

Mobil Mining and Minerals Company



EMPLOYEE'S
SAFETY MANUAL
FOR
PASADENA OPERATION

PASADENA, TEXAS

PLAINTIFF'S EXHIBIT

MBL-191

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RESPONSIVE, OFTEN BY WAY OF
ILLUSTRATION, TO THE FOLLOWING
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PLANT MANAGER'S SAFETY LETTER

I just want to take a few minutes to share with you my safety philosophy so that you will know what I expect from myself in this area, as well as what I expect from each of you.

First of all, I sincerely believe that "ALL ACCIDENTS CAN BE PREVENTED". This statement implies two very important ideas.

First, positive action has to be taken to achieve the desired result; and second, that one has to want it to happen, or it won't happen. Since I also believe that none of us want to be injured or want our fellow employees to be injured, I expect that each of us will automatically want to take those actions necessary to keep accidents from happening. Further, I believe that the actions required to prevent the majority of accidents are personally oriented, and therefore, can be taken by each of us if we will simply make a conscious effort and commitment to do so. Briefly these are:

- * Know our job--What we're supposed to do, the potential hazards involved, and what we have to do to eliminate these hazards.
- * Know the proper protective equipment and proper procedure required to safely do each job we must do; and use both religiously.
- * Never compromise safety for any reason.
- * Keep our work areas clean and free from hazards.
- * Set a good and safe example.
- * Be our brother's keeper.

I believe that if we take these actions, we actually will be able to prevent all accidents. All it takes is each of us doing our own part.

I am committed to doing my part, I hope you will commit to doing yours.

Larry D. Hinson

I. MANAGEMENT SAFETY POLICY

The management of Mobil Mining and Minerals is deeply committed to the health and safety of its employees. It firmly believes that occupational illness and accidents can be eliminated and requires that all activities be planned with this in mind.

Prevention of occupational illness and accidents and efficient production are inseparable. This requires that both management and employees consistently adopt safe work procedures when meeting the demands of production.

In order to fulfill its commitment to provide employees with a safe and healthful work environment, management has established a comprehensive Safety and Health Program. This program is designed to control the various elements that contribute to the causes of occupational illness and accidents through two principal areas of activity - the control of physical and health hazards and, more importantly, the effort to minimize the number of accidents resulting from the unsafe actions of individual employees. Management is responsible for providing a safe and healthful work environment and will achieve this by designing programs that will identify and correct hazards associated with our operation. This, however, does not assure a successful safety and health program. In order for a program to be successful, accidents involving human error have to be minimized and this is dependent on the control of unsafe acts by all employees.

II. SAFE WORKING HABITS

A. Employee's Responsibility for Safety

You are personally responsible for your safety actions. Those activities which you perform at any particular time can have an immediate, and sometimes a delayed effect upon your safety and the safety of others. Every employee of Mobil Mining and Minerals Company is obligated to share the total responsibility for safety. The Company expects you to make safety a primary consideration in all the work which you perform.

B. Safety Awareness

Nothing is more important to accident prevention than the safety awareness of each individual employee. You show safety awareness when you consider those things about a work assignment, which may cause accidents, and then take the necessary steps to prevent them from resulting in an accident. Report both unsafe acts and unsafe conditions to your supervisor for correction. Make safety a part of every job you perform.

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C. Safety Knowledge and Training

Lack of knowledge can cause accidents. You will receive safety training in all aspects of your work. Be sure that you understand these rules and procedures. When you have questions about the safe operation of equipment, safe handling of chemicals, or safety procedures for a specific job, be sure you ask your Supervisor and don't take chances. Follow all safety rules, regulations and procedures.

D. Safety Attitude

Strive always to improve and continue to develop your safety attitude. A positive, safe and aware attitude will result in eliminating needless accidents and injuries.

NOTE - In addition to the safety and related work rules, regulations and procedures discussed in this manual, the Company will add to, modify or revise these rules as conditions require. You will be notified by your supervisor if there are any special safety requirements, not outlined in this manual, that are required for you to comply with while performing work activities in your assigned work area.

III. EMERGENCY PROCEDURES AND NOTIFICATION

The following procedures are guidelines for emergencies which could arise at our plant.

A. Tornado and Severe Weather Procedure

1. In the event of severe weather or tornadoes approaching the Plant, the guard will monitor the weather radio at guard house and relay information on conditions to supervision in charge at the time.
2. If conditions exist which show eminent danger to employees and equipment, the supervision in charge will take necessary steps to secure the unit and remove all employees to the safest location possible. On off shifts, management should be notified if time allows.
3. If time does not allow for securing unit, supervision should take necessary steps to remove all employees from hazardous areas as quickly as possible.
4. The primary area deemed safest during severe weather or tornadoes is the lower middle aisle ways of the main Administration Building.

5. It will be the responsibility of the guard on duty during off shifts and weekends to unlock doors to main aisle ways of administration building, if it appears severe conditions or tornado locations will be such that evacuation of plant units is probable.

6. Secondary evacuation areas established in the event primary areas cannot be reached are as follows:

- a. Acid Plant: Acid plant office building, being sure to stay away from windows and outside wall as much as possible. Use desk for added protection.
 - b. Rock Mills & Shipping: Underground Fuller Kinyon area (provided no flooding is expected).
 - c. 800: Under the unfinished truck greasing rack. THIS AREA TO BE USED ONLY IF ADMINISTRATION BUILDING CANNOT BE REACHED.
 - d. CIMA Control Room: Be sure to stay away from outside walls and windows by getting under desks.
7. Once decision is made by supervision on duty at time of emergency to evacuate the unit, the Supervisor should make sure all employees are contacted and know where they are to go. Once at the evacuation area, the Supervisor must make a head count of his people to determine if all are present.
 8. Evacuation will be communicated by emergency alarm system and telephone. When emergency alarm sounds, siren will last for 15 seconds followed by announcements over the audio portion of the alarm system that will give instructions as to type of emergency, expected duration, action being taken, etc.
 9. When tornado or severe weather condition has passed, the emergency alarm signal will be initiated again to indicate this fact. After 15 seconds, emergency siren will be cut off to allow the Emergency Preparedness Coordinator or the Supervisor in charge to announce the all clear or any additional emergency resulting from the weather condition.
 10. If weather conditions cause ruptures in ammonia lines or tanks, it may be necessary to revert to procedure pertaining to a ammonia release.

This procedure is designed to give guidelines in the event of an emergency situation. There may be times that deviations will be necessary. Each Supervisor will have to weigh the situation and use his/her best judgement at the time.

B. Fire Emergency Procedure

A fire at our facility could result in significant property damage and even injury. The following procedures must be adhered to by all employees.

1. Procedures for Fire Prevention

- a. "No Smoking" signs must be obeyed.
- b. Dispose of all flammable materials into proper containers promptly.
- c. Never pour flammable liquids down drains or sewers.
- d. Store and transport flammable materials only in approved safety type containers.

2. Procedures for Fire Protection

- a. Know the location of all fire extinguishers in your area.
- b. Know how to use fire extinguishers.
- c. Report all fires immediately to Security (5431 or 5430).
- d. Know all fire exit locations in your area.
- e. If you use a fire extinguisher, return it immediately to the security office so that it may be recharged. Always return a partially used extinguisher, immediately after use, to the Security Office also.
- f. Do not use water on fires associated with hydrocarbons and electrical equipment.

C. Hurricane Procedure

The security guard will plot the hurricane's course on the hurricane tracking map. The security office will be the official communications center. The security officer will endeavor to obtain as much information from all available sources as possible. These reports will then be conveyed to Emergency Preparedness Coordinator. The Emergency Preparedness Coordinator will then take necessary steps to assure the safety of all personnel and the security of the plant property. Information will be given to all call-in employees regarding general road and plant conditions up to the point of total shutdown. At that time, a pre-recorded answering service type message, prepared by the Emergency Preparedness Coordinator, will inform call-in employees of the plant situation.

Communications after shutdown will be handled as follows:

1. Supervisors will notify their employees of hurricane shutdown. Since it will not be known how long the shutdown will be, each employee will be instructed to phone the plant will be, each employee will be instructed to phone the plant Emergency Communication Phone Number (943-8604) or their supervisor for instructions pertaining to returning to work.
2. If phone communications are not working, announcements will be aired over KIKK or KIRH Radio Stations.
3. If access to plant is impossible due to flooded conditions on Highway 225 at Davidson Road, employees should go to the Captain Theatre parking area where they will receive communications or transportation.

D. Ammonia Release Procedure

1. The person discovering the spill or leak shall leave the affected area, then call extension 5431 or 5430 and report the required information.
2. All employees affected by the spill shall use a ELSA escape mask and leave the affected area by the nearest possible route. Care should be taken to determine the wind direction and move perpendicular to the wind direction, then move upwind to the nearest refuge shelter.
3. The security guard at the main gate shall notify the Plant Emergency Preparedness Coordinator that an ammonia release has occurred and sound the emergency alarm, immediately followed by instructions to seek shelter in nearest refuge site. The Emergency Preparedness Coordinator shall appoint two, two-man teams equipped with Scott Air Packs and ammonia suits to attempt to stop the leak and check on employees in the refuge sites.
4. The security office will be the emergency check point. This check point may be relocated to the Southeast corner of the No. 1 gyp pile or the East side of the No. 3 gyp pile as the conditions of the emergency dictates.
5. Employees who have been evacuated to a refuge site shall remain there until an ALL CLEAR is given by the Emergency Preparedness Coordinator. Once the all clear is given, the employees shall follow the directions given by the Emergency Preparedness Coordinator.

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E. Lightning Storm Precautions

Lightning is dangerous and the following safety measures and precautions will minimize the danger of your being struck, or even possibly killed.

1. The best protection against lightning is any metal frame or enclosure around the human body. Personnel working inside the structures of plants are considered to be in safe areas. Stay inside metal structures, if you are there when a lightning storm starts.
2. Employees should not move from unit to unit during lightning storms unless such movement is absolutely necessary. You might be hit while in the open.
3. Lightning is not considered an eminent danger until there is less than a ten second lapse of time between seeing lightning flash and hearing resultant thunder (each second represents approximately 1,000 feet). Example: a 10 second interval would mean lightning struck approximately 10,000 feet away, or two miles.
4. If caught in open areas during lightning storms, the following precautions should be observed.
 - a. Do not stand under any shelter, with your feet on the ground and another part of the body leaning against metal walls or objects, such as pump cars, overhang of dragline, overhang of trucks, tractors or other vehicles.
 - b. Stay away from trees, unless area is heavily wooded in which case it is fairly safe. Single trees are often hit, and are dangerous.
 - c. Stay away from fences.
 - d. Stay away from any pipelines that are not connected up and ready for use.
 - e. Do not hold long tools such as crowbars, extension handles, etc., in hands. Any metal object over nine (9) inches long can act as an antenna to collect lightning discharge.
 - f. If possible, get inside an automobile, metal pump house, pit car, front-end loader or dragline, as these areas are the safest available.
 - g. If no safe cover is available, get down on hands and knees in any open area. This may be inconvenient, but it could save your life.

IV. GENERAL SAFETY POLICIES AND PROCEDURES

The following rules will apply to the Pasadena operations at all times. If a condition exists where you cannot comply with a specific rule, see your Supervisor for alternative safe practices to follow.

A. General Safety Policies - Employee Responsibilities

1. No employee performing occupational duties at the Pasadena operation shall be required to:
 - a. Operate any machine or piece of equipment for which he/she has not had adequate training.
 - b. Work in conditions that are determined to be unhealthy or unsafe, unless adequate safeguards have been provided.
 - c. Operate any machine or piece of equipment that is not in mechanically sound condition.
 - d. Operate machinery or equipment that does not meet all Company, state and federal requirements.
2. Each employee shall strive to maintain a hazard-free work area and should report immediately to his/her Supervisor any unsafe condition or practice which he/she is aware.
3. Employees have the right and are encouraged to report to management, any health and safety problems they may have been unable to resolve with their immediate supervisor.
REMEMBER: start with your immediate supervisor FIRST!!!
4. Employees have the right, without fear of discrimination, to report any matters involving health and safety directly to the appropriate state and/or federal agency. REMEMBER: you are encouraged to discuss these matters with your supervisor FIRST.
5. All accidents (property damage, near misses, etc.) and injuries/illnesses related to your work are to be reported as soon as possible to your Supervisor, but in no case later than the end of the shift in which the accident or injury/illness occurred.
 - a. Eye and back injuries must be reported immediately.
 - b. Seek immediate first aid for any injury, regardless of how slight.
 - c. For procedures involving serious injuries or emergencies call emergency number 5326 to report the emergency and receive help, if needed.

6. Personal protective equipment necessary to perform special jobs will be provided by the Company and employees must be familiar with and wear the equipment. Any defects in this equipment must be reported immediately.

7. Before commencing any work activity, think, seek out the hazards and take preventative action. Proper tools and necessary personal protective equipment should be on the job site prior to starting work. If in doubt as to the hazards involved or the proper tools and equipment to use, consult your Supervisor.

8. Inspect your working place and equipment and make sure it is safe prior to starting work. No other time is better spent.

9. Do not perform work or operate equipment or machinery for which you have not been adequately trained or certified. Employees shall not use tools or equipment from another department without the permission of that department's Supervisor.

10. Handle materials with care to prevent injuries due to overexertion. If the object is too heavy for you, get someone to help you or use mechanical lifting equipment. Utilize gloves, when appropriate, and recognize and avoid pinch points. This is essential to prevent material handling accidents.

11. Good housekeeping indicates a safe operation. Do not allow litter, rubbish or spilled material to accumulate. Remember that your work is not complete until you have cleaned up your area and returned all equipment to its proper location.

12. All speed limit and other traffic control signs are to be obeyed at all times. Vehicles and equipment shall not be operated in unsafe areas, under unsafe conditions, or in an unsafe manner. Where traffic control signs are not posted, all vehicles and equipment shall be operated in a reasonable and prudent manner.

13. Many safety features have been designed into the facilities and equipment. They are there for your protection and shall not be tampered with or circumvented.

