - DEER PARK MANUFACTURING COMPLEX

FEBRUARY 29 - MARCH 11, 1988

TECHNICAL STAFF SURVEY

- * 179 RESPONSES
- * 66% VISIT PLANT DAILY
- * RECOGNITION (90%) OF INFLUENCE OF JOB ON SAFETY
- * RECOGNITION (89%) OF SAFETY IN PERFORMANCE EVALUATION
- * PROCESS SAFETY EDUCATION
 - SHELL P.E.T.C. -- 41%
 - OTHER -- 6%
 - NONE -- 53%
- * 10% HAVE HAD AN INDUSTRIAL HYGIENE COURSE
- * BROAD PERSONAL H&S TRAINING AT DPMC
(13% FIRST AID TO 82% RESPIRATORY)
- * INTEREST IN MORE PERSONAL TRAINING
- * 42% ATTEND SAFETY MEETINGS
- * SUCCESS RATE ON QUIZ
 - 26% BOTH
 - 43% AT LEAST 1
- * FORMS WILL REMAIN AT LOCATION

LAM 011306

STRENGTHS	CONCERNS & OPPORTUNITIES
* DPMC HAS THE MOST STRUCTURED INTERNAL COMPLIANCE AUDIT SYSTEM OF ANY SHELL MANUFACTURING LOCATION (E.G., 23 ITEMS). SOME DEPARTMENTS ASSUMING OWNERSHIP.	* OWNERSHIP OF "23" AUDITS VIEWED AS H&S BY SOME DEPARTMENTS (EXPECTATIONS, TRANSITION PLAN, AND RESOURCES UNCLEAR).
* SOME DEPARTMENTS HAVE FORMALIZED ADDITIONAL LOCAL AUDIT PROGRAMS; SOME INCLUDE DEPARTMENT MANAGERS AND SUPERINTENDENTS.	* DEPARTMENTAL AUDITS COULD PROVIDE AN OPPORTUNITY FOR MANAGEMENT VISIBILITY IN MORE DEPARTMENTS THAN AT PRESENT.
* INJURY/ILLNESS FRII DATA ENTERED INTO MUTS/SAFESET COMPUTER DATA BASE.	* THERE IS NO USER'S GUIDE FOR MUTS/SAFESET. REPORT CAPABILITY RESTRICTED BY SYSTEM CONSTRAINTS AND RELIANCE ON OTHER RECORD-KEEPING SYSTEMS (E.G., PAYROLL).
* CONTRACTOR INJURY STATISTICS TABULATED MONTHLY.	* DISTRIBUTION, USE, ANALYSIS AND FOLLOWUP OWNERSHIP OF CONTRACTOR SAFETY STATISTICS UNCLEAR.
* EMERGENCY ALARMS AND SHUTDOWNS HAVE FUNCTIONAL CHECKS BY PROCESS CONTROL GROUP.	

LAM 011307

H&S REVIEW 7-1

STRENGTHS	CONCERNS & OPPORTUNITIES
* REGULAR CHECKLISTS ADDRESS MONTHLY AUDITS OF FIELD SAFETY AND FIRE SUPPRESSION EQUIPMENT.	* SOME FIELD SAFETY/FIRE SUPPRESSION EQUIPMENT NONCONFORMING OR MISSING (FIRE EXT., FURNACE FIRING EQUIP., RESPIRATORY PROTECTION, FIRE HOSE CARTS, HOSE REELS).
* BROWN & ROOT DO SITE-WIDE AUDITS TWICE A YEAR.	* DISTRIBUTION OF AUDIT RESULTS NOT KNOWN.
* JOINT SHELL/CONTRACTOR MANAGEMENT TURNAROUND WALK-THROUGH AUDITS DONE EACH MAINTENANCE SHIFT AND USED IN DAILY MEETING.	
* OPERATORS AND CRAFTSMEN PARTICIPATE IN SOME AUDITS.	* OPPORTUNITIES EXIST FOR BROADER PARTICIPATION.

