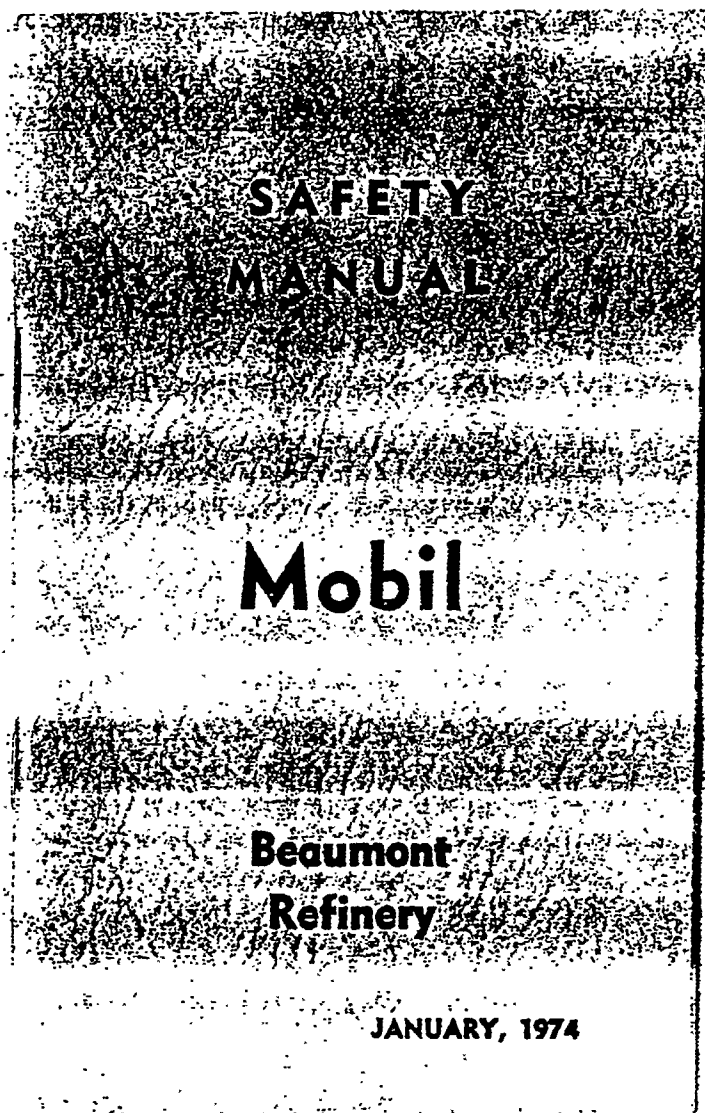
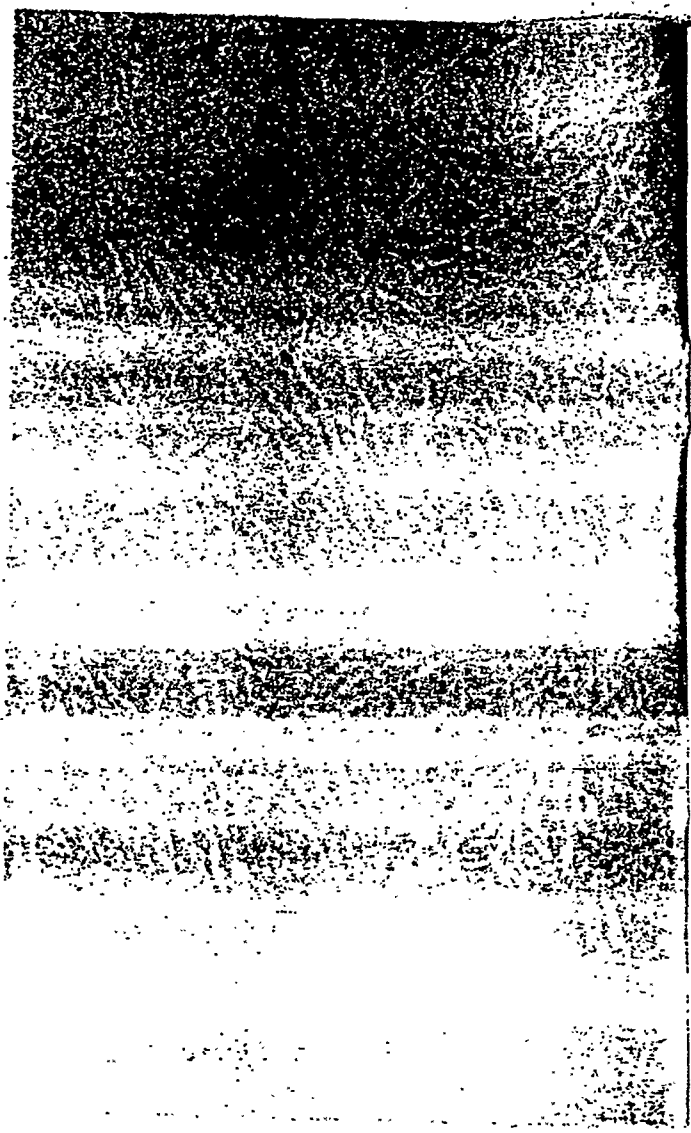




