BABECO COMPANY POLICY MANUAL

(REV. 3-2010)

EMPLOYEE MANUAL & POLICY ACKNOWLEDGEMENT

The following acknowledgement should be read carefully. Please ask any questions if you do not understand the acknowledgement completely. The employee's signature on this form acknowledges his/her complete and full understanding of the orientation information. I understand this signed acknowledgement will be inserted into my personnel file. I acknowledge and agree that:

1. **THE POLICIES AND PROCEDURES SET FORTH IN THIS MANUAL PROVIDE GUIDELINES FOR MANAGEMENT AND EMPLOYEES DURING EMPLOYMENT, BUT DO NOT CREATE CONTRACTURAL RIGHTS REGARDING TERMINATION OR OTHERWISE. NO CONTRACTURAL OBLIGATIONS ARE CREATED BY THE DOCUMENTS. EMPLOYMENT WITH THE COMPANY IS ON AN AT-WILL BASIS, AND THE COMPANY RESERVES THE RIGHT TO CHANGE OR TERMINATE THE POLICIES AT ANY TIME FOR ANY REASON.**

2. I have been informed and do fully understand that my actions during employment are governed by the **BABECO Policies and Procedures**, which I have received and reviewed. I understand that I must review the **BABECO Policies and Procedures** any time I have a question. I understand that reading the Company's policies and procedures in the **BABECO Policies and Procedures Manual** is an important part of my job. I know that there are other policies and procedures at this company, and I understand that they are important to my employment with the company as well.

3. I understand that any and all behavior that violates a company policy, or in any way jeopardizes the safety of the person displaying the behavior, the safety of another employee, the safety of any person, or the integrity of company property is not permitted and may result in disciplinary action, up to and including termination if necessary.

4. I have been trained and do fully understand the physical requirements of my job and further, I have received and do understand proper lifting and moving techniques which I am expected to use in moving or lifting objects and otherwise performing my job. I have been informed and do fully understand that I am not encouraged to lift or transport any object by myself, unless I know that I can safely lift or transport the object by myself. If I believe there is no one readily available to assist me in lifting or moving an object, I am to wait until I can obtain assistance before moving it.

5. I have been informed and do fully understand that any injury claimed by me while on the job must be documented by an **Employer's First Report of Accident or Injury**, filed immediately by me after my injury, and that I must sign a medical records release for my employer to obtain medical reports. Every injury

occurring on the job, regardless of its severity, must be documented by this Report.

6. I understand that safety and the maintenance of a safe workplace is a full time job. I also understand that it is my duty to report unsafe or hazardous conditions and/or to safely and immediately remove any hazardous condition. I will do this for my own personal safety as well as for the safety of my fellow workers and the general public.

7. In the event of an occupational injury, I hereby authorize and release the health care provider(s) to allow my employer access to all the medical records concerning the diagnosis or treatment of the work-related illness, disease, injury, or medical condition, and to discuss any of these matters with my employer. Any copy of this authorization and release shall be as valid as the original.

_____	_____
Employee Name (Printed)	Witness Name (Printed)
_____	_____
Employee Signature	Witness Signature
_____	_____
Date Employee Signed	Date Witness Signed

INTRODUCTION

The policies and procedures set forth in this manual provide guidelines for management and employees during employment, but do not create contractual rights regarding termination or otherwise. No contractual obligations are created by the documents; employment with the company is on an at-will basis, and the company reserves the right to change or terminate the policies at any time for any reason.

We are firmly committed to providing each and every employee with a healthy and safe working environment. We have supplied you with an employee manual that covers many of the policies we have adopted to ensure a healthy and safe workplace. As a concerned employer, we are serious about our safety policies. Ignorance of a written or posted policy is no excuse for unsafe actions.

The information contained in this manual and the policies described are subject to change without notice. We may also enforce other rules, policies, and procedures in addition to, or different from, those contained here as may be necessary for a safe and efficient operation. You are expected to comply with all company policies or rules. Failure to do so may result in disciplinary action, including termination.

We may add supplemental material to this manual and/or provide further education and training for your health and safety. We reserve the right to modify, add, or delete any material in this manual as may be necessary for safe operations.

Please read all the information presented in this manual. If you have any questions regarding the manual or the policies we have posted or if there is any doubt concerning the safe performance of your job, you should ask your supervisor. You are expected to perform your job with safety as a top priority.

Employment is for an indefinite period and is subject to change in operating policies. Both you and the company have the right to terminate the employment relationship at any time, with or without cause.

BABECO is an equal opportunity employer, and we do not discriminate on the basis of race, color, religion, national origin, sex, age, physical or mental disability, or marital status. Confidential medical information and other personal information provided to the company will not be used for any discriminatory purpose.

WHEN YOU HAVE READ THIS MANUAL, READ THE ACKNOWLEDGEMENT FORM CAREFULLY, SIGN THE FORM AND RETURN IT TO YOUR SUPERVISOR.

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COMPANY POLICY

I. Operation Policy

A. Regular Working Hours: BABECO will normally maintain a forty (40) hour work week and will pay all employees time and one-half for all hours worked over forty (40) hours in any one work week. "Time and one-half" as used herein is construed to mean 1 1/2 times the regular hourly rate as used in computing that amount due for the first forty (40) hours worked in one week.

B. Work Week: BABECO's regular working week will begin at midnight Wednesday and end at midnight the following Tuesday so that the first regular working day of such week being the following Wednesday. There may be occasion wherein shift work is required and in such instance those employees affected by the same will be notified individually and their respective workweek will be defined by management as required by such shift work.

C. Work Hours and Work Days: For the purpose of identifying regular beginning and ending times, BABECO's minimum work day will begin at 6:30 AM Monday - Thursday and end at 5:30 PM (punch out on clock before washing hands) the same days unless otherwise demanded or necessitated by seasonal work loads and such change in regular working hours will be posted by management and each employee individually advised of the change. Management reserves the right to change these regular working hours as necessitated by virtue of the business of BABECO and so as to accommodate its customers and/or Company objectives.

Coffee Breaks: Morning - 9:00 AM to 9:15 AM
Afternoon - 3:00 PM to 3:15 PM

* You must work eight hours a day in order to be paid for coffee breaks and when you work on Saturdays you must work four hours to be paid for a coffee break.
* Coffee breaks must be taken on company premises.

Lunch: Lunch will be taken between 11:30 AM and 12:30 PM.

D. Pay Day: All employees will be paid bi-weekly by direct deposit on Friday of each period for those hours worked by such employee during the immediate preceding two weeks ending on Tuesday. Pay stubs should be picked up by the employee. If you must have your spouse pick up your pay stub, a signed and dated note must be brought in by spouse each time in order to protect you the employee. Pay stubs will be handed out by Management on Fridays. NO EXCEPTIONS. If you don't get your pay stub on Friday, you can pick it up in the office on Monday.

E. Paid Holidays: During each calendar year BABECO will recognize and pay the following holidays: New Year (January 1st), Memorial Day (last Monday in May), Independence Day (July 4th), Labor Day (1st Monday in September), Thanksgiving, and Christmas. BABECO reserves the right to recognize such additional holidays as it desires in its discretion. BABECO will post notice as to what days it will be closed for business or in observance of holidays. In order to receive holiday pay, an employee must work a minimum of eight hours the day before and eight hours the day after the holiday unless he has received prior approval from his supervisor to miss said day or days.