14. Safe Work Permits are required when performing the following tasks:

- a. Welding, burning or soldering in any area containing flammable liquids, combustible materials, or explosive gases, including welding on tanks or vessels that contain or have contained such materials.

b. Entering any tank, vessel, or other similar confined space. This includes working at the top of any tank that contains or has contained a toxic substance.

c. Digging and/or working in trenches, dugouts, tunnels, etc.

d. Working in elevated areas where safety belts and lines are required.

f. Working on scaffolding and/or temporary platforms.

NOTE: SEE YOUR SUPERVISOR FOR INSTRUCTIONS ON HOW TO OBTAIN A PERMIT.

15. Bulletin boards are one of several ways the Company communicates with employees. In addition to safety bulletins, other information will be posted. To be an informed employee, read the bulletin boards.

16. The safety of others, especially new employees and visitors, is the responsibility of those employees familiar with the operations. If you see someone performing an unsafe act or in a location where they are likely to be injured, inform them courteously of the hazards and how to avoid them.

17. Alcohol and Drugs:

a. Introduction, possession or use of intoxicating liquor, illegal or habit forming drugs on the property of the Company, or coming to work under the influence of such liquors or drugs, or drugs that have been used improperly, whether prescribed or not, is strictly forbidden.

b. If you are taking a prescribed drug of any kind and you are unsure of its effect, check with your doctor. In any case, be sure to inform your Supervisor about your being on medication.

18. Employees shall not engage in any form of horseplay at any time while on Company property.

19. Since most injuries occur off the job, you are encouraged to use your safety training in your leisure activities, as well as on the job. All too often we find an injury suffered at home could have been prevented if we had followed the same safe practices we learned at work, but unfortunately left there. Enjoy your hard-earned leisure time, and do not ruin it by an accident that could have been prevented. PRACTICE SAFETY BOTH ON AND OFF THE JOB.

V. SAFE WORK PROCEDURES

A. Electrical Equipment Inspection and Use

PURPOSE

To establish a procedure for the inspection of extension lamps, power tools, fans and other portable electrical equipment.

SCOPE

This procedure pertains to all portable electrical equipment used in the Pasadena Plant.

RESPONSIBILITY

It is the responsibility of the Maintenance Department's electrical group to give and identification number to and inspect all portable electrical equipment. All employees must abide by the rules for the care and use of this equipment.

REQUIREMENTS

All new electrical equipment shall be inspected, an identification number assigned and an inspection card started. Quarterly, all portable electrical equipment shall be inspected for defects and faults including a ground-fault detector test. A record of these inspections shall be kept. A notation of the area where the equipment is used or stored shall be made on the inspection record. At each use, the portable electrical equipment should be visually inspected for defects. If any are found, the equipment must be tagged out and returned to the electrical shop for repair.

All cords on portable electrical equipment should be Type SO-16, three wire, 600 volt style cord. Three pronged plugs shall be used. Cords shall not be spliced or taped. Damaged cords must be replaced completely. All cords should be reinforced at the joints.

All electric tools should have spring loaded triggers so that the motor stops when the pressure is released.

Some general rules for use of portable electric equipment are:

1. Never lift or lower equipment with the cord. The use of a lifting rope is required.
2. Keep cords off the floor.
3. Keep extension lamp glass clean.
4. Use only Class 1, Group 0, Division 1, extension lamps in hazardous areas.

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5. All temporary wiring must be located so that normal traffic will not come in contact with it.

6. Fans must be guarded by 1/4" wire screen over the manufacturer's guard.

7. Small fans should be permanently mounted at least seven (7) feet above floor level.

8. Only 12-volt drop cord extensions shall be used in vessels.

9. Portable electrical tools shall not be used if hands are wet or if standing on wet ground unless a ground-fault interrupter is used.

B. Safety Inspection - Motorized Equipment

PURPOSE

To assure safe operation of all motorized equipment operated by Mobil employees.

SCOPE

All motorized equipment operated by Mobil employees must be checked at start of each shift or prior to its use in accordance with this procedure.

RESPONSIBILITY

It is the responsibility of all Mobil employees operating motorized equipment to follow this procedure.

REQUIREMENTS

Prior to operation of motorized equipment such as, but not limited to: front end loaders, cherry pickers, droids, pick-ups, crawler tractors, backhoes, payloaders, bobcats, flat bed trucks, three wheeled scooters. It is the responsibility of the operator to check equipment to assure it is safe to operate. Each piece of equipment must have a prepared check list turned in to the Supervisor of the equipment or his designee prior to the operation of the equipment. Consult your supervisor for the proper check list to use on each piece of equipment.

C. In Plant Truck Use and Inspection

PURPOSE

To assure safe operation of trucks used exclusively inside the Pasadena Plant.

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SCOPE

All in plant trucks must be maintained according to this procedure.

RESPONSIBILITY

It is the responsibility of the person who drives the vehicle to inspect it in accordance with the items listed below and maintain it in a safe and clean condition. In accordance with p.m. schedule on page 13. An inspection should be conducted each shift prior to driving a vehicle. Any defective vehicle will not be operated.

REQUIREMENTS

Trucks that are used exclusively inside the Pasadena Plant must meet the following criteria:

1. If the truck is used at night, two headlights and tail lights.
2. Properly operating brake lights and back-up lights.
3. Roll-over protection--either a roof or roll-bar.
4. Gas tank cap.
5. Hood securely attached.
6. Windshield that can be seen through, clear side and back windows.
7. Operating windshield wiper on the driver's side.
8. Foot brake and parking brake.
9. Tight exhaust system.
10. No protruding sharp edges.
11. Doors that latch securely.
12. Seats with no protrusions.
13. Horn.
14. Steering wheel and steering in good condition.
15. Solid floor.
16. Air cleaner.
17. Rearview mirrors--both sides on trucks over one ton, or trucks with sides that restrict vision.

P. M. SCHEDULE

TRUCKS

BY OWNER - Wash Daily

BY OPERATOR BEFORE STARTUP

Check fluid levels - engine and radiator
Check tires for current inflation
Check fuel supply

AFTER ENGINE START

Check instruments for proper function
Check brake pedal depression

AUTO SHOP

Lubrication service at Auto Shop once weekly

Monthly: Change oil, oil filters, fuel filters, and air filters.
Inspect for fluid leaks.

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D. Safety Inspections Emergency & Fire Protection Equipment

PURPOSE

To assure all emergency and fire protection equipment is kept in working order should the need arise to use them.

SCOPE

All emergency and fire protection equipment will be inspected in accordance with this procedure.

RESPONSIBILITY

It is the responsibility of all supervision to inspect or have designee inspect all fire and emergency equipment within their area of responsibility in accordance with this procedure.

REQUIREMENTS

All plant and fire emergency equipment must be inspected visually once per month. This includes fire extinguishers, 5 and 10 minute escape masks, gas canister face masks, Scott Air Packs, and large wheeled fire extinguishers. This is to assure the equipment has not been used and is operational, so that it will be available in case of an emergency. The inspections are to be carried out by the supervisor of each unit or his appointed designee and should cover all equipment within his area of responsibility. Each piece of equipment should have an inspection tag affixed, so that inspector can date and initial the tag on the day of the inspection. The monthly inspection should include the following items:

1. Fire extinguishers should be checked to be sure the seal is intact and the unit hasn't been discharged. Make sure the extinguisher is in the proper location and not blocked by equipment or tools.

Check pressure gauges, if so equipped, to be sure they show proper pressure. Make sure extinguisher is clean and has had yearly inspection tag attached. (This is indicated by the tag affixed to the extinguishers with punched out holes in the month and the year slots on the tags). If the extinguisher does not meet approval, it should be taken to the security gate house and exchanged for another extinguisher in good condition. Care should be taken to assure the same type extinguisher is used to replace the one being taken out of service.

All employees should be observant for discharged extinguishers at all times, so that these extinguishers can be replaced.

2. Emergency breathing equipment, such as the 5 and 10 minute escape mask, should be checked to be sure that the pressure gauge reads between the numbers 5 and 6. If indicator shows below 5 on the gauge, the unit should be taken to the security office and a replacement unit picked up. Units should also be cleaned and

tagged with the inspector's initials and the date inspected shown on the tags. Scott Air Packs should be checked to make sure the air cylinder shows full on the gauge and the valve assembly gauge shows empty. This assures the inspector that the valve on the cylinder is off and all the pressure has been released from the diaphragms in the valve body. The face mask should be checked to assure the exhalation valve is clear and the flexible hose from the face piece is checked for cracks and wear. If unit is found defective, it should be returned to the security office for replacement. Like other equipment, this should also have the inspection tag showing the inspectors initials and the date checked.

3. Full face gas masks should be checked for cracked or worn hoses, defective exhalation valves, worn or broken straps. A check should also be made to be sure the inhalation valves seal tape is on the bottom of the gas canister and the canister's expiration date has not expired to assure canister is still good. Canister should also be checked to assure it is for use for the chemicals used in the area. The unit should be kept clean and in a case or a bag. A tag should be affixed to the unit showing the inspector's initials and the date inspected.

E. Ladder Inspection and Use

PURPOSE

To establish a program of purchase, inspection, repair, and use of ladders in the Plant. This shall include both stepladders and straight rung types.

SCOPE

This procedure pertains to all portable ladders used in the Pasadena Plant.

RESPONSIBILITY

Each department has the responsibility for inspecting and maintaining records on all ladders. All employees must abide by the rules for care and use of the ladders.

REQUIREMENTS

Only fiberglass ladders should be used. All new ladders shall be inspected, an identification number assigned, and an inspection card started. Do not paint ladders, as this hides defects. When rungs are 28" or more in length between the side rails, they shall be provided with a center bearing. All straight ladders shall be equipped with non-skid shoes.

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The ladders shall be assigned to a certain area or shop and stored in that location. The location and an identification number shall be stenciled on the ladder. Semiannually the ladders shall have a complete inspection. All inspection data shall be recorded. Before normal use, the ladder shall be inspected visually by the user to see if any defects exist. If any are found, the ladder shall be "red danger tagged" and scheduled for repair. If it cannot be repaired, it shall be destroyed. Defective ladders may not be taken for use outside the Plant. A repaired ladder must be inspected before reuse.

Some general safety rules of ladder use are the following:

1. Extension ladders must not be taken apart in order to use the two sections separately.
2. Stepladders must not be used as straight ladders. Stepladders must be opened fully and the spreaders locked.
3. Straight ladders should be placed so that the distance from the base of the support to the bottom of the ladder is one-fourth (1/4) the length of the ladder.
4. If a ladder is used in a traffic area, the area should be roped off and warning signs placed.
5. Short ladders shall not be spliced together.
6. Straight ladders should be tied at the top when in use. If this is not possible, a back-up man will hold the ladder.
7. Always face the ladder when ascending or descending a ladder.
8. Hold on with both hands when ascending or descending a ladder.
9. Do not carry tools or materials up the ladder in your hands. Always use a lift rope, with a bucket, to move tools and materials to the work location.
10. Do not climb higher than the third rung, from the top, of a straight ladder or the second step, from the top, of a stepladder.
11. Do not climb the ladder with muddy, greasy, or otherwise slippery shoes.
12. Make sure the ladder feet are placed securely before using the ladder.
13. Do not place a ladder against a window pane or sash.
14. When carrying a ladder, keep the front end elevated high enough to clear a person's head and the back end near the floor.

15. Do not overreach--always move the ladder.
16. Do not jump from a ladder.
17. Do not use a ladder as part of a scaffold.
18. Always return ladders to their proper storage after use.

F. Eye Protection

PURPOSE

To assure that proper eye protection is worn when performing tasks at the Pasadena Plant.

SCOPE

All persons who enter the Pasadena Plant must follow these rules.

RESPONSIBILITY

It is the responsibility of all employees to abide by these rules and to see that all others entering this Plant do likewise.

REQUIREMENTS

Everyone who enters the Pasadena Plant must wear safety glasses, with permanent side shields when they pass through the gate. Exceptions are as follows:

1. Offices.
2. Locker rooms.
3. Operating control rooms when manual work is not being done. All safety glasses must meet ANSI Standards.

Additional eye protection is needed as follows:

1. Welding helmets must be worn while using an arc welding machine. The helmet lens must have the following shade numbers:

SHADE NUMBER	ARC AMPERAGE
6-7	up to 30
8-9	30-75
10-11	75-200
12-13	200-400
14	over 400

Helpers must wear equivalent protection also.

Welding curtains must be used where passing employees may be affected by the arc.

035673

2. Burning goggles must be worn when using an oxyacetylene torch.

Shade numbers must be:

SHADE NUMBER	METAL THICKNESS
3-4	up to 1/8"
5-6	1/8" to 1/2"
7-8	over 1/2"

Helpers must wear equivalent protection too.

3. A face shield, plus safety glasses, must be worn when toxic or corrosive chemicals are handled--sulfuric acid, phosphoric acid, ammonia, etc.
4. Chemical goggles or faceshields must be worn when filling, chiseling, or chipping where small bits of material may damage the eye, and in specified areas or on specific jobs, when so advised. These specified areas will be marked with yellow chain and posted with signs stating that "Goggles or Faceshields Are Required While Working In This Area."
5. Safety glasses will be provided for all employees. If prescription glasses are needed the employee should contact the Plant Nurse for proper prescription blank.
6. Visitors will be provided safety glasses with side shields, or goggles as appropriate.
7. Contractors must furnish their own eye protection, in accordance with the above standards.

G. Life Vests

PURPOSE

To assure that the proper protection is worn while working at the Ship Channel to prevent drowning.

SCOPE

All persons who enter the "Life Vest Area" must follow these rules. A life vest area is any area within five (5) feet of Ship Channel with no protective railing in place. (Edge of dock, wooden walkway between East and West docks, a barge with no rails, etc.).

RESPONSIBILITY

It is the responsibility of all employees to abide by these rules and to see that all others in the "Life Vest Area" do likewise.

REQUIREMENTS

Everyone who enters into an area within five (5) feet of ship channel water, that has no protective railing, must wear a life vest. If additional approved protection such as walls, railing, etc., are between the employee and the water, the life vest may be removed. Examples of this situation are:

1. The payload operator in the hold of a barge
 2. An employee on a railed platform
- Approved protection would include:
1. Solid walls at least 42 inches high.
 2. Railings of 2-inch pipe or equivalent material, including a mid-rail and toeboards.
 3. A properly tied off safety belt.
 4. Properly railed barges using cable railing

H. Safety Belt, Harness and Life Line Use and Inspection

PURPOSE

To assure that those persons working in elevated areas are protected from injury by falling, and that those workers in confined areas have attached to them a safety device, which will allow them to be removed from the confined space in the event they become incapacitated by another person stationed outside the confined space. The use of safety belts, harnesses, and life lines are required on all work that is performed at the Pasadena Plant as indicated by this procedure.

