PLAINTIFF'S EXHIBIT

SH-1630

INTEROFFICE MEMORANDUM

MAY 9, 1988

FROM: T.E. GILLESPIE, SUPERINTENDENT - HEALTH, SAFETY & ENVIRONMENTAL
DEER PARK MANUFACTURING COMPLEX

TO: HOLDERS OF HEALTH AND SAFETY ORDER BOOKS
DEER PARK MANUFACTURING COMPLEX

SUBJECT: REVISED COMPLEX HEALTH AND SAFETY ORDER S-125, ASBESTOS

Safety Order S-125, Asbestos, is hereby reissued in order to clarify reporting requirements related to the removal of asbestos containing materials at DPMC. The changed requirements of S-125 were previously addressed with all managers and superintendents in J. M. Sowle's letter of February 29, 1988 (copy attached).

The changes to S-125 are only to paragraph V and are summarized below:

A. Clarify the asbestos insulation removal reporting requirements including:

1. The distinction between reporting of maintenance and demolition asbestos removal work.
2. Who has the responsibility to report.
3. What information is required to be reported.
4. Timeliness of reporting.
5. The purpose the annual asbestos report serves.

B. A correction was made to the show that 160 square feet of asbestos insulation removed for maintenance purposes is often the quantity at which some reporting or action is triggered. The previous version of the order incorrectly indicated 260 square feet.

T. E. Gillespie

TEG/cgl

Attachment

BCLL8813001 - 0001.0.0

INTEROFFICE MEMORANDUM

FEBRUARY 29, 1988

FROM: J. M. SOWLE - ENVIRONMENTAL ADVISOR - ENVIRONMENTAL REGULATORY AFFAIRS - HS&E - DEER PARK MANUFACTURING COMPLEX

TO: ALL OPERATIONS SUPERINTENDENTS
ALL FIELD TEAM MANAGERS
ALL TECHNICAL MANAGERS
P. A. MASTA
A. F. SCHMIT

SUBJECT: CLARIFICATION OF ASBESTOS REPORTING REQUIREMENTS

Recently, the asbestos removal work required at CR-3 and the LOFU has surfaced some questions regarding requirements for reporting to the Texas Air Control Board (TACB). The EPA has given the TACB the authority to check jobs for asbestos air pollution and assure proper disposal of removed material. Glenn Gibler and I visited the Texas Air Control Board (TACB) to understand the necessary reporting requirements.

The asbestos reporting requirements are stated in Federal regulations under the National Emissions Standards for Hazardous Air Pollutants (NESHAP's), 40 CFR 61, Subpart M. The regulations cover asbestos reporting for two basic kinds of asbestos work: demolition and renovation. Demolition involves the dismantling of a process unit or part of a unit. Renovation is any other work, which includes maintenance.

The timeliness of reporting asbestos insulation work to the TACB depends on the type of work performed and the quantity of asbestos removed. The chart below summarizes the requirements.

Type of Removal	Quantity Asbestos Removed	TACB Notification Requirement
Demolition	Greater than 160 square feet	10 days written prior to work starting (The annual report meets this requirement.)
Demolition	Less than 160 square feet (including zero)	20 days written prior to work starting (The annual report meets this requirement.)

Type of Removal	Quantity Asbestos Removed	TACB Notification Requirement
Renovation (planned work)	Greater than 160 square feet	Written notice as soon as possible (The annual report meets this requirement.)
Renovation (emergency work)	Greater than 160 square feet	Call prior to starting work. Written follow-up soon as possible.

For us, in an emergency, no notification is required unless we are going to remove 160 or more square feet of asbestos insulation.

The first three categories of asbestos insulation removal reporting can be accomplished with our annual report which is submitted to the TACB each year in August. The report provides an estimate of asbestos removal for August 17 through August 16 of the following year. For the report, we state the expected amount of asbestos to be removed for all expected maintenance work and for demolition projects. The demolition projects are listed individually also.

To properly prepare the annual report, we (Environmental - Regulatory) need you to suppply us with your estimate of the expected quantity of asbestos insulation to be removed during planned maintenance work and demolition projects. The request for this information will be in July. For the report, it is important to list all demolition projects which may be done, even if no asbestos is expected to be removed. By submitting a complete annual report to the TACB, we can eliminate the need for any further reporting when we do the jobs which we included in the report.