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FOREWORD

The degree of success of any accident prevention program depends largely on how well each individual accepts his responsibility in the day-to-day job of working safely. Management is responsible and accountable for the safety performance in our plant. Therefore, as part of our responsibility we are publishing these safety rules and procedures in the interest of the safety and well-being of all employees and making our plant a better place to work.

It would be virtually impossible to compile a complete list of safety procedures to cover every circumstance which could arise. On the other hand, these basic plant safety rules have resulted from many years of experience and accident investigation; they should be studied and followed in detail.

Provision of these safety rules and procedures cannot alone prevent accidents and injuries. Every employee must stay alert for unforeseen dangers and use his own initiative in reporting safety hazards and helping to stop unsafe acts. In doing so, he will make a real contribution toward eliminating the pain and suffering which invariably accompany an accident.

R. P. Medlin

R P Medlin
General Manager

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**BEAUMONT REFINERY
GENERAL SAFETY RULES**

1. Before starting work, be sure you receive and understand the job instructions from your foreman. He is there to help you. Listen to the safety instructions as he covers any hazardous condition associated with the job. Ask questions.
2. Before beginning work in any process area or unit, clear with the Head Operator, and notify the Head Operator when the job has been completed. This practice is considered a must to insure your safety and the continuity of operations. You should also determine the location of exits, emergency showers, eye fountains, phones and fire extinguishers.
3. Smoking or unauthorized use of matches, cigarette lighters, or other flame producing devices, are not permitted in restricted areas. Smoking in a restricted area is considered grounds for immediate discharge. (*See Safety Procedure #1.)
4. Horseplay, fighting or scuffling with fellow employees can cause a serious injury and is not permitted while on company property. Assault with intent to do bodily harm may incur immediate discharge.
5. The possession or use of any intoxicants or narcotics on company property is not permitted, nor should any employee report to work under the influence of intoxicants or narcotics.
6. Unsafe conditions or practices should be called to your supervisor's attention. Every-

one should feel responsible to caution a fellow employee who may be in danger or is about to follow an unsafe practice.

7. All injuries, no matter how slight, must be reported and treated at the Medical Department immediately. (*See Safety Procedure #2.
8. Avoid loose fitting clothing or any garment that might become entangled when working on rotary machinery. Keep fully clothed at all times for your own protection. Stripping to the waist is permitted only by special permission from your supervisor.
9. Safety hats must be worn in all areas when exposed to the possibility of a head injury. Possible exceptions can be offices, laboratories, some shop areas, control rooms, etc., and while inside cars, trucks, cranes, engines, or other equipment where built in head protection is provided.
10. Safety goggles are provided by the company and must be worn when required by hazardous conditions. (See Safety Procedure #3.)
11. Respiratory equipment is furnished by the company and should be used for accident prevention when the possibility of oxygen deficiency or exposure to toxic gas exists. (*See Safety Procedure #4.)
12. Wearing of safety glasses is recommended and the company will pay half the total cost of prescription safety glasses. (*See Safety Procedure #5.)
13. Safety shoes are recommended for all em-

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ployees and may be purchased at the refinery Storehouse at company cost. Safety shoes are sold each Monday, Wednesday, and Friday from 12:30 to 4:00 p. m.