RESPONSIBILITY

All employees must use safety belts, harnesses, and life lines as indicated in this Procedure.

REQUIREMENTS

A safety belt or harness is required when the following types of work occur:

1. At elevated working levels, greater than six (6) feet high where normal protection is not present.

2. On scaffolds, open steel, or any other construction where normal protection is not present. (Side rails, etc.).

3. On ladders where both hands are needed for working.

4. On all types of suspended devices such as suspended scaffolding, boatswain chair, spider, or picker cage.

5. In vessels or confined spaces where rescue would be difficult.

If the tie-off point is above the employee, a harness must be used. If used to limit horizontal movement, a belt must be used. Vertically, the slack on the line must not exceed two (2) feet. All safety belts, harnesses, and life lines must be visually inspected before each use by flexing the part to detect any flaws.

The user should care for the equipment by:

1. Keeping out of acids, caustic, or other corrosive materials.

2. Storing away from heat sources.

3. Not dropping, throwing, or leaving it on the ground, or hanging it where it can be exposed to the weather.

4. Not altering in any way.

Each department shall set up records of inspection for all safety belts, harnesses, and life lines by doing the following:

1. Inspect, set up a record, and tag each item with an identification number at the time of purchase.

2. Tag the item with an inspection date six (6) months from its receipt.

3. Inspect the equipment formally every six (6) months and install new inspection tag with the next (6) months inspection date wrote on it..

4. Record all inspections on the record card.

5. Discard all equipment that fails the formal inspection. Equipment that is outdated, as to inspection, may not be used.

I. Seat Belts

PURPOSE

To protect employees from the potential of being thrown from motorized equipment in the event of an unexpected incident.

SCOPE

All motorized equipment with roll over protection, cab, etc., is to be equipped with seat belts. Any person operating or riding in so equipped vehicles are required to wear seat belts.

RESPONSIBILITY

It is the responsibility of all employees to abide by these rules and to see that all others riding in vehicles do likewise.

REQUIREMENTS

When operating or riding on or in any motorized equipment equipped with roll over protection or cab enclosure, seat belts are required to be worn. This includes Mobil's Equipment operating in all areas outside the Plant as well as inside the Plant.

J. Foot Protection

PURPOSE

To assure that proper foot protection is worn when working at the Pasadena Plant.

SCOPE

All persons who enter the Pasadena Plant must follow these rules.

RESPONSIBILITY

It is the responsibility of all employees to abide by these rules and to see that all others do likewise.

REQUIREMENTS

All Pasadena employees must wear safety shoes while in the Pasadena Plant except in the following areas:

1. Offices.

2. Outside areas from the Maintenance Office to the Main Gate and as long as you stay on the South side of the road that separates the Maintenance Office, Admin Building and old Admin Building from the Maintenance Warehouse Building and the Prayon Unit.

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Employees needing safety shoes should contact the Safety Department for required authorization slips and Company contribution procedure. All visitors in our Plant may be required to wear foot protection during their visits if they enter areas where foot hazards are present. Footguards are available for those who do not have safety shoes. Safety shoes must conform to ANSI Standard Z41. 1-1967.

K. Head Protection

PURPOSE

To reduce the chances of head injuries when working at the Pasadena Plant.

SCOPE

All persons who enter the Pasadena Plant must follow these rules.

RESPONSIBILITY

It is the responsibility of all employees to abide by these rules and to see that all others entering this Plant do likewise.

REQUIREMENTS

Everyone who enters the Pasadena Plant must wear a safety hat except in the following areas:

1. Offices.
2. Operating control rooms.
3. Outside areas from the Maintenance Office to the Main Gate and as long as employees stay on the South side of the road that separates the Maintenance Office, Admin Building and old Admin Building from the Maintenance/Warehouse Building and the Prayon Unit.
4. Ship and tug boat personnel leaving the Plant and returning to the ship or tug boat by the roadway.
5. Employees leaving work areas provided they are able to leave the Plant by open roadways and not have to pass by areas that could cause head injuries.

All safety hats must meet ANSI Standards, Z89.2-1971 Class B, and Z89.1-1969 Class A, and must not be altered in any way.

L. Used Motor Oil Handling

PURPOSE

To educate employees regarding possible health hazards involved with handling of used motor oil.

SCOPE

All persons who use or come in contact with used motor oil must follow these rules.

RESPONSIBILITY

It is the responsibility of all personnel involved with handling or coming in contact with used motor oil to abide by this procedure.

REQUIREMENTS

When working with or coming in contact with used motor oil the following precautions must be taken:

1. Wear impervious gloves and other protective clothes (as dictated by potential of exposure).
2. Wash thoroughly with soap and water after handling.
3. If clothing becomes soaked with oil, remove promptly.
4. Do not use gasoline, thinner, or solvents to remove oil from skin.
5. Keep used motor oil out of cuts and abrasions.

M. Chemical Use

PURPOSE

To assure that chemicals used in the Pasadena Plant have no hidden toxicity, flammability, or other hazard.

SCOPE

All Chemicals for use in the Pasadena Plant must have a Material Safety Data Sheet on file and must have had approval from the Executive Safety Council before it may be used in the Plant.

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RESPONSIBILITY

The person ordering the chemical, in cooperation with the Purchasing Department, has the responsibility of obtaining the Material Safety Data Sheet from the supplier and getting approval for its use from the Executive Safety Council.

REQUIREMENTS

All chemicals used in the Pasadena Plant must have an approved Material Safety Data Sheet on file. Chemicals are defined as--but not limited to--raw materials, lubricating oils, cleaning fluids, and finished products. When a new chemical is needed in the plant, the Material Safety Data Sheet must be reviewed by the Executive Safety Council and approved before that chemical can be purchased. Material Safety Data Sheets on all applicable chemicals, for each unit, will be on file in the control rooms or other appropriate locations in each operating area. A complete Material Safety Data Sheet file, on all chemicals, will be maintained in the Safety Department Office.

N. Scaffold Construction and Use

PURPOSE

To insure the proper construction and use of scaffolding in the Pasadena Plant.

SCOPE

This procedure applies to all scaffolds used in the Pasadena Plant.

RESPONSIBILITY

The supervisor of the work crew using the scaffold shall be responsible for following this procedure.

REQUIREMENTS

1. Scaffolds are to be properly constructed and placed so that they do not obstruct access to walkways, exits, fire fighting equipment, or operating controls.
2. Platforms for scaffolds must be fully decked and consist of at least four (4) sound 2-inch x 10-inch planks. Each plank must be secured to prevent it from slipping off or along the supporting member.
3. Handrails consisting of a top rail and mid rail must be provided on the open sides of scaffold platforms. If rails are not provided, safety belts, with lines, must be worn.

4. Toe boards should be installed on open sides of scaffold platforms if the work creates an overhead hazard to personnel below.

5. A safe means of access and egress must be provided. Chains, cables, drums, boxes, etc., shall not be used for climbing or for working platforms.

O. Use of Safety Tape

PURPOSE

To assure that temporarily hazardous areas are marked in the proper manner so that all personnel are warned of that hazard.

SCOPE

When a hazard is created through construction, clean-up, etc., yellow or yellow-and-black safety tape shall be used to mark the hazardous area.

RESPONSIBILITY

The supervisor or engineer (if the job is contracted) is responsible for following this procedure.

REQUIREMENTS

All temporarily hazardous areas must be indicated at all times by the use of safety tape. The safety tape must completely enclose the hazardous areas. Normal traffic must cease through these hazardous areas. Only those working in the area may pass through the safety tape barrier. The area operations superintendent shall be notified about the tape and why it is being used. "Men Working Above" signs shall be posted where there is no indication that overhead work is being carried out.

It is a severe safety violation to remove safety tape except at the direction of the supervisor of the area or job. Disciplinary action shall be taken for passing through a safety tape barrier or for arbitrarily removing safety tape. It is also important that safety tape be removed and disposed of promptly upon completion of the job or the removal of the hazard. This action increases the credibility of the taped areas and promotes good housekeeping. Safety tape should never be used for any purpose other than hazard marking.

P. Lockout Procedure

PURPOSE

To insure safe lockout of all energized equipment during servicing, maintenance, or cleaning.

SCOPE

All energized equipment that is to be cleaned, serviced, or maintained must be lockedout according to this procedure.

RESPONSIBILITY

All employees have the responsibility for following this procedure.

REQUIREMENTS

When equipment is serviced, cleaned, or maintained, all energy sources must be de-energized by locking and tagging the breaker, valve, etc. The Operations Supervisor or Unit Operator, responsible for the equipment, must fill out the Lockout Tag (page 28) and provide the multi-lock hasp. He will place the tag on the breakers or equipment to be de-energized and assure the equipment is ready for the maintenance personnel who will be working on it. Each employee must place his own lock, with name tag attached, on the hasp before working on the equipment and the lock must be removed upon completion. The last employee to remove his lock will notify the Unit Operator, whose name is on tag, that job has been completed.

Where a group of contractors is working on a job, the supervisor of that group can use one lock (example: contract laborers cleaning tank, contractor maintenance crew, etc.): upon completion, he is responsible for removal.

In respect to maintenance work where equipment must be rotated occasionally, the Operations Supervisor or the Unit Operator responsible for equipment must note on the tag: "Maintenance work tag may be removed by maintenance for rotation of equipment". Each time maintenance personnel energizes the equipment for rotation or inspection, they must de-energize and replace the locks and the tag before attempting to work on the equipment again.

This can be done at the jog switch located on the equipment. During this period of turning equipment off and on, extreme caution must be used to assure everyone is aware that the equipment is being activated. If at the completion of the job a lock still is on the hasp, the name tag,

attached to the lock, should be consulted and an attempt made to contact the employee whose lock is left on the hasp. This will include trying to contact the employee at his home. If the shift has ended, This employee should then return to the Plant to remove his lock from the hasp, if the work has been completed and providing there are no special conditions that would dictate otherwise.

If the employee whose name is on the lock can't be reached or can't return to the Plant, then the following procedure must be followed to cut the lock off. The Operations Supervisor must be contacted so that he can personally assure the equipment is ready to start up and there are no personnel still working on this equipment. If the lock belongs to another craft (maintenance, elect., etc.), he must call the Supervisor of that group to determine if the work was completed and if the lock may be removed. If the approval is given, the lock may then be cut.

To prevent this from happening, supervisors and employees should always strive to take the necessary action to assure that all locks are removed at the proper time.

ANY ELECTRICAL EQUIPMENT ABOVE 440 VOLTS SHALL HAVE THE DISCONNECT OPENED AND CLOSED BY A ELECTRICIAN.

A LONG TERM LOCKOUT WILL BE HANDLED ONLY BY THE ELECTRICAL DEPARTMENT. CONSULT RED TAG PROCEDURE ON PAGE 34.

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LOCK OUT TAG

9824

DANGER

DO NOT REMOVE THIS TAG.

DANGER

**DO
NOT
OPERATE**

SEE OTHER SIDE.

INEXCO CORP. ATC.

11-50

Signed by _____
Dept. _____ Date _____

Q. Red Danger Tag Use

PURPOSE

To call attention to dangerous or peculiar situations to minimize accidents and injuries.

SCOPE

All persons who work in the Pasadena Plant must follow these rules.

RESPONSIBILITY

It is the responsibility of all employees to abide by these rules and to see that all others do likewise.

REQUIREMENTS

The Red Danger Tag's use in the Pasadena Plant, as an indication that the equipment must not be used, is limited to the following :

1. By the Safety Department.
2. By a Supervisor when there is an imminent hazard of death or serious injury. Only the Safety Department may remove the tag if this were to happen.
3. By the Electrical Department when a long-term lockout is needed or on a physical disconnect where the wiring has been detached and taped.
4. By any Plant employee when a lockout is needed and a lock is not available. This should be done only as a last resort after exhausting all available lockout sources and after consulting with his/her Supervisor.

Before a Red Danger Tag is removed by anyone other than the person installing the tag, approval must be obtained from the Department Manager and the Safety Department. The tag should then be dated, signed and sent to the Safety Department.

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DANGER**MAN WORKING ON
THIS APPARATUS****DO NOT OPERATE**

SIGNED _____

DEPT. _____

DATE _____

ANY EMPLOYEE OPERATING APPARATUS TO WHICH THIS
TAG IS ATTACHED WILL BE SUBJECT TO DISMISSAL.
THIS TAG IS TO BE USED ONLY BY THOSE AUTHOR-
IZED, BY WHOM IN EACH CASE IT MUST BE SIGNED,
AND BY WHOM THE TAG MUST BE REMOVED.
WHEN ITS SERVICE IS ACCOMPLISHED.
SEE OTHER SIDE.

MOBIL CHEMICAL COMPANY
AD-650 (Rev. 8-63)

035680

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R. Vessel Entry Permit**PURPOSE**

To put into effect at the Pasadena Plant a procedure for entering tanks and other confined spaces that will safeguard employees from the hazards of:

1. Toxic vapors
2. Flammable gases
3. Oxygen deficiency
4. Electrical shock
5. Inadvertent operation of mechanical equipment
6. Accidental opening of steam or chemical lines

SCOPE

This procedure shall apply to the following confined spaces which are potentially hazardous:

1. Enclosures with limited access openings for personnel, such as closed storage tanks, tank cars, process vessels.
2. Tanks, pits, tubs, vaults, vessels or other confined spaces with one side open to the air, but so deep as to require entrance and aid of an assistant in case of emergency.
3. Confined spaces, such as ventilation or exhaust ducts, sewers, underground utility tunnels of pipelines.

RESPONSIBILITY

The responsibility for safety, as defined in the "Purpose" section above, at the time of entry and during the entire operation rests with the Operations Supervisor who has jurisdiction over the tank or area. This responsibility covers the supervisor's own men, other supervisors' men, plant maintenance men and contractors' employees.