If planned maintenance work or a demolition project arises which is not included in the annual report, the field must notify Environmental - Regulatory (Glenn Gibler, currently) at least one month prior to work being done. In this way, a report of the project to the TACB can be sent on time.

For emergency asbestos removal work over 160 square feet, the field needs to contact Glenn Gibler during days, or the Environmental Supervisor during other times, before work actually starts. A call will be placed to the TACB prior to work starting. Work should not begin until the field has received the approval to begin from Glenn or the Supervisor.

The TACB wants notification ahead of time to have an opportunity if they wish to visit the site during the removal of asbestos. The TACB has stated that they intend to inspect everyone annually who does asbestos

removal. When the TACB visits us, they will examine our removal procedures to see if the asbestos is properly wetted, and if any visible emissions are present. This is in contrast to OSHA, which is concerned with compliance with the exposure limit of 0.2 fibers/cc.

If you have any questions, please contact Glenn Gibler at 7515.

J. M. Sowle

cc: H. J. Bettencourt
S. C. Franke
T. E. Gillespie
J. L. Golden
E. G. Johnson
ECB Satellite
Envr. Chron. (2)

SHELL
DEER PARK MANUFACTURING COMPLEX
COMPLEX

ASBESTOS

SAFETY S-125
PAGE 1 OF 7
MAY 9, 1988 (R)

I. INTRODUCTION

Asbestos is a mineral silicate occurring naturally as a variously colored fiber. It is non-combustible, non-conducting, and resistant to deterioration and chemical attack. Because of these properties, it has found widespread use in thermal insulation, asbestos floor tile, roofing and transite materials, gaskets, coatings, plastics, and brake linings. Because of its fibrous nature, it can be woven into cloth, or used to add strength to other materials.

Asbestos is a potential health hazard when taken into the body even in very low concentrations. Asbestos fibers are associated with a variety of diseases, including (1) Asbestosis - a non-malignant scarring of the lungs; (2) Bronchogenic Carcinoma - a malignancy (cancer) of the lung; (3) Mesothelioma - a malignancy of the lining of the chest cavity; and (4) cancer of the stomach, colon, and rectum. These diseases develop slowly, and usually do not become evident until many years after initial exposure. Asbestos fibers can enter the body via the breathing process or via eating/drinking. The small lightweight asbestos fibers easily become "airborne" and can contaminate the work area. Recent scientific studies have shown that individuals who smoke and have exposure to asbestos have a significantly greater health risk than asbestos workers who don't smoke.

The 8-hour time-weighted average (TWA) permissible exposure limit (PEL) for asbestos is 0.2 fibers, longer than 5 micrometers, per cubic centimeter of air (f/cc). No employee shall be exposed to airborne concentrations of asbestos equal to or exceeding the PEL.

Asbestos is most frequently encountered within the Complex as insulation on pipes and structures installed prior to 1973. While purchase of new insulation containing asbestos has been discontinued, asbestos insulation may be encountered in older units for many years to come.

II. GENERAL PRACTICES

1. Asbestos-containing materials shall be handled in a wet state whenever practical. Engineering controls, such as enclosures, exhaust ventilation, or dust collection should also be used where required to maintain exposure to asbestos below the PEL. As a precaution, respirators shall be worn for all tasks which involve disturbance of asbestos-containing materials (refer to Respirator Safety Order for proper respirator selection).

2. Wherever practicable, replace materials containing asbestos with non-asbestos substitutes. Insulation containing asbestos shall not be purchased, and asbestos blankets and insulating tape may not be used.

3. In the absence of specific knowledge to the contrary, treat all insulation as containing asbestos. Insulation can be verified as non-asbestos material by (a) field tests performed by the Health & Safety Department, or (b) specific knowledge that the insulation was installed after 1973, which is the date when DPMC began using only non-asbestos insulation. All units which have asbestos-containing materials installed shall post signs at the unit boundaries which state: THIS UNIT CONTAINS ASBESTOS MATERIALS.

4. Reinsulate equipment that is frequently maintained, such as control valve manifolds, pumps, etc., with non-asbestos insulation at an early opportunity. Equipment insulated with asbestos may be sent outside the Company for maintenance, providing the insulation will not be disturbed or removed for that maintenance, and providing that such equipment shall be accompanied by notification that the insulation contains asbestos. This notification shall include the standard asbestos warning label on the equipment (see Attachment I) and suitable notices accompanying the truck manifest and the purchase order. Asbestos insulated equipment that requires maintenance which will disturb the insulation shall have the asbestos thoroughly removed prior to leaving DPMC. Execution of these reinsulation programs and notification practices are the responsibility of the Shell supervisor or foreman most immediately involved in arranging for the equipment transfer.