14. A gas test, "Entry and Hot Work Permit," is required and must be obtained before (1) an employee enters any tank or vessel, and (2) before hot work involving welding, burning, or any type of flame producing equipment is performed in any area of the plant. (*See Safety Procedure #6.)
15. Unless an emergency exists, electrical switch rooms are not to be entered by anyone except electricians, supervisors, and/or operating personnel. Storage of any material in switch rooms may be hazardous and therefore must be authorized by Electrical Supervisor.
16. Safety "Danger Tags" must be placed on main disconnect switches after the control handle is moved to the OFF (open) position in preparation for performing work on electrically operated equipment. Unauthorized removal of a safety tag, misuse of tags, or operation of a control that has been tagged is strictly forbidden. (*See Safety Procedure #7.)
17. The Safety "Danger Tag" procedure must also be followed by properly blocking and tagging valves to isolate control valves, pumps, compressors, heat exchangers, and similar equipment from the dangers of gas, hydrocarbons, hot process liquids, and/or steam before any work is started. Bleeders must be opened and tagged to insure that lines are depressured before work begins. Blinds should be installed as required.

The procedure for placement and removal of "Danger Tags" on valves will be the same as outlined in Safety Procedure #7.

18. Operation of any equipment, machinery, or vehicles by unauthorized personnel is forbidden.
19. Broken or defective tools cause accidents and are to be repaired or replaced. The company furnishes tools—report the bad order tools to your supervisor and obtain a new issue.
20. All excavations are to be shored or sloped to eliminate the possibility of caving. Always barricade or rope off areas where there are open excavations, men working overhead, leaking lines, pits with covers removed, or where there is a slipping hazard.
21. Safety belts should be used when working from any kind of scaffold, platform, or high equipment where additional protection against falling is needed.
22. All employees are to observe and abide by warning signs and traffic rules for vehicular and bicycle traffic throughout the refinery. (*See Safety Procedure #8.)
23. Safety and fire equipment, such as gas masks, fire extinguishers, fire and steam hose, are for emergency use. This equipment is to be mounted and kept in one clearly marked location and should be used for emergency purposes only (*See Safety Procedure #9.)
24. Obtain approval from the Safety Division before making alterations or connections to fire plugs, turret nozzles, or any fire water lines.

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Safety Division must be notified prior to filling tanks, or vessels from fire water lines.

25. Before making any alterations or connections to drinking water lines proper authorization must be obtained in writing from the Utilities Manager.

APPROVED SMOKING AREAS

(Safety Procedure #1)

Certain areas within the refinery have been designated as approved and unrestricted smoking areas. They are as follows:

1. Main office area—smoking will be permitted anywhere within the area known as the main office area including the Main Office Building, Office Annex, Technical Building, Cafeteria, Recreation Building, Pipe Line Microwave Building, Car Shed, and assigned parking area west of the above buildings.
2. Smoking will be permitted within the Mechanical offices, located across the street from the cafeteria.
3. Smoking will be permitted inside main locker room and walkway between locker room and main gate and main office area.

HANDLING INJURED EMPLOYEES

(Safety Procedure #2)

The complete facilities of the Medical Department emergency treatment room are available for use 24 hours daily. On the day shift treatment will be provided by the Refinery Doctor and/or Medical Department staff. During the off shifts and

on week-ends, emergency first aid will be provided in the Medical Department emergency room by trained and qualified Laboratory personnel.

1. **FIRST AID TREATMENT** or medication needed during off shifts or weekend should follow this procedure.

- a. Call 316 or 318 and notify the Head Tester at the Laboratory that the injured employee is coming to the emergency room.
- b. Employee reporting to emergency room should enter and be seated or lie down as required for treatment.
- c. No attempt should be made for self treatment. The trained Laboratory Technician will administer the needed treatment.

2. **SERIOUS INJURY** or sickness. (Ambulance calls)

- a. In case of serious injury or sickness involving heart attack, impaired breathing, shock, severe bleeding, severe burns, fracture, asphyxiation, etc., immediate steps must be taken to assist the employee as follows:

1. Render First Aid.
2. Get additional help.
3. Have someone call for the ambulance. (Phone 333)
4. Get the injured employee to the doctor or hospital as quickly as possible.

- b. On the day shift the injured employee will be taken to the Medical Department emergency room for treatment and/or further instructions to be issued by the Company Doctor.