REQUIREMENT

The following general requirements shall be followed for entering a tank or enclosed space:

672580

LINE VESSEL ENTRY PERMIT

- Hazard identification and preplanning for each tank or confined space entry job.
- The proper preparation of the tank or space including removal of contents, cleaning, ventilating, isolating, (blinding and blocking valves) lockout and testing of the atmosphere for both oxygen deficiency and toxicity. All lines entering a tank or vessel should be blinded or disconnected before entry.
- Issuance of Vessel Entry Permit as formal authorization for entry. (See page 33).
- Proper precautions--including proper hand tools, portable power tools and lights, proper lashing of ladders, posting of signs, and handling of welding and cutting rigs. NOTE: 12-volt electrical equipment is recommended for work inside tanks.
- Appropriate personal protective equipment, that includes proper protective clothing, respiratory protection, life lines, harnesses or safety belts and air movers. Always consult the back of the Vessel Entry Permit for the required protective equipment needed.
- Emergency and rescue planning, including provisions for a mandatory dedicated observer, emergency removal equipment for men entering tank and emergency rescue entry equipment. (Life lines, harness, Scott Air Packs or Airlines, Alarm Sounding Device).
- The Vessel Entry Permit is good for one shift only.

Any procedure with significant deviations from this safe work procedure shall be approved by the Plant Safety Supervisor or your Department Manager.

Mobil VESSEL ENTRY PERMIT

A PERMIT MUST BE COMPLETED BEFORE ENTRY INTO ANY CONFINED SPACE

DATE

FROM A.M. TO
P.M.

LOCATION OF EQUIPMENT

WORK TO BE DONE

This section must be completed before this permit is signed. The permit is valid only for the specific work described in the particular job being done at this time.

☐ Equipment contained	☐ Equipment free of
☐ Equipment washed or steamed?	☐ Equipment neutralized?
☐ Equipment purged or aired?	☐ Are all lines into vessel blanked?
☐ Is power locked-out to agitators?	☐ Check for explosiveness?
☐ Check for oxygen deficiency?	☐ Checked for toxic vapors?
☐ Are sewers protected?	☐ Has proper shut-down been followed?
☐ Near-by hazards considered?	☐ Operations representative needed?
☐ Maintenance representative needed?	☐ Safety Department consultation needed?
☐ Proper tools available?	☐ 12-Volt light needed?
☐ Ground fault interrupter needed?	☐ Fire extinguisher?
☐ Life line?	☐ Face Shield?
☐ Life jacket?	☐ Slicker suit?
☐ Safety belt?	☐ Acid suit?
☐ Stand-by man?	☐ Boots?
☐ Scott Air-Pak?	☐ Gloves?
☐ Air mover?	☐ Air mask?

Special precautions for this job:

I certify that all necessary precautions have been taken to make this vessel entry safe for prescribed work during the specified time. Signatures are required.

OPERATIONS SUPERVISOR

MAINTENANCE OR OTHER SUPERVISOR

ATMOSPHERE TESTER

PERSONS DESIGNATED TO ENTER VESSEL

THIS PERMIT MUST BE POSTED AT ENTRANCE TO VESSEL. SEND PERMIT TO SAFETY AND LOSS PREVENTION DEPARTMENT AT COMPLETION OF JOB

MOCC 800 (11/93)

S. Line Breaking Permit

PURPOSE

To insure that the process of line breaking does not expose employees to unnecessary dangers.

SCOPE

When any line used in the transmission of hazardous materials such as sulfuric acid, ammonia, steam, liquid sulfur, gas, or hot slurry is broken, a line breaking permit must be used.

RESPONSIBILITY

The area Operations Supervisor is responsible for following this procedure.

REQUIREMENTS

When a line is to be broken, operations must take the necessary steps to assure that the line is purged by the appropriate means. The Operations Supervisor shall obtain all authorized signatures prior to the line breaking. All appropriate precautions indicated on the Line Breaking Permit (see page 35), for the job, must be followed by all employees working on the line before breaking the line. The permit must also be posted at the job site. A Line Breaking Permit is good for one shift only.

After completing the job, the permit should be sent to the Safety Department. In case any doubt arises as to the appropriate action to take, contact the Safety Department or your Department Manager.

LINE BREAKING PERMIT

Mobil

LINE-BREAKING PERMIT

INSTRUCTIONS:
Complete BOTH sides of this form.

A permit must be completed before any line is broken, which has contained unusually hazardous materials such as sulphuric acid, liquid ammonia, liquid sulphur, hot slurry, steam, or gas.

GOOD THIS DATE ONLY

FROM	AM	TO	PM
BUILDING NO. OR AREA	FLOOR		
WORK ORDER NO.	WORK TO BE DONE		

☐ SLICKER SUIT OR RAINCOAT?	☐ ACID HOOD?
☐ FACE SHIELD?	☐ RUBBER BOOTS?
☐ GAUNTLET - TYPE RUBBER GLOVES?	☐ GOGGLES?
☐ AIR MASK PRESENT?	
☐ AIR MASK TO BE WORN?	
☐ WATER HOSE AT SITE?	
☐ SCAFFOLDING INSTALLED?	
☐ AREA ROPED OFF OR SCREENED?	
☐ SIGNS POSTED?	
☐ FUNNEL AND DRAIN TO CONTAINER OR SEWER?	
☐ FLANGE SPREADERS OR 1 HCE JACKS TO BE USED?	
☐ HOT WORK PERMIT REQUIRED?	
☐ VENTS TO BE OPENED TO PREVENT POSSIBILITY OF AN AIR LOCK?	
☐ DRAIN VALVE ATTACHED TO BLANK FLANGE?	
☐ REQUIRED IN CASE LINE FILLS?	
☐ PERSONNEL ASSIGNED TO JOB KNOW SAFE WORK M?	
☐ SAFETY DEPARTMENT TO BE ADVISED OF JOB?	
☐ PERSONNEL IN AREA WARNED?	
☐ FIRE EXTINGUISHER STAND BY?	

I certify that all necessary precautions have been taken to make this line-breaking operation safe for prescribed work during the specified time. SIGNATURE REQUIRED

OPERATIONS SUPERVISOR

MAINTENANCE SUPERVISOR

ATMOSPHERE TESTER

PERSONS DESIGNATED TO BREAK LINES

THIS PERMIT MUST BE POSTED AT WORK SITE

MCC 844 (10-81)

This section must be completed before this permit is signed. Check the precautions being taken. Cross out those not applicable to the particular job being done at this time.

☐ AREAS FLUSHED DOWN, AND LINE SPREAD?
☐ ALL VALVES CHECKED AND TAGGED?
☐ NECESSARY BLANKS INSTALLED?
☐ ALL PUMPS AND STARTERS LOCKED OUT AND TRIED?
☐ STEAM TRACING SHUT OFF?
☐ EXPLOSIVE ATMOSPHERE TEST MADE?
☐ EXPLOSIVE ATMOSPHERE FOUND, REQUIRING LINE BE PURGED WITH INERT GAS?
TO BE WORN:
☐ SLICKER SUIT OR RAINCOAT?
☐ ACID HOOD?
☐ FACE SHIELD?
☐ RUBBER BOOTS?
☐ GAUNTLET - TYPE RUBBER GLOVES?
☐ GOGGLES?
☐ AIR MASK PRESENT?
☐ AIR MASK TO BE WORN?
☐ WATER HOSE AT SITE?
☐ SCAFFOLDING INSTALLED?
☐ AREA ROPED OFF OR SCREENED?
☐ SIGNS POSTED?
☐ FUNNEL AND DRAIN TO CONTAINER OR SEWER?
☐ FLANGE SPREADERS OR 1 HCE JACKS TO BE USED?
☐ HOT WORK PERMIT REQUIRED?
☐ VENTS TO BE OPENED TO PREVENT POSSIBILITY OF AN AIR LOCK?
☐ DRAIN VALVE ATTACHED TO BLANK FLANGE?
☐ REQUIRED IN CASE LINE FILLS?
☐ PERSONNEL ASSIGNED TO JOB KNOW SAFE WORK M?
☐ SAFETY DEPARTMENT TO BE ADVISED OF JOB?
☐ PERSONNEL IN AREA WARNED?
☐ FIRE EXTINGUISHER STAND BY?
SPECIAL PRECAUTIONS FOR THIS JOB:
SEND PERMIT TO SAFETY AND LOSS
PREVENTION DEPARTMENT AT JOB END.

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I. Hot Work Permit

PURPOSE

To Insure that fires and explosions are not caused by indiscriminate use of open flames, cutting torches, welding units, sparking tools or machines and hot surfaces in hazardous areas.

SCOPE

A Hot Work Permit (see page 37) must be used in the following instances:

1. When a cutting torch, open flame device, sparking device or welding unit is used in the following areas: sulfuric acid areas, ammonia areas or closer than 50 feet to the gasoline storage tanks (special permission is required by the Safety Department).
2. When heating, cutting or welding is done on any tank, vessel, barrel or enclosed compartment.

RESPONSIBILITY

The Operations Supervisor and the Maintenance Supervisor are responsible for following this procedure.

REQUIREMENT

When hot work is done, the Operations Supervisor must take the necessary steps to assure safe working conditions. The Operations Supervisor and the Maintenance Supervisor or welder, in the absence of the Maintenance Supervisor, must then initiate the Hot Work Permit (following page) and complete it fully. All appropriate precautions indicated on the permit, for the job, must be followed before starting the hot work. The permit must be posted at the job site. A Hot Work Permit is good for one shift only. After completing the job, the permit should be sent to the Safety Department.

HOT WORK PERMIT

Mobil

HOT WORK PERMIT

INSTRUCTIONS:
Complete BOTH sides
of this form.

A permit must be completed before any Hot Work that may cause fire or explosion may be done.

This section must be completed before permit is signed. Check precautions taken. Cross out those not applicable to this job.

GOOD THIS DATE ONLY

FROM AM TO AM
PM PM

BLDG. OR AREA FLOOR

WORK ORDER NO.

WORK TO BE DONE

☐ ALL STARTERS LOCKED OUT AND TRIED?

☐ VESSEL ENTRY COMPLETED?

☐ EXPLOSIVE ATMOSPHERE TEST MADE?

☐ HOSE OR EXTINGUISHER STAND BY?

☐ FIRE WATCHER ASSIGNED?

☐ COMBUSTIBLES PROTECTED?

SPECIAL PRECAUTIONS FOR THIS JOB:

I certify that all necessary precautions have been taken to assure a safe Hot Work Job.

PRODUCTION SUPERVISOR

MAINTENANCE SUPERVISOR

PERSONS DOING HOT WORK

COMPLETE AFTER JOB IS
TERMINATED

☐ EXTINGUISHERS REPLACED?

☐ HOSES RETURNED TO STORAGE?

☐ FIRE WATCH FOR 1/2 HOUR

AFTER JOB?

☐ AREA CLEANED - UP?

THIS PERMIT MUST BE POSTED AT WORK SITE

SEND PERMIT TO SAFETY AND LOSS
PREVENTION DEPARTMENT AT TERMINATION OF JOB.

MCC 901 (10-82)

U. Excavation, Trenching, and Shoring

PURPOSE

To assure the safe excavation, trenching, and shoring during construction or maintenance in the Pasadena Plant.

SCOPE

This procedure pertains to all excavation, trenching, and shoring that occurs in the Pasadena Plant.

RESPONSIBILITY

The Maintenance Supervisor or Engineer responsible for the job has the responsibility for following the rules and regulations set up in this procedure.

REQUIREMENTS

Prior to any ground-breaking on the Property, the Ground Breaking Permit (page 40) must be followed. An excavation is any manmade cavity or depression in the earth's surface--including its sides, walls, or faces--formed by earth removal, and producing unsupported earth conditions. A trench is a narrow excavation made below the surface of the ground and whose depth is generally greater than the width, which is not greater than fifteen (15) feet. Any ground breaking done at the Pasadena Plant must adhere to the following rules and regulations:

1. Set up to protect underground installations by using the Ground Breaking Permit and obtain the proper signature authority before breaking ground.
2. Material removed from a trenches excavation must be stored at least four (4) feet away from its sides.
3. Always place yellow warning tap around trenches or excavations.
4. Only materials in good condition are to be used to support the sides of the trenches or excavations.
5. The sides of trenches which are more than four (4) feet deep and in which personnel will be working must have their sides supported by the required shoring methods. (See OSHA Standard 1926-652.)
6. The supported sides of trenches or excavations must be inspected daily and after any rains, prior to allowing personnel to enter or resume work in the trench.

7. Ladders, stairs, or ramps must be provided when the excavation or trench exceeds three (3) feet deep. Ladders must be 10 feet farther than twentyfive (25) feet from workers.
8. Support systems must be planned and designed by a competent engineer when trench or excavation exceeds twenty (20) feet deep or is subject to vibrations, ground water or is adjacent to a structure.
9. Any side of a trench or excavation that is not supported must be sloped at least to the angle of repose of the material being removed, as determined by a civil engineer from available data.
10. Surface water must be diverted away from trenches or excavations.
11. Cross braces or trench-jacks must be used and placed in a true horizontal position.
12. Back-filling and removal of supports shall progress together with the back-filling starting from the bottom upward.
13. Blasting or the use of explosives is not allowed in any excavation operation at this Plant.

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V. Track Blocking Permit

PURPOSE

To reduce the hazards of railroad operations by controlling the blocking of any plant tracks.

SCOPE

When any vehicle or other equipment must be set up so that it blocks a Plant track, a Track Blocking Permit must be used.

RESPONSIBILITY

The Supervisor or Engineer of the job is responsible for following this procedure.

REQUIREMENTS

Any time that a plant railroad track must be blocked, a Track Blocking Permit (page 42) must be used. The person needing the permit issued by the Operations Supervisor. The person needing the permit must get in contact with the Operations Supervisor to get the permit and must post it on the equipment that will be blocking the track. Any blocking of the track without this permit will cause the job, that is in progress, to be shut down and the track to be cleared before the permit will be issued. In conjunction with this permit, "Track Blocked" Signs should be posted on both sides of the blockage.

The Operations Supervisor shall notify the train crew of all permits. The Supervisor or Engineer, in charge of the job, is responsible for clearing and the cleaning up of the track area after the job is completed.

**Mobil
GROUND BREAKING PERMIT**

A PERMIT MUST BE POSTED
ON THE JOB SITE
WHEN GROUND IS BROKEN

Date		
From	a.m. To	a.m. p.m.
Location		
Work to be Done		
Requestor's Signature		
Special Precautions for This Job		
Engineering Approval		
Maintenance Approval		

THIS PERMIT MUST BE
SENT TO
THE SAFETY AND LOSS PREVENTION
DEPARTMENT AT COMPLETION OF JOB.