5. Use work permits to ensure compliance with asbestos work practices for maintenance tasks. It is the joint responsibility of maintenance and operating representatives to anticipate encountering asbestos when planning a job or preparing a work permit. When asbestos will be encountered, the departmental safe work permit shall specify "asbestos work practices in effect; respirator required".

6. All insulated equipment that is to be disposed via salvage shall have insulation removed at the originating location. Insulated equipment will not be accepted at the salvage yard. However, by special arrangement with Material Control, large pieces of equipment with non-asbestos insulation may be sent to salvage.

III. DEFINITIONS

1. Regulated Area - Any work area where asbestos exposures may reasonably be expected to equal or exceed the PEL. Regulated areas shall be identified with warning signs (Attachment 1) and roped off with hazard warning tape. Access to regulated areas shall be limited to authorized personnel. All persons entering a regulated area shall

wear an approved respirator and protective clothing. All persons working in areas surrounding regulated areas shall be informed as to the nature of the work to be performed and of the existence and requirements of the regulated area. Negative pressure enclosures shall be established where required to maintain asbestos concentrations below 0.1 f/cc in areas surrounding the regulated area. Exposure monitoring will be required (contact Industrial Hygiene). A competent person will be required onsite to insure all requirements are being followed.

2. Restricted Area - Any work area where asbestos-containing materials will be disturbed, such as, removing insulation or transite materials, and the work will last longer than 1 hour. Exposures to asbestos are not expected to equal or exceed the PEL. Restricted areas shall be identified with warning signs (Attachment I) and hazard warning tape. All persons entering the restricted area shall wear an approved respirator and protective clothing.

3. Incidental Asbestos Work - Short duration work tasks (less than 1 hour) with asbestos-containing materials where asbestos exposures are not expected to exceed the PEL.

4. Competent Person - The competent person will generally be a Certified Industrial Hygienist, an industrial hygienist with training and experience in handling asbestos, or a person who has such training and experience as a result of on-the-job training and experience. Contact Industrial Hygiene regarding appropriate training courses which are available.

IV. WORK PRACTICES

The following work practices apply at DPMC:

1. Identification of Work Areas - Post warning signs (Attachment I), which are available from the tool room, around all work areas while involved in removal or disturbance of asbestos-containing insulation, or cutting of asbestos-containing transite, except for incidental work. If airborne concentrations of asbestos can reasonably be expected to exceed the PEL, a regulated area must be established.

2. Respiratory Protection - All persons shall wear respiratory protection during any operation where airborne asbestos fibers could be generated. Approved respirators include: half and full face twin cartridge respirators equipped with HEPA filters (purple cartridges), or any supplied air respirator. Respirators are available from the green respirator cabinets. (See Respiratory Protection Safety Order). Employees who use respirators are to be trained annually, and fit tested semi-annually. Semiannual fit testing will apply only to employees who wear respirators in areas where asbestos

concentrations exceed the PEL. All other employees who wear respirators will be fit tested annually.

3. Asbestos Removal - The removal of asbestos insulation should be done in a wet state to prevent or minimize the formation of airborne asbestos fibers. Portable spray cans using water or commercially available wetting agents may be used. Wetting agents (surfactants) may be added to water to allow more effective penetration and permit more thorough soaking of the asbestos-containing materials. Wetting agents are generally prepared by mixing 1-3 ounces of wetting agent to 5 gallons of water. Special work situations where water cannot be used, such as those involving electrical systems, should be reviewed with the area Health and Safety Inspector.

4. Ventilation Systems - Inspect local ventilation equipment used to control asbestos fibers at least quarterly. Inspection records are to be maintained by the principal department using such equipment.

5. Housekeeping - Clean the work area by wet sweeping and bagging of all asbestos debris, or by use of a HEPA filtered vacuuming device after completion of asbestos removal and at appropriate intervals to minimize the potential for generating airborne asbestos. In all cases, the asbestos debris must be properly handled for disposal (see section entitled "Disposal"). Precautions should be used to minimize airborne asbestos during idle work periods. For example at the end of a workday large pieces of unprotected insulation are to be moistened and loose insulation picked up. Exposed insulation that cannot be maintained in a wet state during idle periods shall be enclosed in plastic or encapsulated with commercially available encapsulants. Dry sweeping or "blowing" are not permitted.