F. Paid Vacations: Each full-time employee of BABECO is entitled to a maximum of 40 hours vacation pay after one full year's service (must be taken). Such paid vacation may not be accumulated (use or lose) and the rate of pay to be used in determining the amount of such vacation pay will be construed as follows: For that vacation earned after one full year's service, the hourly rate used in computing the same will be the current hourly rate earned by such employee at the time. After 2 years of service, full time employees will receive two (2) weeks based on an average prior year work week paid, including overtime pay. One week must be taken. After fifteen (15) years of service, vacation time is three (3) weeks based on an average prior year work week paid, including overtime. Two weeks must be taken. In the event any employee desires not to take the extra week of vacation, but to continue working and be paid for the week in addition thereto, such privilege of working and drawing vacation pay also rest with the approval and at the discretion of management. Such privilege bestowed by the Company and at its option and is not a fixed right of the employee. Part-time employees will accrue vacation after two (2) years with the company and will be entitled to a maximum of 20 hours vacation time. After 10 years of part-time service, vacation time will be two (2) weeks average hours based on average prior year work week paid. Vacation must be taken. All vacation requests must be submitted in writing at least four (4) weeks prior to date vacation would start. Employee will be notified of action taken on his request as soon as possible. Early submission of request is encouraged. Bookkeeping will include 40-hour vacation pay to paycheck immediately preceding the vacation period or the end of the week of the vacation per request of employee.

G. Workmen's Compensation: State law requires that every employee must report any accident or injury on the job to his/her foreman immediately. If not reported, compensation or doctor and hospital bills may not be paid. Any employee who does not abide by this policy may forfeit his right to workmen's compensation benefits.

H. Medical Coverage: In addition to Workmen's Compensation, BABECO offers a major medical coverage plan to its employees and dependents. BABECO pays part of the cost for employee only. Dependent coverage may be included

and deducted bi-weekly from employee pay. Dependent coverage deduction begins immediately upon request and coverage is effective on 1st of following month of request provided a qualifying event has taken place. Insurance is in force 30 days after the first of the month from hire date or if added on future date, insurance effective when and if insurance company advises.

I. Probationary Period: During the first month of employment you will be observed closely by your supervisor to determine your aptitude for your assigned job, your attitude toward your co-workers, and your attendance. After the first month and during the next five months, you will continue to be observed closely by your supervisor to determine how conscientiously you carry through the duties assigned to you, your attitude, together with your record of punctuality and attendance. At the same time, you will have the opportunity to decide whether you like your new job and surroundings. At the end of your sixth (6) month, you will be considered a permanent full-time employee.

J. Safety: Safety shoes (steel toes) are required of all shop personnel. Safety shoes can be purchased from several sources. If necessary, you can purchase safety shoes from a BABECO approved vendor who will charge the shoes to BABECO. In this circumstance the employee will pay for them in 2 payroll deductions.

Safety glasses and/or side shields are also required of all personnel and they should be worn at all times. BABECO will furnish clear safety glasses. If an employee wishes to purchase prescription safety glasses, they can be paid for or charged to BABECO and paid for by the employee in 2 payroll deductions. BABECO will supply chemical resistant gloves for protection from coolants and solvents. They will be distributed by your supervisor. All other gloves (driving, welding, etc.) are to be supplied by the employee. Sleeveless shirts are not allowed. Sleeves should be approximately 5" long.

Electric 4 1/2" grinders will be used with hard disk only. (Hard disks will be supplied by BABECO only.) Electric 4 1/2" grinders will be used with guards on them at all times. Any removal of guard or use without them will be regarded as a Safety Violation and will be written up as one.

K. Maintenance: All machines are to be cleaned, washed, or wiped off after job completion or at the end of the workday. Work areas are to be cleaned up at the end of the workday, five (5) minutes before punching out.

L. Absenteeism: Employees who will be absent from work are required to call in between 6:30 and 7:00 AM daily or if extended absence, should contact the office a minimum of once a week. Excessive absenteeism is defined as two or more instances of unexcused absence in a calendar month. Such excessive absenteeism is subject to corrective discipline. Any seven instances of

unexcused absenteeism in a calendar year are considered grounds for discharge.

M. Tardiness: Excessive tardiness shall be subjected to corrective discipline or termination. Excessive tardiness is defined as three or more instance of lateness in a calendar month and is subject to corrective discipline. Any 9 instances of lateness in a calendar year are considered grounds for discharge.

N. Personal Telephone Calls: The number of calls received and the duration of such calls must be kept to a minimum. If Management determines that personal calls are excessive, messages will be taken and can be picked up in the office at 9:00 AM, Lunch, and 3:00 PM.

O. Miscellaneous: Charges to employee accounts for tools, steel job related equipment (maximum amount not to exceed 1 week take home pay) must be paid in 1 payroll deduction. Exceptions with management approval only.

All tools from Tool Room are to be received from Tool Room Manager. If Manager is not available, ask the Shop Foremen.

P. Employees are required to have all personal tools needed to perform his/her chosen occupation. BABECO will only replace employee's personal tools if said employee is asked to, or has to modify the tool in order to do a certain job. Normal wear and tear to tools is not covered by any replacement policy of the company.

II. Harassment Policy

A. BABECO Harassment Policy: BABECO Corporation is committed to providing a work environment, which is free of unlawful harassment and intimidation. Company policy prohibits harassment because of sex (including sexual harassment, harassment due to pregnancy, childbirth or related medical conditions and gender harassment) and harassment because of race, religion, color, national origin, medical condition, physical or mental disability, age or any other basis protected by federal, state or local law, regulation, or ordinance. **ALL SUCH HARASSMENT IS ILLEGAL.**

BABECO's anti-harassment policy applies to all individuals involved in the operation of BABECO, and prohibits unlawful harassment by an employee of BABECO including officers, supervisors and co-workers, or by any vendors or customers or to any vendors or customers and/or independent contractors and their employees.

Non-employee violators of this policy are subject to expulsion from BABECO's facilities when harassment occurs on company premises. BABECO may discontinue service to off-BABECO premise violators of this

policy. Furthermore, BABECO may report violators to the appropriate authority for civil or criminal action. BABECO prohibits retaliation of any kind against employees, who, in good faith, bring harassment complaints or assist in investigating such complaints.

B. Examples of Prohibited Unlawful Harassment: Prohibited unlawful harassment because of sex, race, religion, color, national origin, medical condition, physical or mental disability, age, marital status or any other protected basis includes, but is not limited to, following behavior:

- Verbal actions such as slurs, derogatory comments or jokes, epithets or unwanted sexual invitations, advances, or comments;
- Visual conduct such as sexually-oriented and/or derogatory photographs, posters, drawings, cartoons, gestures, e-mails, or web sites;
- Physical actions such as unwanted touching, assault, blocking another's way, or interference with work because of sex, race, or any other protected category;
- Threats or demands to submit to sexual advances or requests as a condition of continued employment, offers of employment or business benefits in return for sexual favors, or to avoid some other negative employment action; and
- Retaliation against any employee for making an allegation of harassment or for participating in such an investigation.

C. Sexual Harassment: BABECO seeks to assure that it maintains a workplace free of all types of unlawful harassment, including sexual harassment and intimidation. Sexual harassment is defined as "unwelcome" sexual advances, requests for sexual favors or other verbal or physical conduct of a sexual nature when:

- Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment; or
- Submission to or rejection of such conduct by an individual is used as a basis for employment decisions affecting such individuals; or
- Such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile or offensive working environment or interfering with normal terms of business.