MOB 441 (10-81)

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**A PERMIT MUST BE POSTED
ON ANY EQUIPMENT
BLOCKING PLANT TRACKS**

Date	From	To	a.m. p.m.
Type of Equipment	Work to be Done		
Location of Equipment			
Requestor's Signature			
Special Precautions for This Job			
Shipping and Receiving Approval			

THIS PERMIT MUST BE
SENT TO
THE SAFETY AND LOSS PREVENTION
DEPARTMENT AT COMPLETION OF JOB.

100 MW (100,000 hp)

PURPOSE

To establish safe handling procedures when using gas cylinders.

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All persons who use gas cylinders in the Pasadena Plant must follow these rules.

RESPONSIBILITY

It is the responsibility of all employees to follow these rules and to see that others do likewise.

REQUIREMENTS

The rules for gas cylinder use and storage in the Pasadena Plant are as follows:

1. Acetylene cylinders must be segregated from oxygen cylinders during storage by 20 feet or by a 5-foot high wall with a 1 hour fire rating.
2. Full and empty cylinders must be segregated.
3. Damaged cylinders must not be accepted from vendors. Damage includes dents, visible corrosion, pitting, digs, cuts, or gouges.
4. Cylinders must have a current hydrostatic test marked on the cylinder. Cylinders must be tested every five (5) years.
5. Cylinders must not be subjected to temperatures above 125°F.
6. Caps must be kept on cylinders when the gauges are not in place.
7. Oxygen-acetylene systems must be equipped with check valves to prevent mixing of gases.
8. All cylinders must be ~~used~~^{kept} in the upright position and must be secured in this position. When not in use, safety caps must be in place.
9. All cylinders must be kept free of oil and grease.
10. Oxygen-acetylene hoses must be kept in good condition and replaced if visibly worn or cracked. Tapping of hoses is not permissible.
11. Fixed cylinder systems must be permanently piped using approved piping or tubing.

43

42

12. Cylinders must never be hoisted with slings or ropes. A cylinder rack or cart must be used. Do not lift cylinders by the cap.
13. Cylinders must never be rolled. A cylinder cart must be used.
14. Cylinders must not be dropped.
15. Do not store or use cylinders directly under cutting or welding work.
16. Do not tamper with safety relief devices in valves or cylinders.
17. Cylinder storage areas must be prominently posted with the names of the gases to be stored.
18. Cylinders must be legibly marked with at least the chemical name or a commonly accepted name of the material it contains. Lettering shall not be readily removable, be located at the valve end and off the cylindrical part of the cylinder, and be at least 1/8th inch high.

X. Conveyor Belt Safety:

PURPOSE

To assure that those persons working around conveyor belts do so safely.

SCOPE

All persons who work around conveyor belts must comply with these rules.

RESPONSIBILITY

All employees that are working around conveyor belts must comply with the rules contained in this procedure.

RULES:

1. No person shall ride on a moving belt or conveyor at any time.
2. No person shall cross over a moving conveyor unless a regular crossover ramp is provided.
3. No person shall cross over a stopped conveyor to perform work unless conveyor is locked out in accordance with established lock out procedures. (See pages 26-27).

4. Repairs shall not be made on a moving conveyor nor made until the conveyor is locked out.
5. Conveyors shall not be manually cleaned while in motion. They will be stopped and locked out before commencing clean-up.
6. Dressing shall not be manually applied to a moving belt. The belt will be stopped and locked out.
7. All guards, hand rails and toeboards must be replaced after maintenance and/or cleaning.
8. All conveyor belts will have emergency stop cords installed on both sides, if appropriate, and kept in good working order. Repairs to defective stop cords will be done expeditiously.
9. Do not wear loose, ragged clothing and/or gloves when working near a moving conveyor.
10. Keep hands and other parts of the body away from pinch-points and moving idlers.
11. All conveyor belt stop cords will be checked on a monthly basis to ensure they are functioning properly. Documentation should be kept attesting to these checks.

Y. Forklift

PURPOSE

To prevent injury to employees who operate forklifts at the Pasadena Plant.

SCOPE

These rules will serve as guidelines for any employee who operates forklifts at the Pasadena Plant.

RESPONSIBILITY

Each employee who operates a forklift at the Pasadena Plant is directly responsible for compliance with these rules.

REQUIREMENTS

The general safety rules for safe forklift operation are:

1. Do not operate a forklift unless you have been trained or are authorized to do so.

2. A careful check should be made by each shift operator at the start of operations, to be certain that brakes, horn, clutch, lifting cables, steering mechanisms, etc., are in good working order. Defective equipment should be reported without delay. Never operate faulty equipment.
3. Uneven flooring is a major cause of accidents involving material handling by the forklift trucks. Report unsafe floors and avoid bad road conditions.
4. No one should be allowed to stand or walk under any elevated part of the forklift truck or load. Do not use the forklift for elevating workmen.
5. Do not install steering wheel knobs.
6. Fuel tanks shall be filled in a well ventilated area and only when the forklift truck motor is shut off.
7. Secure the load onto the forks and tie it down if necessary. Always back down steep slopes or ramps.
8. Carry the load as low as possible and adjust the forks to suit the load width.
9. Do not obstruct your vision with the load. If needed, get help with directioning.
10. Do not exceed the load capacity of the forklift.
11. When loading or unloading trucks or trailers, make sure the brakes are set and the wheels are chocked. Inspect the floor of the trailer for weak spots.
12. Support the end of the trailer if needed, to prevent upending.
13. If a bridge plate is used, be sure it is strong enough and that there is no chance it will shift or slip.
14. Abide by all traffic rules. Sound horn when entering or exiting buildings. Sound horn at aisles, corners, etc.
15. Do not leave a forklift unattended that has its motor running and/or has a suspended load.
16. When the forklift is parked, lower forks completely against the floor or ground.

Z. Respiratory Protective Equipment Use

PURPOSE

To establish proper procedures for wearing respirators.

SCOPE

To assure that all employees needing to wear respirators do so properly.

RESPONSIBILITY

All employees that must use a respirator must comply with the rules contained in this procedure.

REQUIREMENTS

1. Prior to entering any vessel or tank that may contain harmful toxic vapors, gases, dust or mist, check the vessel entry permit to see if any respiratory protection equipment is required.
2. Consult your Supervisor for the proper respiratory equipment to use.
3. Respirators must be properly maintained, cleaned and stored in accordance with the Respiratory Protection Manual.
4. Should you experience any discomfort or respiratory problems while in a contaminated area, you are to leave the area immediately, and notify your Supervisor.
5. You must be trained in the proper use and fitting of the respirator before you can rely upon it to protect you.
6. Any facial hair that affects the respirator to face-piece seal must be removed, and the facial areas that contact the respirator must be clean-shaven.
7. Employees are not to disassemble, modify, or in any way alter a respirator other than changing the cartridges, if necessary.
8. Report any defective or malfunctioning respirator to your Supervisor and/or the Safety Department.
9. You will be expected to participate in Company initiated air quality, environmental or medical surveys.

AA. Material Handling

PURPOSE

To prevent injury to employees that manually handle materials at the Pasadena Plant.

SCOPE

These material handling procedures will serve as guidelines for any employee who is working handling materials.

RESPONSIBILITY

Each employee who works handling materials is directly responsible for compliance with these rules.

REQUIREMENTS

Accidents involving the manual handling of materials are primarily the result of unsafe working habits - improper lifting, carrying a load that is too heavy or bulky, incorrect gripping, failure to secure against potential movement, and not wearing protective equipment. Training in safe work procedures and the analysis and study of even the simplest material handling chore can reduce these accidents. Good housekeeping contributes to safety in handling of materials - whether by hand or mechanically.

Correct lifting depends on what you do to get ready to lift, how you position yourself in relation to the object to be lifted, and how you actually lift, carry, and set down the load.

1. Check the path where you will carry the load. Look for and remove anything in your way.
2. Prepare a place to put the load down. Know exactly what you will do with it.
3. Check the item you will lift. Look for nails, sharp corners, loose straps or splinters and remove foreign substances that may affect your grip.
4. Put on any needed protective equipment - gloves, apron or goggles.
5. Find out how heavy the load is. Read the weight, if marked, or lift a corner, or tilt the object.
6. Take the proper position. Place one foot a little ahead of the other, with toes pointing slightly outward. Place your feet about as far apart as your shoulders.

7. Bend your knees and squat as close as possible to the load. Keep your back straight.

8. Grasp the item firmly by diagonally opposite corners. Draw the load close to the body with your arms and tilt the load, if necessary to get a lower hand grip underneath.

9. Lift yourself and the load with your legs.

10. While carrying the load, keep your back straight. To turn, move only your legs and feet. Move carefully and deliberately.

11. Bend at your knees and squat to set the load down. Ease it onto one corner so you will not pinch your fingers.

12. If the load is too heavy to lift comfortably, or if it is too bulky to carry and still see where you are going, get help or obtain mechanical material handling equipment.

Sprain and strain injuries can also occur to other parts of the body besides the back. The individual performing the task is the best judge as to whether overexertion, to the point of injury, is a possibility. If this potential exists, an alternative approach to accomplish the task must be considered. The use of a mechanical lifting device, the application of a power or hydraulic tool, a little penetrating oil or the application of heat can often turn a hard physical task into a very easy one.

BB. Electrical

Purpose

To prevent employees from receiving an electrical shock injury while working around energized equipment.

Scope

These rules will serve as guidelines for working around electrical operated equipment.

Responsibility

It is the responsibility of all employees that work around electrical operated equipment to follow this procedure.

Requirements

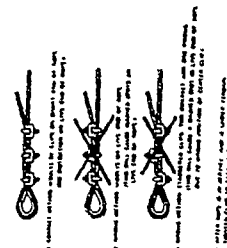
The general safety procedures for working around electrical operated equipment are:

1. Only qualified, certified personnel are allowed to make electrical repairs.
2. Electrically powered equipment shall be de-energized and lockedout before work is done on equipment. (See Electrical Lockout procedures, pages 26 and 27).
3. Power circuits shall be de-energized and lockedout before the work is done on such circuits, unless hot-line tools are used. (See Electrical Lockout procedures, pages 26 and 27).
4. All electrical circuits, wiring and apparatus shall be considered as being electrically alive and dangerous, unless de-energized and made otherwise safe.
5. All electrical circuit boxes and switchboxes shall be kept closed or covered except when work is being done on these boxes or switches by Plant electricians.
6. Metal rules or tapes shall not be used for measuring near exposed wires.
7. All electrical switches should be clearly marked as to the equipment they control.
8. Report any electrical hazards to your Supervisor immediately.

9. Abandoned electrical circuits shall be de-energized and isolated so that they cannot become energized inadvertently.
10. Do not use a water hose to clean around electrical switchboards or equipment.
11. Proper safety apparel shall be worn at all times while performing electrical work.
12. Do not provide temporary power by running a electrical cord through a doorway or window unless adequately protected from potential damage.
13. All switchboxes, panel doors, maintenance accesses, etc., must be closed and fastened when the work is completed.
14. Knockout holes and conduit openings must be closed by using an appropriate plug or cover.
15. All electrical procedures and work must be performed according to federal and state regulations and the National Electrical Codes.

- h. Only authorized, trained personnel are permitted to operate a crane or hoist.
- i. The crane boom shall not be positioned closer than ten (10) feet to a power line.
- j. Never attempt to operate the crane except from the operator's station.
- k. Set and lock all brakes and engage all ratchets when holding a load.
- l. Never leave the operator's cab with the load suspended.
- m. When hoisting awkward or bulky loads, tag lines shall be used.
- n. Personnel shall not stand, walk or work under suspended loads. They should stay away as much as possible.
- o. If it is necessary to travel with a suspended load, the operator must evaluate the conditions and determine the safety precautions required in each individual case. Govern travel speed to suit conditions, avoid sudden starts and stops, and keep the load as close to the ground as possible.
- p. Be alert while operating cranes at all times. Pay attention to business.
- q. Each operator should read and understand the safety and operating rules and procedures contained in the equipment's operation manual. Refer to them often.
- r. Do not hoist any personnel with a mobile crane unless the crane is equipped with the necessary safety devices required by law.
- s. Try the limit switches in an overhead crane before use each day.
- t. Make sure the load will clear obstructions in the line of travel. Have a location prepared to receive the load.
- u. Never move a load over another person.
- v. Always center the crane over the load. Do not use an overhead crane to pull sideways.
- w. Tag lines shall be used when handling long loads or when traveling with materials. Never try to hold on to the material to control the load.

- x. No person shall ride the hook, load, headache ball, or cable at any time.
- y. Make sure all slings, ties, and hooks are in proper condition before using them to lift a load.
- z. Never use a hook that is not equipped with an operational safety latch.
- aa. Keep hands and clothing clear of pinch points.
- bb. Pick up the load above the center of gravity whenever possible. If not, the load will turn over as it is lifted.
2. Chafins, Slings and Hooks
- a. Chains, slings, and hooks shall be visually inspected before each use, and if defects are found, the defective piece of equipment shall be marked conspicuously and removed from service.
- b. When the links of a chain become elongated or distorted, the chain shall be removed from service.
- c. Wire rope and slings that are showing excessive wear or broken strands in any length of rope, shall be taken out of service. Inspect the slings prior to and during use.
- d. Bent hooks shall not be used.
- e. When lifting, the crane or hoist operator shall insure that the wire rope slings contain no kinks and that the links in a chain sling are not twisted.
- f. Place a suitable pad or wooden block under slings where they pass over corners. Care should be taken not to damage slings. Do not run over them or tear them against sharp edges.
- g. All rigging components must be chosen to be of proper size to handle the load.
- h. Proper application of wire rope clips:



CC. Mobile/Overhead Cranes and Hoists

PURPOSE

To prevent injury of employees resulting from operating mobile/overhead cranes and hoists.

SCOPE

These rules will apply to personnel operating or assisting in the lifting operation being carried out by mobile/overhead cranes and hoists.

RESPONSIBILITY

The Supervisor of the job and each employee involved in the operation of mobile/overhead cranes and hoists and those employees assisting in the lifting operation is directly responsible for compliance with these rules.