LAM 011308

STRENGTHS	CONCERNS & OPPORTUNITIES
* INDUSTRIAL HYGIENE GOALS SET FOR 1988.	* ROLE OF IH GROUP NOT FULLY DEFINED.
* WELL-REGARDED IN FIELD FOR EXPERTISE, RESPONSIVENESS, EXPERIENCE.	
* WELL-DEFINED MONITORING PROGRAM.	* RESPONSIBILITY FOR BENZENE MONITORING FOR CONTRACTORS NOT FULLY DEFINED (IN PROCESS).
* GOOD RELATIONSHIP WITH MEDICAL DEPARTMENT.	* NO SYSTEM FOR IH REVIEW OF ALL CHEMICAL EXPOSURE INCIDENTS.
* SIGNIFICANT INVOLVEMENT IN SHUTDOWNS (PLANNING & MONITORING).	* NO INVOLVEMENT IN BPA-4 PROJECT DESIGN.
* SAFETY INSPECTOR IH TRAINING PROGRAM.	* NO CONSISTENT REVIEW OF SAFETY "COMPLIANCE" AUDITS BY IH.
* GC FIELD INSTALLATIONS FOR GRAB SAMPLING HAVE RESULTED IN SIGNIFICANT INCREASE IN EMPLOYEE HAZARDS AWARENESS AND PRODUCTIVITY.	

LAM 011309

H&S REVIEW 8-1

STRENGTHS	CONCERNS & OPPORTUNITIES
* HEARING CONSERVATION PROGRAM IMPLEMENTED AND WELL SUPPORTED IN-FIELD.	* STANDARD THRESHOLD SHIFT INFORMATION PASSED ON ONLY TO EMPLOYEE, NOT TO SUPERVISION. NO EVIDENCE OF RETRAINING AND OTHER REQUIREMENTS TRIGGERED BY STS.
* NOISE TRAINING AND AUDIOMETRIC TESTING DOCUMENTED.	* 95 DB MANDATORY HEARING PROTECTION CRITERION MAY MAKE STS FOLLOWUP REQUIREMENTS DIFFICULT TO MANAGE.
* NOISE AREAS POSTED AND CONTOUR MAPS ARE AVAILABLE.	* SOME NOISE CONTOUR MAPS NEED UPDATING. POSTING OF HIGH-NOISE AREAS INCONSISTENT (E.G., WEAR AFTER 3 HOURS).
* IH MONITORING RESULTS COMMUNICATED TO EMPLOYEES.	
* EXTENSIVE RESPIRATORY PROTECTION PROGRAM IN PLACE.	* RESPIRATOR CENTER MAY NOT BE ADEQUATE TO MEET CURRENT PEAK NEEDS -- RESPIRATOR USAGE INCREASING (ASBESTOS, BENZENE).

LAM 011310

STRENGTHS	CONCERNS & OPPORTUNITIES
* IH TAKE ACTIVE ROLE IN MAINTAINING EMBRYO-FETUS POLICY, INCLUDING RECORD-KEEPING	* NO AUDIT TO ENSURE COUNSELING DONE AND ANNUAL JOB REVIEWS CONDUCTED.
	* FIELD ORGANIZATIONS MAY HAVE DIFFICULTY TRACKING COUNSELING STATUS.
	* NO PROCEDURE IN PLACE FOR HANDLING CERAMIC FIBERS; NO INDICATION OF HAZARDS BEING COMMUNICATED TO FIELD OTHER THAN THROUGH MANUFACTURERS' WARNINGS.
* IH TAKE LEAD ROLE IN MAINTAINING WORK HISTORY AND EXPOSURE MODULES OF HEALTH SURVEILLANCE SYSTEM.	* SPECIAL EVENT JOB EXPOSURE PROFILES NOT WRITTEN FOR RECENT EXPOSURE INCIDENTS. AREA CHEMICAL LISTS NOT CURRENT.
	* SOME JOB EXPOSURE PROFILES NOT UPDATED. MUTS/SPPS WORK HISTORY SYSTEM NEEDS REVIEW TO CORRECT PROBLEMS.
* PROTECTIVE CLOTHING PROGRAM IN PLACE.	* SOME VARIABILITY IN PROTECTIVE CLOTHING AND GLOVES USED IN FIELD. EFFECTIVENESS OF GLOVE RECYCLE PROGRAM QUESTIONABLE, ESPECIALLY FOR BENZENE SERVICE.