BABECO has a zero tolerance policy for vulgar, abusive, humiliating or threatening language, practical jokes, or other inappropriate behavior in the workplace. BABECO will not tolerate the harassment of any employee or non-employee by another employee or non-employee, supervisor, manager or director for any reason. Harassment of a sexual nature is a violation of various state and federal laws, which may subject the individual harasser to liability for any such unlawful conduct.

D. Procedure for Reporting Harassment: Any employee, vendor or customer who believes that he or she is the victim of any type of harassment, including sexual harassment, should immediately report such actions to their supervisor, to any manager or corporate officer, to a human resources counselor, or to the director of human resources. If an employee's immediate supervisor is involved in the alleged harassment, it is unnecessary to make a report to that individual. Victims are encouraged to promptly report the alleged harassment within three calendar days of the offense. It is not necessary to file an informal complaint or a formal grievance to complain of sexual harassment. BABECO takes all complaints seriously and handles complaints as promptly, thoroughly, and confidentially as possible. BABECO will clearly inform the victim of his or her rights to assistance and how to preserve and protect those rights.

E. Investigating Alleged Harassment: BABECO will fully and effectively investigate any report of alleged harassment and will take appropriate corrective action depending on the severity of the conduct. This can include disciplining or discharging any individual who is found to have violated this prohibition against harassment. The complaining employee will be informed of the action taken. An employee who engages in acts of harassment contrary to BABECO's policy may be personally liable in any legal action brought against them.

Interviews, allegations, statements, and identities will be kept confidential to the extent possible and allowed by law. However, BABECO will not allow the goal of confidentiality to be a deterrent to an effective investigation, and it may be necessary to reveal certain information to various state or federal agencies or courts. Employees should also be aware that as an employer, BABECO has a duty to prevent and to correct harassment even when the complaining employee, vendor or customer asks that no action be taken and that the complaint be kept confidential.

No information related to the complaint or any investigation will be filed in the personnel files of the employees involved. Rather, these reports will be kept separately in the human resources department, and marked "confidential." At the end of each inquiry, the investigator will prepare a report that sets forth the dates that various witnesses and parties were interviewed, summarizes witnesses' statements, describes factual issues on which the parties disagree, offers the investigator's conclusions, and outlines the actions taken by BABECO.

If the investigation reveals that the harassment occurred, it will inform the parties that immediate and appropriate corrective action, up to and including termination, will be taken. The discipline will be proportionate to the severity of the conduct. The alleged harasser's employment history and any similar complaints of prior unlawful harassment will be taken into consideration.

Disciplinary measures may include counseling, sexual harassment or diversity training, suspension, transfer, demotion, or discharge. These remedial measures are intended to place the complaining employee, customer or vendor in the position in which he or she would have been had the harassment not occurred.

Exercising rights under this policy does not in any way affect the victim's rights to seek relief through the Texas Commission on Human Rights, the Equal Employment Opportunity Commission, or a court of proper jurisdiction for any complaint for which a remedy is provided under state or federal law.

F. Retaliation: BABECO will not tolerate retaliation against any employee, vendor, or customer for making an allegation of harassment or for participating in such an investigation. Retaliation in any form is prohibited. Any employee who violates this policy is subject to disciplinary action up to and including dismissal.

It is the responsibility of each BABECO employee to be aware of the foregoing policy.

III. Safety Policy

It is the policy of BABECO to provide a work environment, which optimizes the physical safety and well being of all employees by complying with all applicable federal and state regulation pertaining to occupational safety and health.

Specific goals of this policy include:

1. To achieve zero disabling injuries.

2. To promote early return to work if disabling injuries occur.

3. To reduce the frequency and severity of medical attention injuries and property damage incidents.

All members of management are responsible for the success of this policy and for implementing the safety program. The Executive Safety Committee members are Steven Hubnik, President; David (Bo) Mucha, Vice President; Glayton Adams, Safety Manager; Mary Jo Tschoerner, Office Manager; and Glenn Buchhorn, Sales Manager. The Executive Safety Committee is responsible for periodically evaluating the effectiveness of the safety program, for holding management personnel accountable for performance of their safety and health responsibilities, and for on-going promotion of company safety goals through awareness programs and scheduled training meetings. The Executive Safety Committee is also responsible for reviewing each *Incident Investigation Report*, analyzing applicable safety rules, making recommendations for prevention of recurrence and for communicating accident prevention information to all personnel on site.

The Safety Program Administrator is Glayton Adams, Safety Manager. The Safety Program Administrator is responsible for monitoring and ensuring that safety program record keeping requirements are met and for coordinating communications between the Executive Safety Committee and employees.

Safety Program members are responsible for conducting frequent site safety inspections, for notifying responsible management personnel of potential hazards or unsafe behaviors observed during inspections and for following up to ensure that appropriate corrective measures were taken.

All managers and supervisors are responsible for correcting identified hazards, for frequently monitoring conditions and behaviors that are critical to the prevention of injuries or illnesses, for training employees concerning safe work practices and for enforcing safety rules.

In addition, all managers and supervisors are responsible for ensuring that injured employees receive prompt and appropriate medical attention and that State-required injury reports are filed in a timely manner.

All employees are expected to conscientiously observe company safety rules. These rules are contained in the **BABECO Company Policy Manual**, posted notices, accident prevention guidelines discussed during safety meetings, materials distributed at employee meetings, standard operating procedures and additional safety policies that the company may develop as the need arises. These safety rules are to be observed in every phase of work. Individual jobs may have additional and specific safety guidelines that will be discussed and/or demonstrated by your supervisor.

All employees are encouraged to report potential hazards to appropriate management personnel immediately so that prompt corrective actions can be initiated. No employee will be subject to reprisal or retaliation for reporting unsafe conditions to management or outside enforcement agencies.

IV. Conduct

A. Every employee is expected to act in a manner that promotes a safe workplace for himself/herself, other employees, and visitors or the general public.

B. Certain acts or actions have a disruptive effect on the work environment. The following are examples of conduct or actions, which are <u>prohibited</u> and may be cause for immediate disciplinary action or termination.

1. Any conduct endangering the life, safety, or health of you, other employees, or the general public.

2. Horseplay or practical jokes that could result in injury, illness, or disruption of work.

3. Performance of duties in a careless or unsafe manner.

4. Failure to follow and obey company rules, regulations, policies, and procedures.

5. Repeated tardiness, unexcused absences, and abuse of medical leave.

6. Falsifying personnel or company records, including the employment application.

7. Deliberate or careless damage to company property, equipment, files, or materials.

8. Altering, removing, or destroying company property, records, or materials.

9. Failing to respect the confidentiality of company records and information.

10. Sexual harassment or unsolicited personal advances, verbal or physical, toward other employees or customers as per harassment policy.

11. Any unlawful conduct.

12. A physical altercation on company property or at a job site may be grounds for immediate dismissal of employee(s) involved.

13. Use of, possession of, or being under the influence of illegal drugs or alcohol on company premises or while performing duties for the company.

14. Use of or possession of firearms on company premises or while performing duties for the company.

15. Theft of company or other employee's property.

16. Engaging in any type of gambling on company time is prohibited, such as lottery, game boards, pyramids, etc.

C. Any other conduct that the management of the company believes is inappropriate or unsafe may be grounds for disciplinary action.