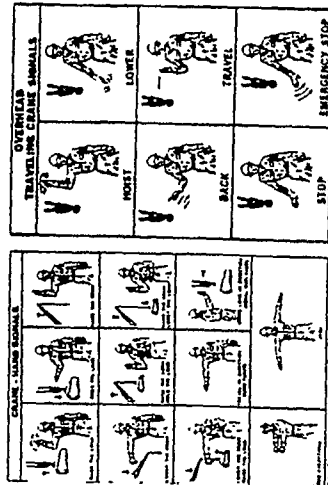
REQUIREMENTS

The general safety rules for the operation of mobile/overhead cranes and hoists and those employees assisting in the lifting operation is directly responsible for compliance with these rules.

1. Mobile Cranes/Overhead Cranes and Hoists

- The mobile crane shall be checked by the operator a minimum of one time each shift when the crane is being operated.
- Critical load hoisting shall be done under direct supervision and the operator's Supervisor should pre-plan the hoisting job.
- The operator shall insure that the machine is positioned properly (check swing clearance) and on stable ground prior to hoisting. Use outriggers when necessary, according to the position of the crane and the load that is being hoisted. If the ground conditions are poor, use suitable pads under the outriggers.
- Know the rated capacity of your crane. Be sure that the load is within the "load chart" rating for the boom length and working radius of the crane. (NOTE: Refer to chart on the cab or the boom).

- Each operator shall be assisted by a signal man when needed. The signal man will direct the execution of load handling. Only one person shall be designated to give the crane signals, unless the situation demands more than one signal stop.
- Before hoisting loads, the operator shall insure that all personnel are clear of the load. Never swing the load over any personnel. Test the load and brakes by raising the load 6 to 8 inches before completing the lift.
- Proper signals shall be used to direct the crane or hoist. Only the signals illustrated below shall be used when directing the movements of a crane or hoist.



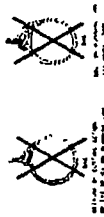
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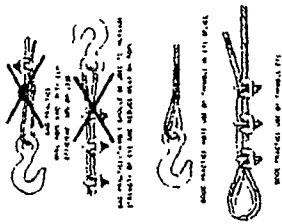
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1. Proper eye and fitting splices

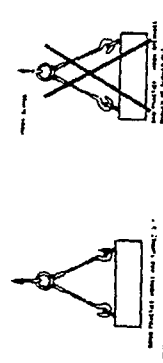
1). Eye Splices



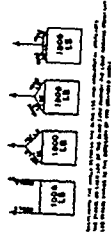
11). Eye Fittings



2. Proper method to attach hook slings:



k. Stresses on sling legs:



1. As a minimum, the following number of clips shall be used for various diameters of rope as follows:

Diameter of rope, inches	No. of clips	Center to center spacing of clips
3/4 or less	4	4 1/2"
7/8	4	5 1/4"
1	4	6"
1 1/8	5	6 3/4"
1 1/4	5	7 1/2"
1 3/8	6	8 1/4"
1 1/2	6	9"

00. Housekeeping

PURPOSE

To prevent injury to employees by poor housekeeping conditions.

SCOPE

These housekeeping procedures will serve as guidelines for any employee working at the Pasadena Plant.

RESPONSIBILITY

Each employee who works at the Pasadena Plant is responsible for housekeeping in their work areas.

REQUIREMENTS

Good housekeeping procedures are necessary for the prevention of accidents. An orderly arrangement of tools, equipment and supplies must be maintained at all times. It is the responsibility of all employees to clean up the work area after completing all jobs.

1. Keep materials and equipment out of aisles. Always return tools, equipment, supplies, etc. to their proper place after using them.
2. Never leave loose objects such as rags, bottles, tools, etc. on stairs, landings, window ledges or working areas.
3. Do not put clothing or pile any material on fire extinguishers, eye wash fountains, safety showers, electrical switch boxes, etc.
4. Glass soft drink bottles must not be brought on Company property.
5. Hoses, cables, etc. must not be hung over handrails and stairs.
6. Pull out or bend down any protruding nails.
7. Any spilled oil, grease, or other slippery material must be cleaned up immediately.
8. Never pick up broken glass or other sharp objects barehanded. Use a broom and pan.
9. All machinery and equipment must be kept clean at all times.
10. Pile all loose materials in a neat and orderly manner.
11. If you see anything on the floor that could cause someone to trip or fall, pick it up immediately and put it in a safe place.
12. Report any worn or broken flooring immediately.

VI. LABORATORY SAFETY RULES

A. The specific safety rules for the Laboratory in the Pasadena Plant are.

1. All apparatus, equipment and material containers which are not permanently located on work tables and benches are to be stored, after each use, to prevent accidental breakage, spillage or fire.
2. All broken glass is to be carefully cleaned up and discarded in a trash receptacle immediately after being broken. Don't discard any graduates, beakers and other glassware which are broken, cracked or chipped unless their sharp edges are fire polished or filed smooth.
3. Clean up any spilled materials immediately. Acids and alkalis may cause injury to persons or damage equipment. Spilled liquids or solids can cause a slipping or tripping hazard.
4. Aisle ways and work areas are to be kept clear at all times. Samples and laboratory supplies are to be stored in designated areas only. Unused samples are to be discarded.
5. Dispose of rags containing oil or flammable materials in metal covered containers.
6. Do not work with or experiment with any item of apparatus, chemical or material with which you are not familiar. Obtain the necessary information and instructions from your supervisor before proceeding.
7. Do not work with apparatus set up in a slovenly or improper manner. Set up the apparatus as simply and neatly as possible without unnecessary parts. Be neat and orderly in your work habits.
8. Safety glasses must be worn by all personnel when in the laboratory areas.
9. Filter lens are to be worn when bending or shaping glassware, and while operating the atomic absorption spectrophotometer.
10. Know the location of all safety showers in the laboratory.
11. Respirators are to be used in grinding certain designated samples, and in the event of a dust exhaust system breakdown.
12. Do not use gasoline or volatile solvents for washing hands and clothing.

13. If hands or clothing should become wet with a flammable liquid, stay away from the flames or electrical equipment until hands are washed or clothing is changed.
14. Keep the bottles and cans of flammable liquids closed at all times except when pouring into and from them.
15. Do not climb up storeroom shelves. Use a stepstool.
16. Go through halls and doors cautiously to avoid collisions with other personnel.
17. Any item of equipment which is heated may be hot at any time. Such objects must be handled cautiously. Use tongs, thermal gloves or other insulating material.
18. Report faulty plugs, wires, switches, etc., to your Supervisor.
19. When fitting thermometers or glass tubing into bored stoppers, moisten thermometer or tubing with water or a soap solution. Use towels to protect your hand. Grasp the glass not more than one inch from the stopper and twist it in one direction into the stopper.
20. Carefully pour hot materials into sinks to avoid splashing.
21. Be sure shields are in place during ammonia distillations.
22. When handling concentrated acids or bases, rubber or vinyl gloves and an acid resisting apron must be worn.
23. When handling quantities of acids or bases above one pint, use of a face shield is mandatory. In smaller quantities if face shield is not worn, safety glasses are required.
24. Always add the acid or base to the water when diluting or making solutions. Acids and bases are not to be stored in the same compartment.
25. Acid digestions are to be done inside a hood with the exhaust fan running.
26. Perchloric acid is to be used only in the specially designated perchloric acid digestion hood. Do not use, place or store any organic materials in the perchloric digestion hood. Clean up spilled perchloric acid by immediate and thorough washing with large quantities of water. Perchloric acid must be stored in a designated area separate from other chemicals.
27. Aqueous bromine is to be used only in a hood with an exhaust fan. Rubber gloves must be worn when handling bromine.

28. Bottles containing acids, bases and other chemicals are to be emptied and rinsed thoroughly with water before being cleaned for reuse or discarded.
29. All chemical containers are to be clearly labeled.
30. Use a pipette filler when pipetting chemical solutions. Mouth pipetting is not allowed.
31. All other volatile liquids are to be used in a well ventilated area with the ventilation systems working properly.
32. Do not handle or store volatile liquids near an open flame.
33. All volatile liquids above one liter are to be stored in a clearly marked safety container or the original container.
34. Explosive gases are to be stored in properly identified compressed gas cylinders.
35. Compressed gas cylinders containing oxygen, acetylene, carbon dioxide, nitrogen or any other compressed gas must be securely anchored in a vertical position. Do not lubricate valves or connections on compressed gas cylinders with oil or grease.

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VII. MAINTENANCE DEPARTMENT SAFETY RULES

A. General Rules

1. Unless you are specifically authorized to do so, do not open or close any valves or tamper with controls that could turn on or off electricity, water, gas, fuel, oil, acid, or other chemicals; do not set in motion equipment or electrical apparatus; if authorized to do this work, make sure no one is in a position to be injured.
2. No person, other than a qualified certified person, shall attempt to repair electrical equipment.
3. All compressed air hoses with quick disconnects must have safety chains or whip checks at all connections back to a mechanically fastened air line.
4. Defective air hoses shall not be used.
5. Compressed air shall not be used to clean off clothing.
6. Guards and safety devices are provided on equipment that has moving parts capable of causing injury upon contact. Guards and safety devices removed while repairing equipment shall be replaced before the equipment is placed back into service.
7. All equipment must be maintained in proper operating condition; replacement parts must not reduce equipment safety.
8. When working on any pipeline, proper procedures must be followed to insure the line is bled, flushed (if necessary) and properly sealed off. Pumps should be lockedout prior to performing any maintenance or repairs. (See Line Breaking Procedures on pages 34 & 35).
9. When slippery conditions exist because of climatic conditions, you are expected to exercise extreme caution when walking, climbing, driving, etc.
10. Secure all pressurized bottles firmly and when they are not in use, replace caps.
11. Repairs or cleaning around moving parts must not be attempted on any machine while it is in motion. The power source will be shut off and the lockout procedure followed. (See pages 26-28).
12. Unless you are directly assigned to operate a piece of equipment, do not start or move equipment that is down without obtaining clearance from the Supervisor in charge.

13. When moving machinery or material with a vehicle, the load shall be securely fastened to prevent rolling or movement.
14. All scaffolding, ladders, rigging equipment, etc., must be put back into its proper storage location, once a job is complete.
15. Consult your Supervisor concerning any work that is unusual, or if you have any doubts about the proper manner in which to perform such work.
16. Never attempt to perform a task alone that has been designated as requiring more than one person. If in doubt as to whether or not additional assistance is needed, check with your supervisor.
17. Never work under a suspended load.
18. Maintenance Shop Traffic Rules:
 - a. Only maintenance personnel familiar with the operation of the equipment will be allowed to move mobile equipment into and out of the auto repair shop, unless operators are instructed to assist.
 - b. Before leaving a vehicle, always set the hand brake; block or park the vehicle in a safe way to make sure it cannot roll.
19. Use extreme caution when moving the shop overhead cranes. The operator is responsible to insure that the load is secure and that workmen are not under suspended loads. All personnel using the overhead cranes must comply with all applicable safety rules and hand signals. (See page 53 for crane signals).
20. Maintenance work often involves assuming awkward positions in difficult to reach locations. Slow, deliberate motions and careful foot and hand placements are essential if injuries are to be avoided.
21. Never use your fingers or hands to line up holes. Use a drift pin or other suitable tool.
22. No one shall enter or work in a trench or excavation where there is danger of material sloughing or caving. A Ground Breaking Permit is necessary for work requiring entry into trench, dugout, etc. (See Excavation, Trenching and Shoring Procedures on pages 38-40).

B. Equipment Repair

1. Employees shall not work on or from a piece of mobile equipment in a raised position until it has been blocked in place securely. Blades, beds, etc., must also be blocked if being worked on in a raised position.
2. Repairs or maintenance shall not be performed on machinery until the power is off and the machinery is blocked or choked against motion, except where machinery motion is necessary to make adjustments, and adequate precautions have been taken to prevent injury.
3. Machinery shall not be lubricated while in motion where a hazard exists. Lubrication is permitted where extended grease fittings or cups have been provided to eliminate the hazards. Never attempt to use wiping rags to clean moving parts.
4. No one is permitted behind the controls of any equipment during maintenance or servicing. Operators must be out of the cab and on the ground with the serviceman, unless specifically requested to carry out certain aspects of operation by maintenance personnel. A "do not operate" tag shall be attached to a vehicle or equipment that is under repair, maintenance or servicing.
5. Before raising dump box, be sure no pieces of material are hanging in the box or on the bed floor where they may fall or be jarred loose to injure someone.
6. Before raising dump box, be sure there is overhead clearance for it.
7. Before removing a wheel or tire, be sure the equipment is blocked with wood cribbing or approved safety stands. Never depend on a crane or hydraulic jacks.

C. Tire Repair

1. All tires being inflated, after repairs, shall be kept in a tire cage or restraining device.
2. The tireman is to make sure he is not in a position to be struck by the split rim.
3. Tires are to be stored in tire stands or laid flat on their sides.
4. Extreme care is to be taken when moving tires with a overhead crane or tire handler.

D. ARC WELDING

1. Before starting arc welding operations, inspect all welding equipment to insure that it is in proper operating condition.
2. If welding machines are operated from a power circuit, the frames must be effectively grounded.
3. All electrical connections must be securely made.
4. Keep welding cables dry and avoid dragging cables over objects which might damage them.
5. An approved welding shield must be used for the protection of the eyes when using an arc welder. Warn others of the danger of flash burns from the arc.
6. Keep working area clear of material likely to cause slips, falls or other accidents. Use a suitable receptacle for electrode stubs so they can be kept clear of work area and off the floor. Electrodes shall be removed from holders when not in use.
7. The electrode holder and connecting cable must be fully insulated.
8. Arc welding machines must be well protected mechanically and electrically against contact from the welder or other workmen.
9. The welder must avoid standing on wet surfaces during welding operations. Dry insulating material must be used.
10. Whenever possible, all welding jobs must be screened to protect others from arc flashes.
11. When welders are working close together, they should place themselves in a position to prevent arc flashes to the eyes when the helmet is raised.
12. Should the welder have an occasion to leave his work for any appreciable time, the power switch must be opened.
13. Any defective welding leads or ground cables shall be properly repaired and any exposed wiring adequately insulated.
14. Never operate the polarity switch on the welder while it is under load.
15. Ground cables shall be kept out of the water. They shall not be grounded to electrical conduit or pipelines containing gases or flammable liquids.