6. Personal Activities - The storage, preparation, and consumption of food and beverages is not permitted in areas where exposure to airborne asbestos is encountered. No employee may eat, drink, smoke, chew gum or tobacco, or apply cosmetics in work areas where asbestos materials are being handled. It is the responsibility of all employees that work with asbestos materials to take reasonable cleanup precautions prior to eating, and also at the end of the work shift. As necessary, washup areas are to be provided for washing.

7. Clothing - Employee personal street clothing is to be protected from asbestos contamination. Employees assigned to . regulated or restricted work areas, or tasks where airborne exposure or clothing contact with asbestos may reasonably occur shall wear disposable coveralls. Efforts must be made to assure the effectiveness of the coveralls. The use of different size disposable coveralls will minimize tearing; all snaps or buttons shall be used as is necessary to protect undergarments. Torn or ripped coveralls shall not continue to be worn. All contaminated disposable clothing must be

disposed of and transported in sealed plastic bags and labeled (Attachment 1).

Coveralls are not required for maintenance or operations tasks encountering incidental asbestos work, providing generation of airborne asbestos and contamination of street clothing is prevented by procedures outlined in this section.

8. Change/Decontamination Areas - Decontamination areas shall be established for all "regulated areas". The decontamination area shall be adjacent and connected to the regulated area, and shall consist of an equipment room (contaminated change room), shower area, and clean room in series. All employees shall enter and exit the regulated area through the decontamination area. The clean room shall be equipped with a locker or appropriate storage container for each employee. The showers shall be located between the equipment room and clean room where feasible. Where the shower area is not located here, asbestos must be removed from employee's work clothing using a HEPA vacuum before proceeding to the shower area.

V. DEMOLITION AND RENOVATION OF ASBESTOS MATERIALS

Demolition and renovation of insulation and transite containing asbestos must be accomplished in accordance with OSHA and EPA regulations, and written notification to the Texas Air Control Board (TACB) is required. Demolition of insulation may be encountered when process units are retired, when interunit insulated pipelines need replacement, or when individual columns or large vessels are replaced or retired. Maintenance of insulation may be encountered during upgrading of insulation, or during major turnarounds in some units.

To prepare for planned maintenance asbestos work, the responsible Field Team Manager, Supervisor, or Project Engineer shall contact Health & Safety to determine whether the material contains asbestos. The Environmental Conservation Regulatory Affairs group shall then be advised if more than 160 square feet is involved. For demolition work, Regulatory Affairs must be notified of the approximate square feet of asbestos to be removed, regardless of amount (even if there is none). One month's advance notification to the Regulatory Affairs group is required. For emergency maintenance asbestos work, verbal notification must be given to the TACB prior to work starting. Regulatory Affairs, or the Environmental Supervisor, is responsible for that notification.

The responsible foreman, supervisor, or project engineer shall prepare written instructions for the job. These instructions shall then be used as a basis for TACB notification, and for conducting the job. The information which should be included for notification shall include the process unit, who will be removing the asbestos (contractor name), asbestos removal start and completion dates, nature of asbestos removal, and if any special handling procedures, other than routine, will be used.

Environmental monitoring will normally be performed by Industrial Hygiene personnel for jobs that require TACB notification.

In July of each year, Regulatory Affairs prepares an annual report to the TACB, estimating the quantity of asbestos that will be removed for all demolition projects and planned maintenance jobs over 160 square feet. A list of all demolition projects are included in the notification. Further notification for any of the jobs listed in the annual report is not necessary. Emergency maintenance asbestos removal work over 160 square feet, or any other asbestos jobs which arise during the year and not included in the annual report, requires notification to the TACB before the job begins.

Contractor pre-bid conferences held are to include the specific hazards of asbestos and required procedures. Also, advance notification of Purchasing - Procurement is necessary to allow sufficient time for contract preparation.