V. Accident & Incident Reporting

A. Definitions:

1. Incident: For purposes of this procedure, an "incident" is any situation or action, which causes or could cause property damage or injury.

2. Accident: An "accident" is defined here as an incident which resulted in an injury and/or property damage.

B. Incident Reporting Requirements

1. All incidents must be reported immediately to your supervisor, manager, or other authorized person immediately, regardless of whether the injury or damage was serious or minor in nature or whether it was a "near miss" that could have resulted in serious injury or damage.

2. **Failure to initiate an incident report may result in disciplinary action to the person(s) involved in the incident and/or any employees who witnessed the incident.**

3. Fill out an ***Employee Report of Incident*** as soon as possible, preferably before the end of the workday.

4. If you are involved in or are a witness to an incident, you must cooperate during the accident investigation process by providing accurate information about what you saw or heard or the events surrounding the incident.

5. An ***Accident Investigation Report*** form must also be completed by the appropriate supervisor as soon as possible following the incident. This report should be prepared by the supervisor, with the cooperation of employee(s) involved in the incident and any witnesses.

C. Work Related Injuries and Illnesses

1. Discipline Policies:
   a. No employee who suffers an occupational injury will be terminated for being injured on the job.
   b. An employee may be disciplined or terminated for a violation of a company safety rule that resulted or could have resulted in a serious injury to himself or herself or to another employee or visitor, or a significant amount of damage to company property.
   c. If, in the course of the incident investigation, it is determined that the injury/illness is not work-related, then it is the responsibility of the employee to reimburse the company for any and all payments made to them or to others on their behalf pursuant to the alleged work-related injury/illness.

d. Working for another employer or out of your home or other "moonlighting" is strictly prohibited during a medical absence from work, and will result in termination of employment.

e. Appropriate disciplinary action may be taken if an employee does not cooperate with company policies related to medical management:

(1) Except in a medical emergency, an employee must obtain written authorization for medical treatment signed by his/her supervisor or authorized company representative.

(2) An employee who has filed a workers' compensation claim must follow the recommendations of the treating physician with respect to:

(a) therapy and medications;
(b) consultation or referral; and
(c) return to work.

(3) An employee who is absent from work due to a job injury or illness must check in with his or her supervisor every day.

(4) The claimant must bring the required medical management form, ***Authorization for Medical Treatment***, back after each doctor visit.

(5) An employee who has been released by his or her attending physician to return to work is required to report back to work on the next regularly scheduled work day. Failure to do so is considered job abandonment and will result in disciplinary action or termination.

(6) An employee who has been released by his or her attending physician to return to work with medical restrictions must accept any light duty or modified duty position offered by the company that is within the medical restrictions specified.

D. Benefits for Work-Related Injuries or Illnesses

1. The benefits the company may provide to an employee with a work-related injury/illness include:

a. Payment of about 70% of regular wages, subject to statutory minimum amounts, beginning on the 8th day away from work and continuing until the employee returns to work or reaches maximum medical improvement.

b. Payment of wage loss is payable at the end of the week starting from the date of injury.

c. There is a waiting period in most states of seven days. The weekly benefits actually start accruing on the 8th day and are payable usually by the 14th day.

2. Payment of 100% of regular wages when employee returns to any work. In the course of an injury or illness you may be released by the treating physician to perform "light duty" or alternate work. Where it is

appropriate to the operation of the company, an alternate work position will be identified, and you will be assigned to this position. Reasonable attempts will be made to accommodate work restrictions, if possible.

3. Payment of appropriate medical expenses.

VI. Grievance Procedures

A. It is possible that at some point in your employment you may have a problem or complaint regarding safety procedures, policy violations or other situations. If this happens, the following steps should be taken:

1. Attempt to resolve the problem or issues through your immediate supervisor.
2. If this is not successful, it is the employees' responsibility to provide the next level of management with a written report of the grievance.
3. Management will review the grievance and recommend a solution.
4. If the matter remains unresolved, management will provide the appropriate forum to hear the employee's grievances in person.

B. The management of this company would like to emphasize the importance of attempting to work out the grievance if at all possible with your immediate supervisor. He/she is usually in the best position to assist you.

C. This company will not discipline an employee for filing a grievance if it is handled in the manner described above.

VII. Infractions and Disciplinary Actions

First Violation: Discuss the offense with the employee, emphasizing the consequences of the offense relative to the employee and/or fellow employees.

Second Violation: (Same Offense) Reinstruction and a written warning of the disciplinary action to be taken should the offense be repeated.

Third Violation: (Same Offense) - One-week suspension without pay.

Fourth Violation:(Same Offense) - Discharge.

The above listing is only a guide. Management may decide on alternative action depending on the seriousness of the situation and/or the total number of violations.

GENERAL SAFETY RULES

The following are general rules and are not an all-inclusive list:

I. General Health

A. Report any illness, off-the-job illness, infections, or use of prescription medications to your supervisor if it could adversely affect your performance or jeopardize the health or safety of others.

B. Use gloves or protective barriers to avoid contact with blood or other potentially infectious materials. If occupational exposure occurs in spite of precautions, contact the Safety Program Administrator immediately so that appropriate vaccinations may be obtained within 24 hours.

II. General Safety

A. If you observe a hazardous condition or an unsafe act, correct it if you can. If you cannot correct it yourself, report it to your supervisor.

B. Seek first aid or medical attention promptly for any injury. Report all incidents that result in injury or damage to your supervisor immediately.

C. Use mechanical aids to move heavy, bulky, or long items, or ask for help. Do not attempt to move these items without some form of assistance.

D. Do not engage in horseplay or practical jokes.

III. Preventing Slips, Trips, and Falls

A. Keep all walking surfaces clear of debris to prevent slips and falls.

B. Clean up spills right away.

C. Do not leave cords or hoses laying across aisles or passageways.

D. Use step stools or stepladders for access to high storage.

E. Do not stand on rolling chairs, tables, desks, boxes, or other furniture or materials that could contribute to a fall injury.

F. Hold the handrail while ascending or descending stairs. Avoid carrying heavy or bulky objects up stairs by yourself, get help.

IV. Safe Storage

A. Secure storage racks to prevent movement or inadvertent tipping that could result in injury. Place objects in storage in a stable manner so that they are not likely to fall into employees when retrieved.

B. Do not allow materials to accumulate in front of storage shelves or on top of equipment.

C. All storage must be rated for the weight stored and should be so marked. DO NOT OVERLOAD.

D. All gas cylinders must be secured individually in an upright position with the caps on, except during use with an approved gauge and regulator.

E. All liquids should be stored with similar liquids in appropriate storage areas.

V. Potentially Hazardous Materials

A. Limit quantities of flammable and combustible liquids kept in a work area if they are outside of an approved flammable liquids cabinet. Keep fuel and chemicals in approved containers that are appropriately labeled.

B. Read labels carefully and follow all instructions and warnings when using chemicals. If additional information is needed, consult the applicable Material Safety Data Sheet.

VI. Emergency Preparedness

A. Know the location of exits, fire extinguishers, electric panels, and emergency cutoff switches. Become familiar with the procedures to follow in the event of a fire or other emergency requiring evacuation of the building.