16. Be sure to have adequate ventilation before welding in a confined area. Approved respirators must be worn if welding where adequate ventilation cannot be provided.

17. Hot Work Permits are required in various designated areas. (See Hot Work Permit procedure on pages 36 - 37).

E. OXYGEN AND ACETYLENE WELDING

1. Always check oxyacetylene equipment before using it to be sure that it is in the proper operating condition. Never use this equipment if it is in need of repair. Do not attempt to repair it yourself, but report it to your Supervisor without delay.

2. Make certain all personnel are in the clear when cutting material. Whenever practical, block material so that it cannot fall after it is cut.

3. Do not allow sparks to be directed toward any pipeline, cylinders, hoses, tanks, rubbish piles, or combustible materials without protecting them. Have a fire extinguisher at hand. A hot work permit may be required when work is done outside a regularly assigned area. (See Hot Work Permit procedure on pages 36-37).

4. Do not use or compress acetylene at 15 pounds per inch² or higher.

5. Purge your oxygen and acetylene lines individually before lighting the torch. Acetylene valves should not be opened more than 1/2 turn. Open the oxygen valve all the way. Valves should be opened very slowly.

6. Light the acetylene before opening the oxygen.

7. Never use oil or grease on equipment. Oil or grease, when combined with oxygen, can explode without an external source of ignition. Remove foreign material from hoses regularly.

8. Never use an oxyacetylene or oxypropane flame to heat containers of oil, grease, paint, rust preventive, etc., even though they are marked or considered nonflammable.

9. Do not blow oxygen toward anyone or use it in place of compressed air.

10. Use only standard friction type strikers to light a torch. Do not light smoking materials with a torch.

11. Close the station or cylinder valves and release hose pressures on any outfit which will not be used for an extended period of time. Valves must be closed whenever equipment is left unattended.

12. Do not use a torch on a vessel or pipeline that contains or has contained gasoline or other flammable or explosive materials without making sure that it has been properly purged and vented. Purging should be done under direct supervision and it should be performed to comply with accepted practices. (See Vessel Entry, Line Breaking and Hot Work Permit Procedures on pages 31-37).

13. Make certain there is adequate and proper ventilation when working in confined areas such as pits, tanks, etc. (See Vessel Entry Permit Procedures on pages 31-33.)

14. Do not take a torch into a confined area without having an assistant on hand immediately outside the area. Do not leave an unattended torch in a confined area.

15. Comply with applicable eye protection requirements and fire precautions as outlined in the Safe Work Procedures sections of this manual.

16. Determine what is on the other side of the object being welded or cut, if not visible when working.

17. Never lay a lighted torch down. Do not swing a lighted torch around without making sure all personnel are in the clear.

18. Do not hang a torch with its hose on regulators or cylinder valves. All welding hoses shall be coiled and hung in a safe manner when not in use.

19. Concrete can expand with explosive violence from the heat of slay or a torch. Do not burn over concrete without first protecting it with metal, asbestos, or other suitable material.

20. Dress properly when doing any welding or cutting work.

Clothing must be free of excessive oil, grease and other flammable substances. Wear face-up boots, cotton clothes with no cuffs on pants, and long sleeves. Synthetic fabrics are unacceptable for wear by welders.

21. Before welding, cutting or soldering is performed in areas likely to contain explosive gases, an examination for explosive gases shall be made by qualified persons.

22. It shall be the responsibility of the welder to install adequate shielding whenever possible while welding.

It shall be the responsibility of each welder to have a portable fire extinguisher nearby while welding, cutting or soldering is being done. (See Hot Work Permit Procedure on pages 36-37).

Keep working area clear of material likely to cause slips, falls or other accidents. Use a suitable receptacle for rod stubs so they can be kept clear of work area and off the floor.

25. When cutting or welding job is completed, it must be clearly marked "hot" with chalk or soapstone.

26. A size 8 heating tip is the largest tip which is to be used without manifolded cylinders.

VIII. OPERATIONS DEPARTMENT SAFETY RULES

A. DAP Unit

1. Wear an approved respirator with ammonia gas canister when entering granulator to clean sprays.
2. Chemical resistant suits, rubber gloves, goggles, face shields, and other necessary protective clothing shall be worn before breaking into acid lines or any vessel that may contain, or has contained, acid or ammonia. (See Line Breaking Procedures on pages 34 & 35).
3. Check relief valves daily on anhydrous ammonia tanks.
4. Check relief valves daily on auxiliary air compressor.
5. Know location and test daily all safety showers and eye baths in area.
6. Open lights and smoking shall not be allowed in anhydrous ammonia storage area.
7. All spillage of ammonia should be removed or cleaned up as promptly as possible. Never use combustibles such as sawdust, rags, or other organic materials to absorb spilled acid. Rope off area around spill to prevent anyone from walking into or driving over acid.
8. Report all worn pipelines and valves immediately to your Supervisor.
9. Safety goggles or faceshield, rubber coat and gloves must be worn when checking or adjusting flow of liquids through rotometer or containing liquid samples from vessels containing ammonia, hot acid or hot slurry solutions.

B. Prayon Unit

The specific safety rules for the Prayon unit are:

1. Chemical resistant suits, rubber gloves, goggles, face shield, and any other protective clothing shall be worn before breaking into acid lines. (See Line Breaking Procedures on pages 34 & 35).
2. Never work on any acid lines without first locking out the switch which operates the acid pump.
3. All spillage of acid and acid-containing material should be removed or cleaned up as promptly as possible. Never use combustibles such as sawdust, rags or other organic materials to absorb spilled acid. Tape off the area around the spill to prevent anyone from walking into or driving over spill.

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6. All spillage of acid and acid-containing material should be removed or cleaned up as promptly as possible. Never use combustible such as sawdust, rags or other organic materials to absorb spilled acid. Tape off area around the spill to prevent anyone from walking or driving into the spill.

7. Know the location and test daily all safety showers and eye baths in area where you are working.

D. Mill Facility

The specific safety rules for the mill facility are:

1. Always wear hearing protection on bottom floor of the Mills. This area exceeds 85db's.

2. Respiratory protection is required while working in Mill tunnels.

3. Do not use pieces of sticks, broom handles, shovel handles, etc., that have been broken off as valve and line cleaning implements. Obtain proper tools for this cleaning.

4. Do not work in the Mills without locking them out first. (See Lockout Procedure on pages 26-28).

5. Do not enter fullier canyon area to shut off pumps if vision is obscured. Shut these pumps off at MCC on decking above main floor.

6. When working on or around conveyor belts, consult Conveyor Belts Safe Work Procedure on pages 44 and 45.

7. Use handrails at all times when climbing and descending stairs at the Mill facility.

8. Do not use compressed air to blow dust off of your clothing.

9. Make sure that the conveyor belt trip wires are reconnected after cleaning up under conveyor belts.

10. Never leave loose objects such as rags, bottles, tools, etc., on stairs, landings and work areas.

11. Observe and practice good housekeeping at all times.

12. Goggles or faceshield must be worn when using a compressed air hose.

4. Report all worn or leaking hoses, pipelines and valves immediately to your supervisor.

5. Never walk on filters while in motion.

6. Wear an approved respirator when working in acid fumes or a dusty area.

7. Wear safety goggles, rubber gloves and acid repellent suits when washing out acid lines with a high pressure hose.

8. Wear safety goggles or faceshield, rubber gloves and acid repellent suit when cleaning out acid launders, tanks, and digesters.

9. Safety goggles or faceshields must be worn when checking or adjusting flow of liquids.

10. Know the location and test daily all safety showers and eye baths in area where you are working.

C. Acid Plant

The specific safety rules for the Acid Plant are:

1. Face shields and rubber gloves are required when:

a. Mixing soda ash with water for the kaminco scrubber.

b. Adding molten sulfur into the thio reactor.

2. Face shields, acid repellent suits, rubber boots and gloves must be worn when:

a. Obtaining sulfuric acid samples.

b. Obtaining molten sulfur samples.

3. At a minimum, rubber gloves must be worn by employees when they are handling any boiler chemicals.

4. A work vest must be worn by all personnel working on the acid plant dock.

5. There will be "No Smoking" permitted in the following areas:

a. Sulfur Pit Area.

b. Sulfur Rail Car Unloading Area.

c. Acid Plant Dock Area.

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E. Shipping Operations

1. Working on the Docks

- a. A coast guard approved work vest will be worn by all employees working within 5 feet of the docks edge and the water.
- b. Employees will only exit onto barges by approved gang ways or ladders. Never jump onto or from a barge.

2. Railroad Operation

- a. Employees will not ride on boards of locomotives between the locomotive and cars.
- b. It is important to maintain a secure hold while riding or standing on locomotives, cars, or other equipment.
- c. Riding dump cars while they are in motion is extremely hazardous and will not be allowed.
- d. Riding on couplings, hanging on car door with feet on truss rods, or hanging on handles with feet on tracks is extremely hazardous and will not be allowed.
- e. Employees will not ride in boxcars while cars are being shifted. Train crews are instructed not to move any such cars when occupied.
- f. Employees will not go between cars in motion for any reason.
- g. No attempt will be made to adjust coupling or lockpins while cars or locomotives are in motion or about to come together.
- h. Employees must avoid the extremely hazardous exposure of standing on track or afoul of the ties while attempting to get on the locomotive or cars approaching them.
- i. Employees must not crawl under locomotives or cars except when working on such equipment, and then only when proper precautions are taken, such as track blocking and wheel blocks.
- j. Stepping onto a rail while crossing tracks is extremely hazardous. When crossing railroad tracks near standing equipment, at least one-half (1/2) car length is required to avoid injury in case of sudden movement.
- k. When a choice is possible, always get on or off the rear of the car or train.

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- l. Always face the equipment when using the steps of a ladder.
- m. Employees will not stand or sit on top of diesel locomotives, on the roof of boxcars, or the sides of hopper or gondola cars. Trainmen may ride on the center walkway on top of boxcars, only when absolutely necessary, to relay signals and when side clearance is restricted.
- n. Employees will not stand or sit on the hand railings of diesel locomotives for any purpose.
- o. Employees must not place their feet on or in the wheel of any hand brake.
- p. When possible, end ladders must not be used by employees to ascend or descend a car for the purpose of applying or releasing hand brake. When applying or releasing hand brake, employees will not step directly from side ladder to brake step, nor from step to side ladder without first placing foot firmly on the ladder end tread.
- q. All signals must be given from a point where they can be plainly seen and in such a way that they cannot be misunderstood. If there is doubt as to the meaning of a signal or for whom it is intended, it must be regarded as a stop signal. If signals, or trainmen relaying signals, disappear from view, the movement must be stopped immediately.
- r. A member of the train crew will always be stationed on the side of the forward end of a moving train, in proper position, to immediately signal the engineer.
- s. After giving signals to stop, employee must keep clear of track until engine or cars have stopped.
- t. Trains will not proceed over public road crossings or obstruct plant road crossings, until the trainman or flagman has flagged traffic from both directions. Horn must be sounded, when approaching or going over crossings.
- u. Employees will not remove any of the safety appliances of an engine or a car.
- v. Defective equipment or tools will be put in safe condition or removed from service and reported to supervision.
- w. Only standard equipment will be used on locomotive's running boards, cab, or on end sills or tops of cars where they may fall or be knocked off and cause injury.

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- Tools and material must not be left on the locomotive's running boards, cabs or on end sills or tops of cars where they may fall or be knocked off and cause injury.
- Trains will not be operative within one car length or beyond blue flag sign. Trainmen will not remove blue flag signs. Such protective devices will be removed only by the person who placed them or his direct relief or supervision.
- Trainmen will make sure that hoses, cables, dock boards, conveyors, etc., are clear of cars that men have been working on or that have been hooked up at a loading station before attempting to couple to the car.
- Cars will be spotted at least one-half (1/2) car length from any roadway or walkway signal track crossing and one car length from double track crossings. This will not apply where it is necessary to spot cars close to a crossing for loading or repairs. In such cases, the crossings will be flagged as a blind crossing.
- Cars and equipment with air brakes will not be moved until train lines are connected, except when classifying train or moving cars a short distance, such as the distance from one adjacent track to another.
- Brake pipe connections will not be manually uncoupled until both angle cocks have been closed. Employees uncoupling air, or reducing brake pipe pressure with angle cock, must be extremely careful to avoid being struck.
- Parked or spotted cars must be secured with hand brakes or chocks on level tracks, and with both hand brakes and chocks on inclined tracks.
- Cars spotted at loading or unloading stations, where hand brake will be used for drifting, will be spotted so that the hand brake will be on the trailing end for the cars that are being drifted.
- No equipment will be marked, parked or spotted where proper clearance (14' center line) is not provided to adjacent trackage, unless it fouls the switch and prevents movement of the cars on the adjacent track.
- Kicking or humping of cars will not be done over any road crossing or when cars are placed to be loaded or unloaded. Flying switches will not be made in any area. Push poles are not to be used except in an extreme emergency.
- nn. Only the train crew or other duly authorized personnel are permitted to ride either locomotives or cars.
- ff. Engines must not be left without a man in charge, except at designated places and under authorized conditions. (Example: Building 9, Dock Area, Building 10, Dock Area and Diesel Pit Area).
- jj. Locomotives must not be moved by unauthorized personnel.
- kk. Engineer will not leave a locomotive in motion, unattended, and get down on ground for any reason, except to insure his own safety in case of an emergency.
- ll. Great care in moving locomotives is necessary to avoid striking other employees. The horn must be blown before standing equipment is put in motion. Horn must be blown when passing locations where other employees might be working and while crossing all roadway or walkway crossings.
- mm. When a locomotive is placed in an engine house or parked for the off shift, the throttle must be in idle position, the reverser in neutral position, the generator field switch open, and the hand brakes applied, if the unit has them.
3. Overhead Crane Operation
- a. Consult procedure on Mobile/Overhead Cranes and Hoists. (See pages 52-57).
- b. Never attempt to get on and off a moving crane. Make sure the operator of the crane is aware of your desire to get on or off the crane, so the crane will not be moved while attempting to enter or exit the crane.
- c. Only authorized personnel will be allowed to ride on cranes during the operation. This will be in instances of training, trouble shooting for maintenance, etc.
- d. When riding on moving cranes, always have a firm grip on the handrails, so sudden surges or jerking motions will not cause you to fall. Further, take slow deliberate steps to insure secure footing and hold onto the handrail.