LAM 011311

H&S REVIEW 8-3

STRENGTHS	CONCERNS & OPPORTUNITIES
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| * PROTECTIVE CLOTHING PROGRAM IN PLACE. | * SOME VARIABILITY IN PROTECTIVE CLOTHING AND GLOVES USED IN FIELD. EFFECTIVENESS OF GLOVE RECYCLE PROGRAM QUESTIONABLE, ESPECIALLY FOR BENZENE SERVICE. |
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LAM 011312

H&S REVIEW 8-4

STRENGTHS	CONCERNS & OPPORTUNITIES
* PRIOR REGULATORY CITATIONS ABATED.	
* REGULATORY COMPLIANCE RESOURCES AVAILABLE AND RESPONSIBILITIES ASSIGNED.	
* OSHA POSTER AT ENTRY GATES.	* OSHA NOISE STANDARD NOT POSTED.
* INJURY/ILLNESS RECORDS MAINTAINED ACCORDING TO BLS GUIDELINES, AND CASE REPORTS ON FILE.	* SOME INDIVIDUAL CASES BEING REVIEWED RE: WORK RESTRICTIONS AND MEDICAL TREATMENT DATA AS RECORDED IN FILE.
* HAZARD COMMUNICATION WRITTEN PLAN AND TRAINING IN PLACE AND DOCUMENTED.	
* SUBSTANCE LISTS AND COPIES OF MSDS IN THE WORK PLACES.	* SOME MSDS ARE OUTDATED, I.E., SHELL MSDS PRIOR TO MID-1984. SOME VENDOR SHEETS ARE DATED IN THE 1970'S. INTERMEDIATE STREAM MSDS ARE NOT ALL AVAILABLE.
* CONTAINERS ARE GENERALLY LABELED.	* SOME DRUMS (SCATTERED LOCATIONS) LACK COMPLETE LABELING.

LAM 011313

H&S REVIEW 9-1

STRENGTHS	CONCERNS & OPPORTUNITIES
* SHIPMENTS ARE LABELED AND ACCOMPANIED BY MSDS SHEETS.	
* RESPIRATORY PROTECTION PROGRAM IN PLACE WITH TRAINING, FIT TESTING AND PHYSICAL CAPABILITY DOCUMENTED.	
* RESPIRATORY EQUIPMENT CLEANED AND INSPECTED AT CENTRAL SITE BY FACTORY TRAINED CONTRACT STAFF.	* SOME CANNISTER MASKS ARE OUT OF DATE (EXPIRED). A FEW INSTANCES OF PERSONNEL USING IMPROPER CARTRIDGES, (I.E., DUST CARTRIDGE FOR ORGANIC VAPOR PROTECTION).
* 100% AUDIT OF PURCHASED BREATHING AIR FOR OXYGEN CONTENT.	* BREATHING AIR CERTIFICATION BY VENDOR NOT ON FILE AT DPMC.
* BENZENE PROGRAM IN PLACE, SIGNS POSTED AND PERSONNEL TRAINING DOCUMENTED.	* DESIGNATION OF REGULATED AREAS NOT ALWAYS CLEAR.
* ASBESTOS PROGRAM IN PLACE. DEMOLITION AREAS BARRICADED. CONTRACTOR PERSONNEL TRAINED, FOLLOW PROPER PROCEDURES.	* SOME SHELL PERSONNEL ALLEGEDLY KNOCK DRY "ASBESTOS" LOOSE FOR SMALL REPAIR JOBS.

LAM 011314

H&S REVIEW 9-2

STRENGTHS	CONCERNS & OPPORTUNITIES
* SUBSTANCE EXPOSURES MONITORED FOR CONFORMANCE TO OSHA, SHELL AND DPMC STANDARDS. * OSHA "HAZ-WASTE" WRITTEN PLAN AVAILABLE. APPROPRIATE TRAINING IS DOCUMENTED. * WORK AUTHORIZATION/PERMITTING SYSTEMS ARE IN PLACE FOR LOCKOUT/TAGOUT; HOT WORK; CONFINED SPACE ENTRY. * CONTRACTOR SAFETY PROGRAMS IN PLACE. * SEVERAL INTERNAL AUDIT PROGRAMS EXIST: SAFETY EQUIPMENT; EMERGENCY SHUTDOWNS; INTERNAL "COMPLIANCE" AUDITS.	