B. Do not place or store materials, furniture, or machinery so as to block the paths to required exits, fire extinguishers, electric panels, or other emergency equipment.

C. Learn how to use the portable fire extinguishers located near your work area.

VII. Machinery

A. Operate only the equipment you have been trained and authorized to use. Do not allow visitors or non-employees to use company-owned equipment.

B. Observe all manufacturers' recommendations for safe use of equipment. When in doubt, consult the operating manual or ask your supervisor.

C. Inspect all equipment before you use it to ensure it is in safe operating condition. If there is damage or a problem that may adversely affect safe operation, do not use it, mark it "out of service" and report it to your supervisor.

D. Never remove or inactivate any guard or safety device unless you are authorized to service or maintain equipment and have positively controlled all hazardous energy sources in accordance with company lockout/tagout procedures.

VIII. General Electrical Safety Rules

A. Do not substitute the use of extension cords or temporary wiring for permanent wiring to fixed electrical equipment. Temporary wiring extension cords may be used for limited periods of time, generally not to exceed 90 days.

B. All electrically energized parts must be properly protected from physical damage and moisture, must be enclosed, and must be secured and guarded against accidental contact. Report deficiencies in these areas to your supervisor.

1. Replace missing or broken receptacle covers.

2. Keep circuit breaker panel covers closed.

3. Guard any openings with exposed energized parts.

C. Ensure there is a ground prong on plugs to equipment or tools that were manufactured with a ground.

D. Only use grounded extension cords on portable equipment or tools that have a ground wire.

E. Portable electric equipment and flexible cords used in wet locations must have ground fault circuit interrupters. Do not allow water, moisture, or condensation to contact exposed energized electrical equipment.

BACK INJURY PREVENTION

I. Recommendations Based on Scientific Studies & Injury Statistics

A. Recommended Maximum Loads for Manual Material Handling

1. A reasonable amount of weight for repeated lifts for men is about 55 to 60 pounds because scientific studies have shown this is well within the capabilities of the average man.

2. A reasonable amount of weight for repeated lifts for women is about 30 to 40 pounds, based on the same kinds of studies.

3. If the weight of an object that must be routinely lifted is in the range of 50 to 100 pounds, someone should be assigned to that job who is capable of safely lifting about three times the average weight lifted.

4. If the weight of an object that must be routinely lifted is over 100 pounds, two people should lift it, both of whom can safely lift more than 100 pounds, in case the load shifts or one end is dropped.

B. If mechanical aids are available, they should always be used for heavy loads. If you are not sure whether you need assistance, then get assistance.

C. Avoiding Shock Loads on Spine:

1. When a heavy load is lifted, the forces acting on the spine are greatest when the object is first picked up and when it is released.

2. Dropping a load multiplies the stress on your lower back. When letting a load down, support its weight, if possible, and release it gradually.

D. Lifting Techniques to Reduce Injuries:

1. When lifting to minimize stress on the lower back:
   a. Your weight should be kept directly over you feet.

b. Keep your chin tucked in, your back straight and bend your knees.
c. Use the palms of your hands to increase the surface area grasped.
d. Pull the load in close to you.

2. More strain is placed on the lower back when the center of gravity of the load is farther from the center of gravity of the body. Keep loads close to you, and get a good grip.

3. To change directions, turn your whole body and avoid twisting because the spine is unable to tolerate high shear forces (torque).

E. Other Guidelines for Manual Material Handling:

1. The most difficult type of lifting for most people is one that is over the shoulder height.
   a. Whenever possible, arrange lifts to be in the area in which most people are strongest, at about table height.
   b. Frequently used items should be kept at lower levels in storage. Heavy items should not be stored at elevations unless stairs or portable steps are available to retrieve them in a safe manner.

2. When possible, push or slide a large load instead of lifting it.

3. To prevent falls, which may cause back injuries:
   a. Do not carry materials in your hands while climbing ladders.
   b. Do not use chairs or tables in place of a stepladder. Never stand on a rolling chair.
   c. Do not climb warehouse racks.

II. General Physical Fitness

A. Many studies have shown that people who are physically fit have fewer incidences of low back pain.

1. Exercise programs recommended by physicians often suggest walking at a brisk pace, swimming a mile or more, or participating in other sensible programs of regular exercise that will increase your heart rate and general fitness level.

2. Exercise sessions should last 15 to 20 minutes or more and should be scheduled 3 to 4 times per week or more.

B. A program of stretching and back strengthening exercises recommended by your doctor will reduce the likelihood of suffering a back injury and will contribute to better overall health. A program of exercises to reduce the

incidence of back injuries usually includes exercises designed to improve strength and flexibility of your back, abdomen, and legs.

III. When to Seek Medical Care

A. Most episodes of low-back pain can be managed without medical care. Simple measures, such as applying heat to the low back with a heating pad or soaking in a hot tub, gentle stretching of the back, the use of over-the-counter medications, such as Ibuprofen and mildly reducing lifting or bending activities get most people through their episode of a backache.

B. Certain signs or symptoms are cause for alarm and should prompt you to seek medical attention:

1. Severe pain, or significant pain that does not improve at all in 3-4 days.

2. Pain down the back of a leg or arm, especially if the pain extends into the foot or hand.

3. Numbness or tingling in a leg, foot, arm, or hand.

4. Weakness of a leg, foot, arm, or hand.

5. Difficulty in passing your urine or having a bowel movement.

IV. Correct Posture

A. Good posture provides muscular support for the spine and generates less stress on parts of the back that are frequently susceptible to injuries. Try to avoid maintaining any particular position for extended periods of time. Changing positions frequently helps reduce episodes of low back pain.

B. Sitting:

1. When sitting, sit up straight with the back supported.

2. Use a small pillow or other material as a lumbar roll behind your lower back. Do not slump or sit too long.

3. Vary your position time to time by standing and bending to stretch in the opposite direction.

4. Work at a comfortable height that does not make you slouch or reach for your work. Adjust chair height so knees are at hip level.

C. Standing:

1. When standing for long periods, you should wear comfortable shoes with arch support. If possible, alternate standing and sitting on a high stool, or elevate one foot on a box, step, or other object.

2. When standing or walking, tuck in your buttocks and tighten your abdominal muscles, as if you were balancing a book on your head.

D. Sleeping:

1. Most people with chronic back pain find that sleeping on one side with knees bent or flat on their backs with knees elevated are the most comfortable positions.

2. Firm support for the back while sleeping reduces incidence of pain.

E. Posture While Lifting and Carrying: Maintain good posture with head up, knees bent, abdominal muscles tightened, and weight as close to your body as possible.

CARGO SAFETY

I. If you load cargo incorrectly, it can be a danger to others and to yourself. Other highway users could hit or be hit by loose cargo. Loose cargo can hurt you during a quick stop or crash. Your vehicle can be damaged by overload and steering can be affected badly if you do not load the cargo correctly.

II. Whether or not you load and secure the cargo yourself, you are responsible for:

A. Inspecting your cargo.

B. Recognizing overloads and poorly balanced weight.

C. Knowing your cargo is securely tied down or covered.

III. If you intend to carry hazardous material that requires placards on your vehicle, you will also need to have a Hazardous Materials endorsement.

IV. Inspecting Cargo

A. As part of your pre-trip inspection, check for overloads, poorly balanced weight, and cargo that is incorrectly secured.