IX. OFFICE SAFETY RULES

A. The specific safety rules for offices in the Pasadena Plant are:

1. Do not open more than one drawer of a file cabinet at a time. The cabinet may tip forward. If practical, arrange the files so that the lower drawers bear the heaviest load.
2. File cabinets and desk drawers are to be kept closed except when in use. Do not store items on top of file cabinets.
3. Do not use chairs, desks, or other office furniture as stepladders. Always use an approved ladder or stool.
4. Do not lean too far back on chairs.
5. Do not use a chair as a means of transportation.
6. Use good posture while sitting. Prolonged sitting can tire your back. Get up and walk occasionally.
7. Do not sit on the front edge of the chair; sit well back on the seat.
8. Do not read while walking.
9. Walk - do not run - in the halls or the office.
10. Maintain work places in an orderly condition. Aisles and stairways must be kept free from all obstructions. Keep items such as paper clips, thumbtacks, rubber bands, pencils, etc., off the floor where they become a slipping hazard.
11. Be sure all office equipment and machinery is placed securely on desk stands.
12. Extension cords, telephone lines, etc., are tripping hazards. They must not be strung across aisles or walkways.
13. Watch your step, especially at doorways and blind corners.
14. Use extra caution ascending and descending stairs by using handrails, especially if you are wearing high-heeled shoes.
15. Remove any type of spilled liquid from the floor immediately.
16. Coffee machines and pots must be placed on a sturdy stand provided specifically for this purpose. Do not use a file cabinet.
17. Get help to handle heavy materials. Use a hand truck, if necessary. (See Material Handling Safe Work Procedures on page 77.)

18. Use staplers, paper-cutters, pencils, knives and scissors with care.
19. Never throw glass/cans with sharp edges or similar objects, in a wastebasket. Deposit these items in container that has been designated for them.
20. Never use a wastepaper basket as an ash tray.
21. In case of fire:
 - a. Know the locations and methods of operation of all fire fighting equipment in the building.
 - b. Know how to report a fire.
 - c. Have escape routes planned and know where to report once you are safe. Become familiar with emergency evacuation procedures posted on bulletin boards.

X. WAREHOUSE SAFETY RULES

A. The general safety rules for the warehouse are:

1. Wear gloves when handling lumber, broken glass, steel, and all types of material with rough or sharp edges.
2. Wear safety goggles when cutting cable or chain.
3. Hard hats and safety shoes or boots shall be worn at all times in all warehouse storage areas.
4. Do not operate any materials handling equipment unless you are trained, skilled, and have received permission to do so.
5. Do not use the fork lift for elevating workmen. (Refer to Safe Work Procedure for Fork Lift, pages 45-46).
6. Do not carry bulky items that obstruct your view.
7. Do not smoke in the storage areas.
8. Keep warehouse areas free of debris at all times.
9. Keep aisles clean leading to fire fighting equipment.
10. Hand-trucks, push-carts and material must not extend into the aisles.
11. Carefully check all incoming loads for possible load shifts and broken bands, prior to unloading.
12. Palletize material properly and band, if necessary, to eliminate toppling during movement to storage.
13. Do not stack material more than four (4) pallets high. Do not stack cable reels during movement to storage.
14. Lifting heavy objects incorrectly or unnecessarily can cause injury. Review material handling procedures thoroughly, and always apply the principals of safe lifting. (See pages 48-49).
15. When moving materials that have been stored outside, watch for insects and snakes.
16. Safe, proper methods must be used to stockpile materials, so they will not fall or cause some other pile to fall. Pipes should be wedged and chocked, and bags should be crosstied.
17. Flammable or hazardous material must be stored in proper containers and in flameproof cabinets.

18. Use a strapping cutter to cut metal straps. Do not break a strap by applying leverage.

19. Use only approved stairs or ladders. Do not climb on material, bins, racks or shelving.

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XI. HAZARDOUS CHEMICALS

Exposure of the skin or eyes to any toxic or corrosive chemical should be treated by irrigating with water for at least 15 minutes. Remove any affected clothing and do not put it back on until laundered. Report to the Medical Department immediately after irrigation.

A. Sulfuric Acid:

1. Hazards:

- Inhalation of concentrated mists or vapors from hot sulfuric acid can cause loss of consciousness with serious damage to lung tissue.
- If spilled on skin, it produces severe burns.
- If allowed to get into the eyes, it can cause loss of sight.
- Sulfuric Acid is a poison. It should never be allowed to get into the mouth.
- It dissolves cotton clothing whenever it comes into contact with it.
- Water should never be added to a container or vessel containing sulfuric acid.

2. Protective Measures

- Wear approved acid resistant rubber suits, chemical goggles, or faceshield and rubber gloves when working near sulfuric acid pumps, lines or storage tanks.
- If sulfuric acid is spilled and needs to be washed up, a great amount of water should be used. Remain a safe distance from the acid while washing it up and be sure to wear proper protective clothing (i. e. goggles or faceshield, acid resistant suit, rubber gloves and boots).

B. Anhydrous Ammonia

1. Hazards:

- Ammonia gas may cause irritation to the skin or mucous membranes. If may severely injure the respiratory mucosa and even be fatal.

- Anhydrous liquid ammonia causes severe burns on contact and evaporates readily, producing the effects described in 1 above.

- The explosive range of ammonia is 16% to 28% by volume in air.

2. Protective Measures

- Use respiratory protective equipment in areas where there is more than 25 ppm ammonia. In an emergency situation, the following respiratory protection equipment is available and should be used:
 - Self contained air pack, only if trained in it's use.
 - 5 or 10 minute escape masks.
 - Canister mask.
- If protective equipment is not available, refrain from breathing as long as possible and leave the area quickly. If necessary, take only short shallow breaths. You can minimize eye irritation and injury by keeping the eyes closed as much as possible and opening them only in a squint for brief periods. Hold a wet cloth over the mouth and nose. This is not adequate, but will give some relief.

C. Phosphoric Acid

1. Hazards

- Phosphoric acid causes drying of the skin and/or burns on contact. It does not cause immediate burning sensation on skin contact. In diluted form, it may cause skin irritation.
- Contact with the eyes produces irritation and eye burns, and may cause some permanent damage if not properly treated.
- If taken internally in concentrated solutions, it may cause local damage.

2. Protective Measures:

- Wear chemical goggles or faceshield whenever there is danger of phosphoric acid coming in contact with the eyes.
- Wear acid resistant, approved rubber suits and rubber gloves to protect the body from phosphoric acid.
- Know the locations of first aid kits.

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D. Other Hazardous Chemicals:

1. Hydrated Lime (slaked lime)

a. Hazards

This material is caustic and is irritating to the eyes, skin and respiratory tract.

b. Protective Equipment:

Wear goggles of faceshield, rubber gloves and a approved dust respirator.

2. Soda Ash (Sodium Carbonate)

a. Hazards

This material is irritating to the nose, throat, and eyes.

b. Protective Equipment:

Wear goggles of faceshield, rubber gloves, and a approved dust respirator.

3. Sulfur Dioxide

a. Hazards

Sulfur Dioxide is a gas that can cause irritation to the eyes and lungs. In prolonged or sufficient concentration it may cause chemical pneumonia. Excessive exposure to high concentrations (greater than 100 ppm) of Sulfur Dioxide can be fatal. 50-100 ppm is considered to be the maximum permissible concentration for exposures of 30-60 minutes.

b. Protective Measures

Use respiratory equipment in areas containing more than 5 ppm sulfur dioxide. In an emergency situation, the following respiratory protective equipment is available and should be used:

i). Self contained air pack, only if trained in it's use.

ii). 5 or 10 minute escape masks.

iii). Canister mask.

If protective equipment is not available, refrain from breathing as possible; leave the area quickly. You can minimize eye irritation and injury by keeping the eyes closed as much as possible and opening them only in a squirt or brief periods. Hold a wet cloth over the mouth and nose. This is not adequate, but will give some relief.

closed as much as possible and opening them only in a squirt or brief periods. Hold a wet cloth over the mouth and nose. This is not adequate, but will give some relief.

4. Chlorine

a. Hazards:

Chlorine gas is a strong irritant to the mucous membranes of the respiratory tract. In high concentrations, death may occur from suffocation or chemical pneumonia. Liquid Chlorine will cause extreme irritation and/or burns if it comes in contact with the skin or eyes.

b. Protective Measures

Use respiratory protective equipment in areas containing more than 1 ppm chlorine. In an emergency situation, the following respiratory protective equipment should be used:

i). Self contained-air pack, only if trained in it's use.

ii). 5 or 10 minute escape masks.

iii). Canister mask.

If protective equipment is not available, refrain from breathing as long as possible; leave the area quickly. If necessary, take only short shallow breaths. You can minimize eye irritation and injury by keeping the eyes closed as much as possible and opening them only in a squirt or brief periods. Hold a wet cloth over the mouth and nose. This is not adequate, but will give some relief.

5. Vanadium Pentoxide Catalyst

a. Hazards

Contact with this material results in slight irritation of the eyes and skin. Acute inhalation overexposure can cause respiratory irritation, coughing, wheezing, chest pain and bronchitis. Chronic overexposure may result in allergic skin reaction and dermatitis.

b. Protective Measures

Use an approved dust respirator, goggles, coveralls and gloves to prevent contact.

C. Medical Department Reporting

The following is a set of uniforma procedures that all Mobil employees must comply with when using the Medical Department Facility:

1. If an employee is injured or ill while at work, he/she must notify their supervisor before they leave their work area and go to the Medical Department, except in case of an emergency.
2. The Medical Department will check blood pressure for those employees being treated for hypertension. If they so request. They will also provide non-industrial treatment for minor ailments requiring aspirin, anti-acids, cold remedies, etc.
3. The Company physician will not treat personal illnesses. However, he will be available to discuss employees conditions with them, if they make the request in those instances where their condition is not improving, or they are seeking medical care from a specialist and need a referral.
4. Employees who are absent in excess of three (3) work days must have a written release from their medical doctor to give to their supervisor on returning to work.
5. All returns to work after an absence in excess of five (5) work days because of a medical reason, must return through the Medical Department and must have a written release from their medical doctor. This release must be for the resumption of regular job duties without any limitations.
6. Employee's must also return through the Medical Department if they are injured in a car wreck, have injured their back, have had surgery, or have been admitted to a hospital regardless of the time missed.
7. Where an employee has been frequently or excessively absent due to medical reasons, the Company may require the employee to furnish a written medical release from their personal physician and they must also return through the Medical Department before being released to work.
8. Employee's who are required to report to the Medical Department by sections 5, 6 & 7 (above) will be given a CO-1094 (Medical Evaluation Form) by the Company Doctor. This release will be signed by the Doctor and he will have rated the employee's condition as "A", which indicates that the Employee is released to work without any limitations. Employees with any other rating will not be allowed to return to work.

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XII. SECURITY AND LOSS PREVENTION

A Security officer is provided at all times to protect employees and property from present and anticipated threats of loss. Other physical security measures have also been taken; however, employee awareness and participation is the most important factor in any security and loss prevention effort. The following rules, regulations, and procedures are necessary for the protection of our operations.

- A. Theft, willful damage to, or unauthorized removal of property belonging to the Company or another employee, will result in severe disciplinary action. (See General Plant Rules).
- B. Any employee observing an individual or vehicle at an unauthorized place or any employee who observes an unusual circumstance at the facility, should report this to their immediate supervisor or member of the Plant Security Department.
- C. Employees who wish to borrow or remove Company owned material, scrap, tools, or equipment must obtain prior specific authorization from their immediate Supervisor.
- D. All visitors and vendors must register at the security office or the Admin Building lobby upon entering Company property and they will not be allowed to enter any work area without specific authorization from the Plant Manager or his designee.
- E. Employee parking facilities are provided on Company property. These facilities are for use by employees and authorized personnel only. All employees are required to display a vehicle identification decal on the windshield of their vehicle while parking in these areas. These decals may be obtained at the Security Gate from 8:30 A.M. to 4 P.M. Monday through Fridays.
- F. In certain areas, lockers are provided for employee's use. If the Company has sufficient reason to believe that a Plant rule or public law has been violated, an employee will be required to authorize a search of his/her locker.
- G. Upon leaving the Plant all employees are required to open lunch boxes, sacks, brief cases, etc. for inspection by security personnel, if requested by this person.
- H. Certain buildings and offices are for restricted use and must be kept locked during non business hours.

XIII. ACCIDENT REPORTING, INJURY TREATMENT AND MEDICAL DEPARTMENT REPORTING PROCEDURES

In addition to the other procedures contained in this manual, the following procedures on Accident Reporting, Injury Treatment and Medical Department Reporting must be adhered to by all employees.

A. Accident Reporting

1. An employee who is injured while at work must personally report the injury to his Supervisor as soon as possible, or as soon as possible after he becomes aware of his injury. This includes all injuries, such as puncture wounds, minor cuts, scratches, bruises, sprains, strains, and burns of any kind. The prompt treatment of every injury is of such importance to the well-being of each employee that disciplinary action will be taken if this reporting procedure is not followed. (See General Plant Work Rules).
2. Report all "near miss" incidents to your Supervisor immediately, even though no injury occurred.
3. Report all property and equipment damage incidents to your Supervisor immediately.
4. Report all fire incidents to your Supervisor immediately.

B. Injury Treatment

1. Flush chemical burns immediately with large quantities of water to wash away the chemical.
2. For chemical contact with the eyes; flush the eyes with running water for at least 15 minutes. If pain has not been relieved at that time, continue flushing eyes with water for 15 additional minutes. Immediate, thorough flushing with water is essential. Always flush the eyes with running water before taking an employee for medical assistance.
3. Always obtain medical treatment, after flushing eyes with water, in cases of acid or caustic contact with the eyes.
4. If the accident is of a serious nature, the injured person should not be moved until proper medical attention has been secured.
5. If an ambulance is required at the scene of the accident, a man must be posted to direct ambulance to the exact location.
6. Know the location of first aid kits and supplies.
7. Do not allow employees to crowd an injured person.