LAM 011315

H&S REVIEW 9-3

STRENGTHS	CONCERNS & OPPORTUNITIES
* SHELL COMPANY GUIDELINES ARE IN PLACE: EMBRYO-FETUS; PERSONNEL FLOTATION DEVICES; SEAT BELTS.	
* PERSONNEL PROTECTIVE EQUIPMENT PROVIDED AND USED.	* SOME CONTRACTOR EMPLOYEES MAY NOT CON- SISTENTLY USE EYE AND HEARING PROTECTION; I.E., RAILROAD TRACK REPAIR CREW.
* ABRASIVE BLASTING BY CONTRACTORS USES SILICA SUBSTITUTE. WORK AREA IS SIGNED/ BARRICADED.	
* A RADIATION SAFETY OFFICER IS AVAILABLE ONSITE. CONTRACTORS BARRICADE THE WORK AREA AS NEEDED.	* NO INDEPENDENT MONITORING TO ASSURE CON- TRACTOR BARRICADES PROVIDE ADEQUATE PRO- TECTION (DISTANCE). SYSTEM NOT IN PLACE TO ENSURE NEW SOURCES REGISTERED WITH RSO.
* MEDICAL/FIRST AID ARE AVAILABLE AT THE DISPENSARY. FIELD PERSONNEL HAVE CPR TRAINING.	

LAM 011316

H&S REVIEW 9-4

STRENGTHS	CONCERNS & OPPORTUNITIES
* EMPLOYEE EMERGENCY EXITS ARE WELL MARKED. OFFICE BUILDINGS HAVE* ROUTE MAPS FOR EXITING.	
* SCAFFOLDING EXCELLENT & LADDERS GENERALLY IN GOOD REPAIR AND MEET REQUIREMENTS.	* A FEW SCAFFOLDS MISSING TOE BOARDS OR NOT FULLY PLANKED. A FEW NONCONFORMING (DAMAGED) LADDERS WERE NOT TAGGED TO PREVENT USE. DPMC INSPECTION STICKERS (M-114) WERE NOT SEEN ON MOST LADDERS.
* FORKLIFT OPERATOR TRAINING DOCUMENTED FOR P&AS MATERIALS HANDLERS.	
* MACHINE GUARDING IN PLACE.	
* COMPRESSED GAS CYLINDERS NORMALLY SECURED.	* A FEW CYLINDERS NOT CHAINED (SCATTERED LOCATIONS).

LAM 011317

DPMC-07691

H&S REVIEW 9-5

STRENGTHS	CONCERNS & OPPORTUNITIES
* RAILCAR AND TRUCK LOADING CONFORM TO DOT REQUIREMENTS.	* SHELL HAZARDOUS MATERIALS MANUAL NOTED ONLY AT FUELS DISPATCHING.
* U.S. COAST GUARD REQUIREMENTS MET AT DOCKS.	
* ATF REQUIREMENTS MET FOR ETHYL ALCOHOL OPERATIONS.	
* FIRE EXTINGUISHERS INSPECTED MONTHLY/ANNUALLY.	* SOME EXTINGUISHERS OUT OF DATE ON MONTHLY BASIS. INSPECTION TAGS NOT ALL CLEAR REGARDING WHICH YEAR IS MEANT.

LAM 011318

DPMC-07692

STRENGTHS	CONCERNS & OPPORTUNITIES
* EMERGENCY EVACUATIONS PLANS EXIST WHERE NEEDED THROUGHOUT THE COMPLEX.	* EMERGENCY EVACUATION DRILL FREQUENCY DOES NOT CONFORM WITH APPARENT 6 MO. REQUIREMENT OR MAY NOT BE HELD. EXPECTATION DOCUMENTATION NOT FOUND.
* EMERGENCY DRILLS HELD REGULARLY (E.G., MONTHLY) IN SOME UNITS.	* THERE IS WIDE VARIATION IN THE FREQUENCY & DOCUMENTED QUALITY OF EMERGENCY DRILLS.
* NUMEROUS SCENARIO ANALYSES DONE FOR CHEMICAL RELEASES.	* MAINTENANCE PERSONNEL DO NOT PARTICIPATE IN UNIT EMERGENCY RESPONSE DRILLS.
* ONE OPERATOR VOLUNTEERED EMERGENCY RESPONSE PROCEDURE INFORMATION FOR VISITORS.	* IN GENERAL, NO EMERGENCY RESPONSE GUIDANCE IS GIVEN TO PROCESS UNIT VISITORS.
* MASS CASUALTY CONTINGENCY PLANS IN EARLY STAGES.	* THERE IS NO MECHANISM TO DO A HEAD COUNT FOR VISITORS TO COMPLEX OR AREAS.