B. Inspect the cargo and its securing devices again within 25 miles after beginning the trip. Make any adjustments needed. Check the cargo and securing devices as often as necessary during a trip to keep the load secure. Inspect again:

1. After you have driven for 3 hours or 150 miles.

2. After every break you take during driving.

C. Federal, state, and local regulations of weight, securement, cover, and truck routes vary greatly from place to place. Know the regulations where you will be driving.

V. Weight and Balance

A. It is your responsibility to prevent overloading. Here are some definitions of weight you should know:

1. **Gross vehicle weight (GVW).** The total weight of a single vehicle plus its load.

2. **Gross combination weight (GCW).** The total weight of a powered unit plus trailer(s) plus the cargo.

3. **Gross Vehicle Weight Rating (GVWR).** The maximum GVW specified by the manufacturer for a single vehicle plus its load.

4. **Gross Combination Weight Rating (GCWR).** The maximum GCW specified by the manufacturer for a specific combination of vehicles plus its load.

5. **Axle Weight.** The weight carried to the ground by one axle or a set of axles.

6. **Tire Load.** The maximum safe weight a tire can carry at a specified pressure. This rating is stated on the side of each tire.

7. **Suspension systems.** Suspension systems have a manufacturer's weight capacity rating.

8. **Coupling device capacity.** Coupling devices are rated for the maximum weight they can pull and/or carry.

B. Legal Weight Limits

1. You must keep weights within legal limits. States have maximums for GVWs, GCWs, and axle weights. Limits are set by a bridge formula, which permits less maximum axle weight for axles that are closer together. This is to prevent overloading bridges and roadways.

2. Overloading can affect steering, braking, and speed control. Overloaded trucks have to go very slow on upgrades. Worse, they may gain too much speed on downgrades and stopping distance increases. Brakes can fail when forced to work too hard.

3. During bad weather or in mountains, it may not be safe to operate at legal maximum weights; take this into account before driving.

C. Don't Be Top-Heavy: The height of the vehicle's center of gravity is very important for safe handling. A high center of gravity (cargo piled up high or

heavy cargo on top) means you are more than likely to tip over. It is more dangerous on curves or if you have to swerve to avoid a hazard. It is very important to distribute the cargo and keep it as low as possible. Put the heaviest parts of the cargo under the lightest parts.

D. Balance The Weight: Poor weight balance can make vehicle handling unsafe. Too much weight on the steering axle can cause hard steering. It can damage the steering axle and tires. Under loaded front axles (caused by shifting weight too far to the rear) can make the steering axle weight too light to steer safely. Too little weight on the driving axles can cause poor traction and the drive wheels may spin easily. On flat bed vehicles, there is a greater chance that the load will shift to the side or fall off.

E. **High center of gravity** means that much of the load's weight is carried high up off the road. This makes the vehicle top-heavy and easy to roll over. Liquid tankers are especially easy to roll over. Tests have shown that **tanker's can turn over at the speed limits posted for curves. Take highway curves or on ramp/off ramp curves well below the posted speeds.**

VI. Securing Cargo

A. **Blocking** is used in the front, back, and/or sides of a piece of cargo to keep it from sliding. Blocking is shaped to fit snugly against cargo and is secured to the cargo deck to prevent cargo movement.

B. **Bracing** is also used to prevent movement of cargo and goes from the upper part of the cargo to the floor and/or walls of the cargo compartment.

C. **Cargo Tiedown**

1. On flatbed trailers or trailers without sides, cargo must be secured to keep it from shifting and falling off. In closed vans, tiedowns can also be important to prevent cargo shifting that may affect the handling of the vehicle. Tiedowns must be of the proper type and proper strength. The combined strength of all cargo tiedowns must be strong enough to lift one and one-half times the weight of the piece of cargo tied down. Proper tiedown equipment must be used, including ropes, straps, chains, and tensioning devices (winches, ratchets, clinching components). Tiedowns must be attached to the vehicle correctly (hook, bolt, rails, rings).

2. Cargo should have at least one tiedown for each 10 feet of cargo. Make sure you have enough tiedowns to meet this need. No matter how small the cargo is, it should have at least two tiedowns holding it.

3. There are special requirements for securing various heavy pieces of metal. Find out what they are if you are to carry such loads.

VII. Header Boards

A. Front-end header boards ("headache racks") protect you from your cargo in case of a collision. Make sure the front-end structure is in good condition. The front-end structure should block the forward movement of any cargo you carry.

VIII. Covering Cargo

A. There are two basic reasons for covering cargo, (1) to protect people from spilled cargo and (2) to protect the cargo from weather. Spill protection is a safety requirement in many states. Be familiar with the laws in the states you drive in.

B. You should look at your cargo covers in the mirrors from time to time while driving. A flapping cover can tear loose, uncovering the cargo, and possibly block your view or someone else's.

C. You cannot inspect sealed loads, but you should ensure that you do not exceed the gross weight and axle weight limits.

IX. Oversized Loads

A. **Over length, over width, and/or over weight loads** require special transit permits. Driving is usually limited to certain times. Special equipment may be necessary such as "wide load" signs, flashing lights, flags, etc. Such loads may require a police escort or pilot vehicles bearing warning signs and/or flashing lights. These special loads require special driving care.

CRANES AND HOISTS

I. Portable Hoisting Tools (Come-Alongs and Block & Tackle)

A. Chain-Type and Cable-Type Lever-Operated Chain Hoists:

1. Lever-operated hoists have one hook attached to the gear housing and one at the end of the lifting chain or cable. They range in capacities from 1/4 ton to 6 tons. The lever-operated hoist can be used in vertical lifting, pulling of binding on any plane, and in tugging heavy objects.

2. With cable-type lever hoists, the cable wheel must be latched to hold tension on a load.

3. The chain-type lever-operated hoist is commonly called the "come-along." Chain-type hoists have built-in brakes to secure a load at any time that pulling has ceased.

4. Pulling or releasing is accomplished by a ratchet movement of the hand lever. Only a small amount of leverage is required to operate the lever, even under tension. Therefore, if it takes two men to crank the hand lever, the hoist is overloaded for the job.

5. Do not use cable-type lever hoists if the cable is frayed or damaged.

B. Chain Block Hoists:

1. Chain block hoists are designed primarily for vertical lifting. The lifting hooks on the housing and chain are tempered but can be bent or partially straightened and should therefore be provided with a safety clip latch to prevent hooks from being dislodged.

2. Before making a lift with the chain block, be sure the load is rigged properly and the lift area is free of personnel traffic.

3. To hoist, pull the hand chain downward with repeated overhand tugs until the load is in the desired position. The load automatically stays in place as

soon as the chain pull stops. Attempt to make all lifts vertically true to prevent a shifting, swaying load and undue wear on the hoist.

C. Grip Hoists:

1. The grip hoist is a multi-purpose wire rope hoist for lifting and pulling that is not limited to a fixed length of pull or lift because of its continuous feeding system.