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1. In the event the patient is to be taken to the hospital, a member of the supervisory staff should also proceed to the hospital.
 2. The supervisor will remain at the hospital until the family of the injured employee arrives.
 3. As soon as possible after the patient has been duly received by the hospital (emergency room) the Laboratory Technician and his assistant is to return the ambulance to the refinery and report to his supervisor. (On the night shifts, the Night Superintendent should be notified when the ambulance has returned).
- c. During the off shifts and week-ends when the need for emergency treatment is urgent, the injured or sick employee is to be taken immediately to the Baptist Hospital (emergency room). In this event the following procedure will be carried out:
1. Night Superintendent will call the Plant Doctor (or specialist if Plant Doctor cannot be reached).
 2. Night Superintendent will call Baptist Hospital emergency room to expect the injured employee. (Telephone 833-6421) He should give the hospital the name of the physician who has been called.
 3. If the appropriate physician has not been reached by the time the injured employee reaches the hospital, the emergency room personnel are to be

notified by phone and given the names of our panel physicians and instructed to locate one of them.

4. In cases of a serious nature, the Night Superintendent should notify Employee Relations and the Department Head or Assistant Department Head of the injured employee.
3. To obtain the company ambulance and first aid personnel:
1. Dial 333
 2. State you need ambulance
 3. Give your name
 4. Give location

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SAFETY RULES — FOR EYE PROTECTION

(Safety Procedure #3)

Because of the extreme importance of wearing goggles to prevent accidents to eyes, safety goggles are required for the following work and may be required by your supervisor or the Safety Division for work not specified herein.

Safety goggles must be worn for the following work:

1. Turbining and blowing boiler and furnace tubes, exchangers, economizers, and flues.
2. Water blasting.
3. Sampling or handling chemicals, opening containers or gauging tanks containing chemicals. Opening closing or adjusting packing on all chemical valves.
4. Using air or steam in cleaning or opening any plugged line or vessel.
5. Chipping, cutting, breaking, reaming or drilling any material by hand air tool, or machine where there is danger from flying chips.
6. All kinds of buffing, grinding, overhead filing, or wire-brushing.
7. Hammering metal against metal, such as driving wedges between flanges.
8. Cutting or handling wire under tension.
9. Working under vehicles or mechanical equipment.
10. Working where there may be exposure to molten metals or handling hot samples (hydrocarbons).

11. Opening or bleeding lines, pumps, heat exchangers or other equipment which may be under pressure, contain chemicals or hot fluids.

Goggles should be worn when eye protection is needed for the following work:

1. Prolonged exposure to high light intensity such as electric welding, where goggles with special light lenses should be worn.
2. Handling dusty materials or moving coke, brick, cinders, materials in powder or semi-powder form, garbage or trash.
3. Cleaning or lubricating stopcocks, valves, pumps, or other equipment where grease guns are used.
4. Work where rust, dust, sand, coke, or other objects are blowing about.

RESPIRATORY EQUIPMENT

(Safety Procedure #4)

Four types of respiratory equipment are available in the refinery, each piece of this equipment is designed to satisfy a particular need and serve a specific purpose.

1. **Fresh air masks**—For toxic gas or oxygen deficiency. To be used where gas is suspected or anticipated to intensify as work progresses. These units consist of a face mask, an air breather valve, breather hose and a puralator charcoal filter attached to an instrument or yard air source. They are especially suited to jobs of long duration whether for emergency rescue, maintenance or operations work. This equipment is light weight and suited for work

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in tight places. As long as it is properly fitted around the face and air lines properly attached, there is no time limit on use of this equipment. Available on request from safety storeroom. This is standard equipment for normal use. Other equipment to be substituted only in special cases.

2. **Scott Air-Pack** — self contained emergency breathing apparatus.

These units give complete respiratory protection up to 30 minutes in hazardous concentration of toxic gas or oxygen deficiency. Affords freedom of movement in an open area but limited on protection time. Alarm device gives ample warning time before fresh air cylinder is spent. They afford excellent protection and can be used during emergency conditions for rescue, maintenance or operations works. Available on request from safety storeroom for standby service. Emergency units are located in process area control rooms.

3. **Canister Gas Mask or Cartridge Respirators** —

Not to be used or issued for general purpose protection.