LAM 011319

H&S REVIEW 10-1

STRENGTHS	CONCERNS & OPPORTUNITIES
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- * DPMC'S VOLUNTEER FIRE CREW IS ORGANIZED AS AN OSHA SUBPART L "INTERIOR STRUCTURAL FIRE BRIGADE" AND MEETS THE BASIC REQUIREMENTS OF THAT STANDARD WITH DOCUMENTATION:
 - ORGANIZATIONAL STATEMENT BEING REVISED RE STRUCTURE
 - TRAINING & ADVANCED TRAINING DONE
 - WILL INCORPORATE "INCIDENT COMMAND"
 - PHYSICAL CAPABILITY DOCUMENTED

- * VOLUNTEER FIRE CREW HAS EXCELLENT PERFORMANCE RECORD AND MORALE APPEARS HIGH.
 - * SOME VOLUNTEER CREW MEMBER CONCERNS RE:
 - ABILITY TO MAINTAIN RESPONSE NUMBERS AFTER CONSOLIDATION
 - NEED TO TRAIN ON OVERTIME

- * BASIC FIRE TRAINING CONDUCTED FOR NEW EMPLOYEES WITH ANNUAL REFRESHER.

- * SHELL MEDICAL AND RESCUE TEAM (VOLUNTEER) ESTABLISHED IN 1986, PROVIDES COVERAGE DURING HIGHEST ACTIVITY PERIODS (M-F, 7 A.M. - 11 P.M.).

LAM 011320

H&S REVIEW 10-2

STRENGTHS	CONCERNS & OPPORTUNITIES
* DPMC HAVE BEEN MAJOR PARTICIPANTS IN CAER ACTIVITIES: - MAJOR ROLE IN FORMATION - ACTIVE PARTICIPATION IN GROWTH - HELPED GUIDE CAER/LERC - PARTICIPATE/LEADING EMERGENCY EXERCISES	* CONTINUING ATTENTION NEEDED TO MONITOR STATUS OF OLD, CAST IRON LINES.

LAM 011321

HEALTH & SAFETY REVIEW - DEER PARK MANUFACTURING COMPLEX

ATTITUDES -

FEBRUARY 29 - MARCH 11, 1988

- * OVERALL POSITIVE FEELINGS OF CRAFT EMPLOYEES REGARDING SAFETY AT MANAGEMENT LEVEL.
- * CONCERNS REGARDING CONSOLIDATION VOICED RE: H&S
 - ABILITY TO COPE WITH UPSETS (NUMBERS & KNOWLEDGE)
 - ROLE DEFINITION (H&S VS. OPERATIONS) WITH EXPECTATIONS [CURRENT & FUTURE] FOR SPECIALTY TEAM LEADER, S.O.M., AND INSPECTOR/FOREMAN
 - GEOGRAPHICAL PRESSURES ON FOREMEN (E.G., PERMITTING)
 - EMERGENCY RESPONSE TEAM STAFFING
 - PERCEIVED REDUCTION IN OPERATOR FIRE TRAINING
 - CRAFTS LACK CONFIDENCE IN SOME REASSIGNED OPERATORS
- * THERE IS SOME INCENTIVE TO NOT GENERATE FRIIs
 - HASSLE (PAPERWORK, INVESTIGATION)
 - CONCERN RE: DISCIPLINE FOR REPEAT FRIIs
- * THERE IS A TENDENCY TOWARD "BLAME FIXING" FOR CARELESSNESS OR UNSAFE ACTS -- SOME INDIVIDUAL EFFORTS ONGOING TO COUNTER THEM.
- * HSSG UNKNOWN BELOW MANAGER LEVEL (UNLESS MANAGER INVOLVED)

LAM 011322

HEALTH & SAFETY REVIEW - DEER PARK MANUFACTURING COMPLEX

SYSTEMS WORKING WELL

FEBRUARY 29 - MARCH 11, 1988

- * WEEKLY FIELD TEAM AUDIT PROGRAM IN CERTAIN AREAS
- * "NEAR MISS" REPORTING IN LUBE LOGISTICS
- * MANAGEMENT PARTICIPATION IN SAFETY MEETINGS
(LEADERSHIP & VISIBILITY)
- * ONE-ON-ONE SAFETY CONTACTS BY MANAGEMENT
- * DEPARTMENTAL SAFETY IMPROVEMENT TEAMS & SAFETY
ACTION GROUPS INVOLVING OPERATORS & CRAFTSMEN
- * INDIVIDUAL SAFETY AUDITS IN CENTRAL MAINTENANCE
- * JSAs IN OLEFINS & CENTRAL MAINTENANCE
- * SAFETY SUGGESTION PROGRAMS IN LOGEOUT AND OTHER AREAS
- * STRUCTURED SAFETY MEETINGS WHICH INVITE EMPLOYEES TO
SELECT TOPICS & PARTICIPATE
- * SOME AREAS CONDUCTING EFFECTIVE EMERGENCY DRILLS