2. Most models of grip hoists have a swivel hook attached to the housing to hold the grip hoist in place.

3. The grip hoist with a telescopic handle works in any position for lifting and pulling, whether vertical, horizontal, or diagonal.
   a. By means of a rope or chain, secure the swivel hook mounted on the housing to a beam, rafter, tree, pipe, or any object stout enough to reinforce the pulling of the hoist. Feed the wire rope into the housing at the opposite end from the hook until there is enough cable inside for the jaws to grab. Using the telescopic handle, work the hand lever back and forth (as you would a car bumper jack) in long, steady strokes until the wire rope is taut.
   b. A built-in braking mechanism holds the grip hoist automatically even with a load. To release tension, throw the travel lever in the opposite direction. Always check to be sure the wire rope used with the grip hoist is not frayed or damaged in any manner.
   c. A good practice is to use a shackle block as the upper part of a pair of tackle blocks and a hook block as the lower part. A shackle is much stronger than a hook of the same size and the strain on the upper block is much greater than the lower one. The lower block supports only the load. The upper block carries the load as well as the hoisting line. A hook is more convenient on the lower block because it can more readily be attached to or detached from the load.

II. Cranes & Overhead Hoists

A. Lift Operations Personnel:

1. **Only designated and qualified personnel shall operate a crane or overhead hoist.**

2. Cranes will not be operated by any personnel when they are physically or mentally unfit. Crane operators should notify their supervisor of temporary or permanent changes to having good hearing, good visual acuity, and depth perception and must be well coordinated.

3. All crane operators, signalmen, and tag line crew must be familiar with standard signaling practices and must consistently use only the standard signals accepted by this company.

4. Operators shall not wear loose fitting clothing or jewelry that can be caught in moving parts of the equipment.

5. All operators are responsible for controlling safety before moving a crane with a load.

B. Pre-Use Safety Inspection and Procedures:

1. All functional operating mechanisms, air and hydraulic systems, chains, rope slings, hooks, and other lifting equipment and safety of all conditions relating to the lift must be visually inspected each day in accordance with our company's ***Lifting Equipment Checklist.***
   a. Check cables for:
      (1) broken wires
      (2) kinks or "Bird Caging"
      (3) wear, abrasion
      (4) corrosion
      (5) Improper reeving

   b. Check slings for:
      (1) wear abrasion
      (2) cuts/tears
      (3) heat damage

   c. Check chains for:
      (1) cracked links
      (2) stretched links
      (3) excessive wear
      (4) bent, deformed links
      (5) heat damage

   d. Check hooks for:
      (1) cracks
      (2) wear
      (3) excessive throat opening
      (4) twist
      (5) sprung/missing safety latch

   e. Check for the following:
      (1) out-of-date preventive maintenance inspection
      (2) capacities/controls not labeled
      (3) malfunction of controls

(4) improper braking or traveling
(5) improper spooling or anchoring
(6) malfunction of upper or lower limit switches
(7) damage or leakage of air and hydraulic lines
(8) malfunction of warning devices (lights/alarms)
(9) missing bolts, pins, guards, etc.
(10) lack of proper lubrication
(11) cleanliness of all components

2. The operator shall test brakes each time a load approaching the rated load is handled. The brakes shall be tested by raising the load a few inches and applying the brakes.

3. When it is necessary to tag equipment out of service due to defects impairing safe operation, the operator shall notify his/her supervisor and/or the Maintenance Department of any repairs and adjustments required and shall also notify the operator of the next shift, if applicable.

4. Check the weight of the load against the capacity of the crane/hoist and components. Do not lift a load in excess of the crane/hoist capacity!

5. Operate all controls to make sure they are working properly. If not, do not proceed.

6. Test the limit switch by first raising the hook block slowly and then at full speed.

7. Position hook directly over load, with two wraps or more left on drum. Do not side load!

8. Attach the load to the load block hook by using slings or approved devices. Ensure slings are seated in the saddle of the hook, not on the tip. Never wrap the hoist rope around the load.

9. Ensure tag lines are used when necessary to control positioning of the load.

10. Check hoist cable before lift is performed. Do not wrap the hoist cable around the load or allow the cable to become kinked or twisted!

11. Assure that there is no slack on the drum or the load block and no loose gear on load.

12. Prior to lifting materials, ensure that they are secured, bound, shrink-wrapped, or stacked in a manner that will eliminate the possibility of them slipping or falling.

13. Make certain the load can be lifted in a secure, stable position and that it will not fall off the load block hook.

14. Check and watch all hitches before signaling to move a load.

15. Clear all non-essential personnel and make sure rigging and load will clear all obstacles.

C. Safe Operating Practices for Cranes and Overhead Hoists:

1. Prior to lifting material or equipment, the crane operator shall ensure that no personnel are in the area over which the lift is being made.

2. The operator shall not hoist, lower, swing, or travel while anyone is on the load or hook

3. Respond only to signals from the person directing the lift, unless it is a stop signal.

4. Lift all loads slowly. Do not subject lifting gear to shock loads! Move and lower load carefully.
   a. Avoid multiplying the stress on lifting components due to sudden acceleration or deceleration of the moving load.
   b. Do not allow the rope to become fouled or jammed, either on the drum or by jumping a sheave.

5. Do not use limit switches, end stops, or bridge bumpers as operating controls.

6. While operating the crane, the operator shall not engage in any practice, which will divert his/her attention.

7. The operator is prohibited from leaving his/her position at the controls while the load is suspended.

8. The operator shall do the following before leaving the crane unattended:
   a. Land any attached load, lifting magnet, or other device.
   b. Disengage the clutch and move controls to the OFF position.
   c. Set all locking devices and secure the crane to prevent accidental travel.

9. Remove any lifting equipment from the crane before any welding on the load so that the crane will not be utilized as a ground.

III. Inspection Criteria - Wire Rope (cranes, hoists, and slings) -

A. Because a wire rope is essentially a machine, it is subject to break-down "failure" like any machine. The following are indicators that you may observe in the inspection you may perform. Should you observe any of these conditions, affix a Rejected Tool Tag on the equipment and contact your immediate supervisor for corrective action.

B. A qualified inspector shall be notified to perform a thorough inspection of the wire rope to determine if the condition(s) observed warranty rope replacement.

C. BROKEN WIRES - Broken wires are common and can be occasionally found in any wire rope used. This does not necessarily constitute a basis for rope replacement; however, should you observe numerous broken wires in a strand or within one rope lay, then the wire rope should not be used.

D. ROPE STRETCH - Rope stretch may be caused from overloading or loss of core support. Should you observe this condition, do not use the wire rope.

E. CORROSION - Excessive corrosion can be more dangerous than wear. Should you observe corrosion, do not use wire rope.

F. INSUFFICIENT LUBRICATION - Wire rope shall have sufficient lubrication in order to prevent friction. Do not use wire rope if you observe a dry, cracking cable.

G. CRUSHED, FLATTENED, OR JAMMED STRANDS - Do not use wire rope if these conditions are observed. Notify a qualified inspector.

H. REDUCTION IN ROPE DIAMETER - Any marked reduction in rope diameter is a critical. It may be the result of excessive abrasion, loss of core support, or corrosion. Do not use wire rope, if you observe possible rope diameter reduction.

I. WORN AND ABRADED WIRES - Wear due to friction on sheaves, drums, parts, etc. will eventually cause the outer wires of a hoisting cable or wire rope sling to flatten. If you observe any of these indicators, do not use the wire rope.

J. BIRD CAGING, KINKS, CORE PROTRUSION, AND HEAT DAMAGE - Do not use if any of these conditions are observed.

IV. Inspection Criteria - Chains - Do not use if any of the following conditions are observed:

A. ELONGATED OR STRETCHED LINKS - When links are severely stretched, they tend to close up.

B. BENT, TWISTED, OR DAMAGED LINKS - The presence of any crack, regardless of size, means that the chain is subject to failure.