This type respiratory protection is limited in use as described on the label of the canister. Before any of these units are used, you must first notify and obtain the recommendation of the Safety Division. If while using this type respiratory equipment you experience any irritation to the nose, throat, or eyes, leave the area at once and consult your foreman. This type equipment is not to be used for rescue work.

4. **Dust Mask**

This type respirator protects against the nuisance of dust in exposures where toxic gas or oxygen deficiency are not a problem.

PRESCRIPTION SAFETY GLASSES

(Safety Procedure #5)

The company will pay half the cost of the employee's safety glasses when this procedure is followed.

1. First the employee obtains a prescription from his doctor and delivers the prescription to the Medical Department at the refinery.
2. The Medical Department then reviews the prescription and will give approval if in order. (Prescription is stamped and signed)
3. Employee may then proceed to have the prescription filled at either Texas State Optical or Industrial Optical. Frames must be selected from our approved list at either location.
4. When the employee returns to pick up his glasses, he will be given a fitting and upon satisfactory receipt of the glasses he will be obligated to pay only one-half ($\frac{1}{2}$) the total cost.

GAS TEST, ENTRY AND HOT WORK PERMIT

(Safety Procedure #6)

This permit attests to conditions at time of inspection. Work must be started within one hour after permit is issued. The permit is null and void and a new permit must be obtained if (1) conditions

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change, (2) the work is discontinued for one hour or more. The Safety Division will issue the permit for a definite period of time, usually a complete shift and before the work continues beyond this period, another permit must be issued.

Prior to issue of any Gas Test, Entry and Hot Work Permit the following check list items must be reviewed for compliance where applicable. The Maintenance Foreman and/or Proprietor Foreman will be responsible to see that all requirements as outlined by the Safety Inspector are performed and safe conditions exist prior to starting work.

HOT WORK

1. Job must be checked and OK'd by operating personnel and Safety Inspector.
2. Oil spills and flammable materials cleaned up.
3. Equipment blinded or valves dropped and lines blanked (close to vessel as possible).
4. Sewers covered and wet down.
5. Control for sparks—areas wet down, water spray—or asbestos blankets in place.
6. Ventilation equipment installed and operating.
7. Fresh air or gas mask equipment must be available for immediate or emergency use.
8. Safety protective clothing and equipment properly in use.
9. Safe means of access or egress available.
10. Surrounding conditions inspected and safety precautions taken against wind direction, ground slope, or hazardous atmosphere.

11. Standby fire equipment in place and operable.
12. Emergency communication available.
13. Safe location of equipment (welding machine—bottles—hose).
14. Special portable roadblock signs, lights for barricades, rope off, etc.
15. Facilities in close proximity properly protected (i.e., gasoline storage, LPG storage, etc.).
16. Determine need for fire watch.

ENTRY

1. No person shall under any circumstances enter any vessel, sump containing process equipment, electric or sewer manholes, without an "Entry" permit signed by authorized Safety and Operating personnel.
2. When required, one man must be stationed outside the entrance of any vessel in which men are working and will remain at the post. The duty of the standby man is to act in case of emergency. (This requirement must be spelled out in writing on the entry permit for the specific case when need is warranted.)
3. Should any emergency arise in the vicinity, such as a gas leak, fire or power failure, all persons working in the vessel will come out immediately and the permit will become null and void.
4. Before an "Entry" permit is issued, the vessel must be properly isolated by blinding or satisfactorily disconnected from appropriate lines.

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5. Before an "Entry" permit is issued the vessel will be checked for oxygen content and the presence of gaseous vapors. Vessels containing chemicals must be neutralized and thoroughly washed before an entry permit is issued.
6. Ventilation equipment must be properly installed and operating.
7. When specified in writing on the "Entry" permit, fresh air equipment, safety belts and life lines must be available for immediate or emergency use outside the manway used for the particular job.
8. **REMEMBER** that although an entry permit is issued everyone should remain alert for any change in condition while inside the vessel. Common symptoms associated with inhalation of toxic fumes, vapors, gases or lack of fresh air include the following:
 - a. Irritation of eyes, nose or throat
 - b. Shortness of breath
 - c. Cough
 - d. Dizziness
 - e. Headache
 - f. Nausea

When any of these symptoms are experienced while inside a vessel you should come out and report to your supervisor immediately.