VI. DISPOSAL

Place the wetted asbestos in heavy duty plastic bags and seal them securely as soon as possible after the bags are filled and prior to moving the bags. An asbestos warning label, as shown in Attachment I, is required on each bag. The label may be pre-printed on the bag or may be on a tag attached to the bag. Bagged asbestos and transite will be disposed of onsite. A Waste Disposal Request form, DPMC-6 (Attachment II), is required for all shipments. The quantity shipped should be indicated on the form in cubic yards. It is the responsibility of the generating department to see that the asbestos is placed in the trench provided in the landfill. Contact Environmental Operations with questions concerning disposal.

Dispose of non-asbestos insulation wastes by placing them in the regular refuse bins.

VII. ANNUAL MEDICAL EXAMS AND EMPLOYEE TRAINING

Annual medical examinations are provided to Shell employees prior to engaging in activities regularly exposed to airborne concentrations ($\geq$ 0.1 f/cc) of asbestos. The intent of this medical program is to include employees who work with asbestos-containing materials on a regular basis (30 or more days per year) or who have had known exposure through previous assignments.

In addition, this order shall serve as a training instrument. Those employees that work regularly with asbestos materials shall be retrained annually, by reading and discussing this order and by viewing the asbestos training tape which is available from the Training Department.

Key items to be emphasized in the training are:

1. Methods of recognizing asbestos.

2. The health hazards associated with asbestos.

3. The increased risk for smokers.

4. Types of operations that could result in exposure.

5. Precautionary work practices, engineering controls, housekeeping procedures, hygiene facilities, protective clothing, respirators, decontamination, and waste disposal.

6. Purpose for and proper respirator use, fitting, and limitations.

7. Medical surveillance program requirements.

8. A review of the OSHA Standards.

9. The use of warning signs where exposure may apply.

The manager shall retain appropriate training records documenting the names and dates of the training for 40 years.

Updating Responsibility:
Superintendent Health, Safety & Environmental

ATTACHMENT I

ASBESTOS WARNING SIGNS AND LABELS

SIGN

Standard OSHA Warning Sign - 14" x 20" - with legend per OSHA Standard:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA

LABEL

Self-Adhesive Type Label, bearing legend per OSHA Standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE
HAZARD

DPMC-6 (Revised 8/86)

ATTACHMENT II

DPMC WASTE DISPOSAL REQUEST

NOTE: ALL ITEMS IN SECTION A MUST BE ENTERED BY ORIGINATOR. SEE BACK OF THIS SHEET FOR CODE TABLES AND INSTRUCTIONS.

A. Originator Completes This Section:

This form is to be filled out once you are satisfied the waste material can be handled and disposed of in a safe and environmentally sound way.

NOTE: It is the responsibility of the ORIGINATOR to find, if possible, a use for the material either in his department or another department in the Complex. Arrangements for disposition of the material should always be made (except in an emergency) and approval of Environmental obtained before pick-up is scheduled.

1. _____ MONTH/DAY/YEAR — _____ (JOB ORDER/ACCOUNT NUMBER)
2. _____ GENERATOR DEPT. CODE — _____ (DEPARTMENT NAME)
3. _____ WASTE CODE
4. _____ DISPOSAL SITE CODE — _____ (DISPOSAL SITE NAME)
5. _____ MATERIAL DESCRIPTION — _____ (ESTIMATED QUANTITY/UNITS-BBLS, YDS, ETC.)
6. _____ SOURCE (VESSEL, TANK, ETC.)
7. _____ QUANTITY — _____ (ESTIMATED TIME REQUIRED)
8. _____ COMMENTS

SAFETY (Safety precautions must be indicated.) ☐ See the attached Safe Work Permit

EQUIPMENT REQUIRED: Gloves ☐, Goggles ☐,

Protective Clothing ☐ Type _____

Respirator ☐, Fresh Air ☐, Rubber Boots ☐

Special Precautions: _____

_____
ISSUED BY (ORIGINATOR)

B. Complete Part A and then call Environmental for approval at: 6706, 7280, or 7653. (Off Hours call 7340 or 6397)

APPROVAL (ENVIRONMENTAL)	BY (ORIGINATOR)	DATE	TIME

C. Driver Completes This Section:

_____	DATE	☐	BBLS, LIQUIDS	_____	TRUCK NUMBER
_____	QUANTITY	☐	BBLS, SOLIDS	_____	TIME STARTED
_____	DRIVER	☐	YDS	_____	TIME FINISHED

Note to Driver: Turn completed forms in to your supervisor daily. Mail to ECB-131.

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DPMC-01043

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