LAM 011323

PRIORITIES

- * ACCEPTANCE OF RESPONSIBILITY FOR H&S PERFORMANCE BY LINE ORGANIZATIONS IS DEMONSTRATED BY NUMEROUS PREVENTION PROGRAMS IN INDIVIDUAL DEPARTMENTS.
- * TECHNICAL ASSURANCE EFFORTS YIELDING DESIRED RESULTS AND SUPPORT MANAGEMENT CREDIBILITY.
- * WHERE SUPERINTENDENTS AND MANAGERS HAVE PRESENCE IN THE FIELD, AND PARTICIPATE IN THE H&S PROCESS, THERE IS INCREASED CREDIBILITY. SIGNIFICANT OPPORTUNITY EXISTS FOR IMPROVEMENT THROUGH MANAGEMENT H&S INVOLVEMENT AND LEADERSHIP.
- * NEED FOR SENIOR MANAGEMENT TO ESTABLISH A CLEAR AND CONSISTENT SET OF PERFORMANCE EXPECTATIONS FOR ALL LEVELS OF MANAGEMENT IN THE AREA OF H&S.
- * NEED EXISTS FOR A TIMELY AND ROUTINE COMPLEX-WIDE COMMUNICATION SYSTEM FOR H&S ISSUES AND ACTIVITIES
 - NEAR MISSES
 - SAFETY PERFORMANCE STATISTICS
 - CURRENT EVENTS
- * THERE IS NEED FOR INCREASED INVOLVEMENT AND PARTICIPATION OF OPERATORS AND CRAFTSMEN IN H&S PROCESS.
- * FOR MANY REASONS, THERE IS AN INCREASED EMPHASIS ON FRIIs AS A PRIMARY SAFETY PERFORMANCE INDICATOR. THIS EMPHASIS IS CAUSING SOME FRIIs TO GO UNREPORTED. SHELL RECORDABLE INDEX SHOULD BE CONSIDERED FOR USE AS THE PRIMARY INDICATOR.

PRIORITIES CONTINUED

- * RECOGNITION OF POSITIVE CONTRIBUTIONS NEEDS TO REPLACE AVOIDANCE OF NEGATIVES.
- * HIGH EMPHASIS ON "COMPLIANCE" WITHOUT PRIORITIES LEADS TO RESOURCE CONSTRAINT PAINS.
- * IN A COMPLIANCE ENVIRONMENT, PROCEDURES SHOULD BE CONSISTENT WITH THE REAL EXPECTATIONS.
- * THERE IS NEED FOR A COMPLEX-WIDE TRAINING RECORDKEEPING & TRACKING SYSTEM DESIGNED FOR END USERS.

RECOMMENDATIONS

MANAGEMENT EMPHASIS

- * PROVIDE FIELD INTRODUCTION/EXPLORATION OF PHILOSOPHY STATEMENT.
- * PROVIDE GUIDANCE FOR PRIORITIZING COMPLIANCE REQUIREMENTS.
- * ESTABLISH MORE OPEN COMMUNICATION OF INJURY/INCIDENT EXPERIENCE.
- * CONSIDER REINTRODUCTION OF "RECORDABLE" STATISTICS (USING SHELL RECORDABLE INDEX) AS WORKING TOOL.
- * DEFINE EXPECTATIONS FOR MANAGEMENT H&S ROLE INCLUDING VISIBILITY AND PARTICIPATION.

LINE ACCEPTANCE OF RESPONSIBILITY

- * UPDATE AND COMMUNICATE MORE DETAILED ROLE OF H&S INSPECTOR AND IH PERSONNEL IN "FUTURE STATE", PROVIDE TRANSITION PLAN GUIDANCE.