DANGER TAG PROCEDURE FOR HANDLING REPAIRS TO ELECTRICALLY OPERATED EQUIPMENT

(Safety Procedure #7)

The procedure outlined herein is mandatory for preparing electrically operated equipment for mechanical work or electrical repairs. This standard method of "Danger" tagging electrically operated equipment is the direct responsibility of the man performing the work, the foreman and operator in charge to see that before mechanical work is performed safe conditions are continuously maintained during job execution and start up of all machinery or equipment.

1. When a piece of electrically operated equipment has been shut down and made safe for repairs, the operator in charge shall see that the main control switch is open. Control switches should always be operated by electricians or other qualified personnel to insure proper electrical identification and procedures are followed to open the switch. A white "DANGER—DO NOT OPERATE" tag is then attached to the main disconnect switch by the operator and witnessed by the craftsman or his foreman. The tag is to be signed by the operator and dated.
2. Before repair men start work on any electrically operated equipment they shall be sure that a white "DANGER" tag is attached to the main disconnect switch. The craftsman shall then also attach his own green "DANGER" tag to the main disconnect switch. The green tag shall be signed and dated. Both of these tags must be in place before an O.K. for work is given.

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3. Before starting work on electrical equipment you should engage the push button starter switch to prove the circuit is open.
4. When the work has been properly completed, the craftsman should remove the green tag and report to the operator in charge of the equipment that the job is complete. The operator may then remove the white "DANGER" tag. Before the operator removes the white "DANGER" tag to place the equipment in operation, he must make sure that all workers are clear of the equipment.
5. When necessary to start and stop machines and equipment during repairs, or to energize circuits controlling such equipment for test purposes during such repairs, the operator in charge of the equipment, after having properly warned and safeguarded all others who might be subject to injury from such operations, will temporarily remove his "DANGER" tag and permit this type of test operation. The "DANGER" tag is to be replaced following the test, unless the job is complete and no further work is to be done on the equipment.
6. It is absolutely forbidden for anyone to operate a switch, valve or controlling device to which a "DANGER" tag is attached.
7. Push-button master switches, safety lock-out switches, and other electrically operated control devices are not to be considered as ample protection to prevent equipment operation. "DANGER—DO NOT OPERATE" tags must be placed on main disconnect switches which have been properly opened by electricians.
8. Normally, the only person permitted to re-

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move a white or green "DANGER TAG" is the person who placed it there. In the case of a different person being on duty due to shift change, such person will be considered authorized and responsible for proper removal of a "DANGER TAG". The Operations foreman must be notified and his permission obtained before a "DANGER" tag is removed after a shift change.

SAFETY RULES — FOR VEHICULAR TRAFFIC

(Safety Procedure #8)

1. All vehicular traffic must keep to the right side of the road. Pedestrians walk on the left of the road facing the traffic.
2. Yard speed limit is 20 miles per hour, except where otherwise designated.
3. Observe all traffic signs and signals.
4. Sound horn at blind corners and when passing automotive vehicles.
5. Keep safe distance behind vehicles, at least two vehicle lengths.
6. Do not drive with defective equipment. Lights, brakes, steering apparatus and horn must be in good condition. Report for repairs immediately any defective equipment.
7. Do not park or stop on roads if vehicle interferes with traffic. Whenever possible, park in designated areas.
8. Do not remove roadblocks or detour signs.
9. Stop before crossing railroad tracks where locomotive cannot be observed at safe distances.
10. Exercise extreme caution if passing trucks or

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buses that are stopped for taking on or discharging passengers.

11. Be seated while riding in trucks. Feet and legs must not hang over truck side or back ledge.
12. Do not jump on or off a vehicle while it is in motion. Wait until it comes to a complete stop.
13. Drive slowly near units that are down for repairs, at all intersections, and during shift hours when pedestrian and vehicular traffic are heavy.
14. Obtain permission from unit operator before driving inside battery limits of process units in operation.
15. Do not block fire house doors or emergency equipment with vehicles or other equipment.
16. Be familiar with all posted rules and regulations covering traffic in refinery.

SAFETY RULES — FOR BICYCLES

(Safety Procedure #8)

1. Give standard hand signals and observe same traffic rules as drivers of motor vehicles.
2. Do not ride "double" on bicycles.
3. Do not stunt or trick ride.
4. Do not attempt to carry heavy or cumbersome loads while riding on a bicycle.
5. Give pedestrian traffic the right-of-way. Do not attempt to force your way through. If necessary, get off and walk.
6. Park bicycles where they will not be in the

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way of pedestrian or automotive traffic. Use bicycle racks where provided.

7. Two or more riders together should ride single file, with sufficient distance between to allow for safe handling in the event of sudden stops.
8. Sidewalks are for pedestrian traffic. Bicycle riders should not use sidewalks, particularly at noon or during shift change time.

EMERGENCY SAFETY & FIRE EQUIPMENT

(Safety Procedure #9)

1. Standby fire or safety equipment required by "Hot Work" permit will be furnished by the Safety Division.
2. When emergency fire or safety equipment is used and after normal conditions are restored, use the following procedure for replacement:
 - a. Place all used emergency equipment in one area, preferably near the control room or at a good pickup point near a road.
 - b. Do not place used fire extinguishers or used emergency respiratory equipment back on its regular mount or permanent location. This could cause a serious injury or cost a life.
 - c. On the day shift, notify your regular day foreman immediately, who will in turn notify the Safety Division. Used equipment will be picked up and replaced by the Safety Division.
 - d. On the off shifts, notify the shift foreman.

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He in turn will notify the Night Superintendent and the Safety Division will pick up and replace the used equipment on the day shift.

3. All fire equipment is to be painted fire department RED. All fire water hoses and fire steam hoses are to have the hose tip and coupling painted RED. Hoses which are taken out of fire service and are designated for regular yard use are to have the red paint covered and blotted out with blue paint. Any RED hose is not to be used in regular yard service.
4. All water and steam hose in fire service are to be coiled on racks or reels at all times when not in use. Immediately after conditions requiring use of fire water or steam hoses have been restored to normal, the hoses are to be cleaned and returned to their proper locations.
5. Fire hose and cart houses are provided for storage of emergency equipment, they should not be used to store other material or shelter personnel except in emergencies.

FIRST AID

Only the physician, nurse, trained laboratory or safety personnel are permitted to administer first aid unless emergency treatment is necessary while awaiting their arrival.

1. SHOCK

In case of serious injury, always treat for shock. Keep the victim lying down and quiet. Loosen his clothing. Do not let him get up and walk around, even if he protests that he is feeling better. Make him wait until he has been examined. Keep him warm with a coat or blanket, but not sweating.

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If he has no chest or head injuries, keep his head slightly lower than his feet.

2. SEVERE BLEEDING

If victim is bleeding profusely, it must be stopped as rapidly as possible. Make the victim lie down and be still. Make a pad out of clean material and press it firmly over the wound. If you can't stop the bleeding by direct pressure on the wound, try pressing one hand against the artery which supplies the blood. Use arterial pressure for arm and leg wounds only, never for head or body wounds.

3. SEVERE BURNS

In case of a severe burn, summon the doctor and ambulance immediately. If help will be there shortly, the most important thing is to keep the victim lying down and as quiet as possible to lessen the shock. Keep the burned area as clean as possible—DO NOT touch it with your hands or pull away bits of clothing or debris which may be clinging to the flesh. If help is delayed and pain and shock are intense, cover the burned area with the cleanest dry dressing you can find. Excluding air will lessen the pain. DO NOT use salve, ointments, oil or antiseptics.

4. SUSPECTED FRACTURES

If an employee has a suspected fracture of the arm, leg, neck, back, or head, keep the patient lying down and call for medical assistance. Emergencies such as fire and gas escape are the only times the patient should be moved but do so very carefully.

5. CHEMICAL BURNS

Wash the affected area with copious amounts

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of water and get the patient to the dispensary.
(Particularly important for eyes)

6. UNCONSCIOUSNESS

In the case of unconsciousness with the patient breathing, keep him lying down and call for medical assistance. **DO NOT** attempt to arouse or awaken patient. If head injury is suspected **DO NOT** attempt to move or change position of the injured person in any way.

7. STOPPAGE OF BREATHING

Check the victim's breathing. If he has stopped breathing, artificial respiration must be **started at once**. The simplest, most practical method of artificial respiration is mouth-to-mouth breathing. It is done as follows:

- a. Put the victim on his back.
- b. Place one hand under his neck and pull up, the other hand high on his forehead and push down. This will cock his head in a chin-high mouth open position.
- c. If there is any foreign matter blocking his mouth, remove it quickly with your fingers.
- d. Pinch his nostrils together with your fingers to prevent air from escaping. Then place your mouth firmly over his mouth and blow vigorously until his chest rises.
- e. Stop blowing and remove your mouth to allow for exhalation.
- f. Repeat the process, blowing up his lungs once every five (5) seconds until natural breathing resumes. Be sure the chest rises and falls.