AWARENESS

- * DEVELOP MECHANISMS TO IMPROVE EMPLOYEE INVOLVEMENT IN AWARENESS PROGRAM DEVELOPMENT.
- * ESTABLISH EFFECTIVE NEAR MISS REPORTING SYSTEM.

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TRAINING

- * PROVIDE ADDITIONAL GUIDANCE TO EXPLAIN SCOPE (WHO & WHAT) OF MANDATORY TRAINING REQUIREMENTS.
- * REVIEW H&S RECORDKEEPING MANAGEMENT SYSTEM TO ENSURE USER GROUPS CAN UTILIZE FOR CLOSURE. CONSIDER CENTRAL (OR UNIFORM) APPROACH.

PROCEDURES

- * ESTABLISH MECHANISM TO PROVIDE COMPLEX-WIDE CONSISTENCY IN INTERPRETATION AND CONFORMANCE TO ORDERS AND PROCEDURES.
- * EMPHASIZE AND OBTAIN CONFORMANCE TO ELECTRICAL LOCKOUT PROCEDURE (S-104).
- * REVIEW PHILOSOPHY OF HOISTING PERSONNEL AND REVISE TO CONFORM WITH OSHA FIELD INSTRUCTION (STD 1-11.2B).

EQUIPMENT ENGINEERING

- * ENSURE THAT BOILER AND ELEVATOR INSPECTION CERTIFICATES ARE POSTED, AS REQUIRED.
- * REVIEW SAFETY SHOWERS/EYEWASHES TO ENSURE ADEQUATE FLOW.
- * ESTABLISH EXPECTATIONS FOR SAFETY/OPERABILITY.
- * ESTABLISH EXPECTATIONS FOR USER AUDIT OF SMALL EQUIPMENT USED IN FIELD (SLINGS, CHOKERS, CHAIN HOISTS, COME-ALONGS).
- * ENSURE THAT ALL CONTAMINANT CAPTURE VENTILATION SYSTEMS ARE PERIODICALLY, QUANTITATIVELY TESTED.

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INTERNAL AUDIT

- * PROVIDE FIELD USERS WITH GUIDANCE MATERIAL FOR MUTS/SAFEST USE.
REVIEW USER REPORT NEEDS AND SEEK APPROPRIATE REVISIONS.
- * ESTABLISH OWNERSHIP FOR SAFETY PERFORMANCE STATISTICS COLLECTION,
ANALYSIS, FOLLOW-UP, AND DISTRIBUTION FOR ALL CONTRACTORS.

INDUSTRIAL HYGIENE

- * REVIEW COMPLIANCE PROGRAM FOR HEARING CONSERVATION:
 - STS INFORMATION TO MANAGEMENT
 - FOLLOW-UP PROCEDURES
- * REVIEW RESPIRATOR CENTER FACILITIES REGARDING WORK SPACE/CONDITIONS.
- * ENSURE E/F COUNSELING AND ANNUAL JOB REVIEW DONE.
- * ADDRESS CERAMIC FIBERS ISSUE AND PROVIDE GUIDANCE FOR FIELD.
- * CORRECT PROBLEMS WITH MUTS/SPPS WORK HISTORY SYSTEM FOR JOB
EXPOSURE PROFILES.

COMPLIANCE ASSESSMENT

- * REVIEW MANAGEMENT OF OSHA LOG RECORDKEEPING TO ENSURE FIELD
APPLICATION CONSISTENT WITH INTENT.
- * KEEP MSDS REFERENCE BOOKS CURRENT; PURGE OUTDATED MATERIAL.
- * REINFORCE EXPECTATION FOR MAINTAINING THE VISIBILITY AND INTEGRITY
OF BENZENE REGULATED AREAS.

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COMPLIANCE ASSESSMENT CONTINUED

- * REINFORCE EXPECTATION FOR CONFORMANCE TO ASBESTOS PROCEDURES FOR SMALL JOBS AS WELL AS LARGE.
- * ESTABLISH MECHANISM TO ENSURE CONFORMANCE TO RADIATION REGULATIONS.
- * REVIEW LADDER INSPECTION ORDER EXPECTATIONS (M-114) AND AUDIT FOR COMPLIANCE.

EMERGENCY RESPONSE

- * FORMALIZE EXPECTATIONS FOR EMERGENCY EVACUATION DRILLS.
- * UPDATE SUBPART L ORGANIZATIONAL STATEMENT.

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