There must be an exchange of air.

After you have blown up the victim's

lungs, listen for the air to come out. If no air comes out, recheck the position of his head to see if his tongue is blocking the way. If that doesn't open the passage, turn him on his side and strike him between the shoulder blades. This will help dislodge any foreign matter which is blocking the throat.

DO NOT STOP administering artificial respiration until normal breathing resumes.

8. CESSATION OF HEART ACTION

(Closed chest cardiac massage)

- a. Has the heart stopped? Check breathing, pulse and pupils.
- b. Put patient on firm level surface, such as floor or ground.
- c. Begin direct breathing: mouth-to-mouth or mouth-to-nose.
- d. Begin manual heart compression. (If a second person is not available, interrupt compression every 15 seconds to ventilate the lungs 3 times)

Locate lower third breastbone (sternum). Apply pressure through the heel of one hand, placed on the lower third of the breastbone. The other hand rests on top of the first. The fingers must be parallel to the ribs, but must not touch them at any time.

Pressure is applied vertically, downward and forcefully, at least once per second.

Pressure must be strong enough to move the breastbone $1\frac{1}{2}$ " to 2" toward the spinal column.

At the end of each stroke, the hands are

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- completely relaxed to permit full expansion of the chest.
- e. Continue direct breathing at a rate of about 12-14 times per minute until ambulance arrives.
 - f. After the ambulance arrives, continue compression and direct breathing while the patient is being moved to the hospital.
 - g. Continue direct breathing and manual heart compression until a physician takes over, or the victim's breathing and heart have started again.

FIRE PREVENTION

The possibility of fires from gas and flammable liquids is a major consideration in this plant, but a fire from any cause is a serious threat to the safety of the employee and to the plant itself. Fires can be greatly reduced by education, instruction and insistence on fire prevention rules being strictly observed.

FIRE PREVENTION RULES

1. Make sure aisles, passageways, fire hydrants, hose houses, firefighting equipment stations, and exits are never obstructed.
2. Make sure fire doors are not blocked.
3. Never tamper with fire equipment. If any equipment seems to have been tampered with, immediately notify your regular foreman on days or the shift foreman on nights.
4. Place all oily rags in metal safety cans with metal lids.
5. Use only safety cans for transporting flamm-

able liquids. Never use open containers.

6. Loose paper scattered around the refinery and in shops and control rooms is not only unsightly but is a fire hazard. Help keep the plant safe and clean—pick up loose paper and place in trash containers.
7. Storage of flammable or combustible materials under vessel skirts or in control rooms is a serious fire hazard and should be eliminated.
8. Static grounding systems, ground clamps and bonding crossovers are to be checked regularly to assure that there is electrical continuity at all loading stations where light products are handled.
9. To report a fire:
 1. Dial 333
 2. State you are reporting a fire
 3. Give your name
 4. Give the location of the fire

HOUSEKEEPING

Housekeeping is an important part of any good safety program and is the responsibility of the employees. The following rules should be followed to make this plant a clean and sanitary place in which to work.

1. No job is complete until the area has been cleaned and straightened up. All waste should be placed in trash containers and tools and equipment returned to their proper place. Pick up bricks, boards, wire, pipe, and other types of debris which may be a tripping hazard that could cause a serious injury.
2. All aisles, stairs, passageways, and ladders

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should be kept clean and free of tripping hazards.

3. All work areas should be kept clean and free of material that may fall—scaffold boards, wire, pipe insulation, conduit, etc.
4. All oil or chemical spills should be cleaned or wiped up immediately.
5. Metal containers should be used for oily rags. Do not throw oily rags on the ground or leave them lying on equipment.
6. Scaffold boards and pipe should be picked up and returned to Carpenter Shop when job is complete.
7. Drinking fountains and toilets are provided for the convenience of employees. Each employee should help keep these facilities clean.
8. Shops, unit control rooms, power plants, and packaging plants should be high level examples of good housekeeping.

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