C. EXCESSIVE WEAR, GOUGED, SCORES, OR CUTS

D. CORROSION - Do not use chain if severe corrosion, resulting in chain pitting, has occurred.

E. HEAT DAMAGE - Do not use chain if you suspect that it has been exposed to temperatures above 900 degrees Fahrenheit.

V. Inspection Criteria - Hooks

A. Hoist load hooks and hooks used on slings shall be given a thorough visual inspection prior to use, which may reveal a need for a qualified inspector to perform an added inspection for possible conditions that warrant hook replacement.

B. A qualified inspector shall be notified to perform a thorough inspection of the hook(s) to determine if the condition(s) warrant replacement.

C. EXCESSIVE WEAR, CRACKS, TWISTS, AND/OR BENDS - These conditions, if observed, may indicate a hook that should be removed from service. Severe twists or bends may indicate an overload condition, which may have an effect on the entire sling, crane, or hoist. Do not use equipment if these conditions are observed.

VI. Inspection Criteria - Slings (Nylon)

A. Check slings prior to each use and take slings out of service that show one or more of the following:

1. I.D./Rating tag illegible/missing.

2. Red "Warning" fibers showing.

3. Any cuts or burns that make the sling unsafe to use.

DRIVING SAFETY

I. Fleet Safety Policy

A. The company's name and reputation rides with each driver of a vehicle used for company business. As a representative of this company, you have a responsibility to be a courteous and safe driver and to ensure that the vehicle you are driving on behalf of the company is in safe operating condition.

B. Because driving speed multiplies physical forces, speed limits must be observed. Defensive driving techniques must be utilized to counteract potential hazards of unpredictable driving behavior by other people.

C. If your position requires you to drive a company vehicle, insurability may be a condition of your employment.

D. Personal Vehicle Use on Company Business:

1. Employees who operate their own vehicles on company business are required to carry adequate limits of collision liability insurance.

2. Employees who use their own vehicles on company business on a regular basis in those states that have no annual vehicle inspection law must allow their vehicles to be inspected on request by the location manager.

3. Employees should not take members of their families on business trips unless approved in advance by management.

4. A ***Traffic Accident Report*** form should be obtained from the office and placed in the employee's glove compartment.

5. All drivers are responsible for the payment of any and all traffic citations they receive.

II. Reporting Citations and Accidents

A. All employees should immediately report to their immediate supervisor or manager any traffic citations while driving company vehicles and/or any

vehicle accident involving a company vehicle or the employee's vehicle on company business.

1. Each accident or citation on company business will be investigated by management.

2. If damage results to a company vehicle, a ***Traffic Accident Report*** must be completed by the driver.

3. Employees must cooperate in providing information related to driving incidents so that relevant accident prevention information can be communicated to all employees.

B. A company driver who is at fault will be held accountable for "preventable" accidents in accordance with our Policy Violation Warning procedure.

1. A preventable accident is defined as "any incident involving a vehicle which results in property damage and/or personal injury, in which the driver in question failed to do everything he reasonably could have done to prevent the occurrence."

2. If you are ticketed or if you violated company safe driving policies, you may be subject to disciplinary action.

3. License suspension while on company business may be grounds for dismissal.

C. If you are involved in an accident while on company business, the following procedures apply:

1. Move your vehicle out of the way of traffic and completely off the road, if possible. If you are injured, ask the first responder to call for an ambulance.

2. If others are injured and you are able to assist them, apply first aid if you have received first aid training.

3. Contact the necessary authorities (police, fire, ambulance) and the appropriate supervisor at BABECO. If you cannot leave the scene, have someone make the call for you.

4. Fill out a ***Traffic Accident Report*** at the scene, if possible. If not possible to complete the report, at least obtain names and addresses of witnesses and information about the other driver(s) and vehicle(s).
   a. Remain courteous and non-confrontational. Do not become involved in arguments with other drivers or witnesses.

b. Do not admit guilt. Do not make any statements regarding cause or fault.
c. If the other party admits responsibility for causing the accident, write down what they said. Get a signed statement, if possible.

III. Avoiding Common Causes of Accidents

A. Traffic Accident Statistics:

1. The two leading causes of fatalities in Texas are substance abuse (drugs and alcohol) and speeding.

2. According to the Texas Department of Public Safety, the five leading causes of crashes in our state are:
   a. Driving under the speed limit.
   b. Failure to yield the right of way.
   c. Driving under the influence of drugs and/or alcohol.
   d. Disregard to stop and go signals.
   e. Following too closely.

B. Common Driving Errors: Some common driving errors identified in a study by the National Safety Council include:

1. Improper lookout, such as:
   a. Pulling into a street from an intersecting street or driveway without checking left, right and then left again;
   b. Pulling out to pass without turning your head to check blind spot;
   c. Pulling out of a parking space looking only in the mirror and not turning to look back.

2. Inattention or internal distraction, such as:
   a. Adjusting the radio, tape player, or CD player;
   b. Talking on a mobile phone;
   c. Combing hair or applying makeup;
   d. Eating or drinking while driving.

3. Improper evasive action or improper maneuvering, such as:
   a. No attempt to steer around impending crash or unsuccessful steering due to slamming on the brakes and locking up the front wheels;
   b. Turning from the wrong lane, turning right on red without stopping first or proceeding straight in a turn lane;
   c. When the light changes to green, turning ahead of oncoming traffic in a turn lane;

d. Accelerating or braking too fast or turning too quickly.

4. Inadequate defensive driving techniques, such as:
   a. Following too closely;
   b. Failure to maintain a "space cushion,"
   c. or failure to yield when an accident is imminent.

IV. General Driving Rules

A. Safe Condition of Vehicle

1. At the beginning of each shift, inspect your vehicle for safe condition. If any defects are noted or if there are any fluid leaks underneath the car, take care of necessary maintenance in a timely manner. Check the following:
   a. Tires (proper inflation and good tread),
   b. Sufficient engine oil and water,
   c. Clean front and rear windows,
   d. Adjustment of mirrors and seatbelt, and
   e. Operation of critical equipment such as steering, brakes, lights, signals, and reflectors.

2. Keep your dashboard and seat clear of objects that could become projectiles in the event of a collision.

3. Company vehicles must be kept clean and orderly, with no accumulation of trash or debris.

B. Seat Belts

1. You are expected to wear your lap belt and shoulder harness at all times while operating your car on company business.

2. Passengers in your car are also required to wear seatbelts while you are on company business.

C. Traffic Laws and Signs:

1. Obey state and federal traffic laws at all times and observe all traffic signs and signals.

2. Do not exceed posted speed limits.

D. If you inadvertently pass a delivery location, never back up on the traveled portion of a street or highway.

E. Do not pass another vehicle within 100 feet of an intersection, railroad crossing, bridge, viaduct, or tunnel.

F. Do not pass on the right by driving off the paved portion of the highway. In Texas you are permitted to pass on a paved shoulder when the vehicle you are passing is slowing or stopped on the main traveled portion of the highway or is preparing to make a left turn.

G. It is unlawful for a driver to leave a vehicle unattended without first stopping the engine, locking the ignition, removing the key and effectively setting the brake. When the vehicle is on a hill or slope, the front wheels must be turned toward the curb or side of the roadway.

V. Company Policies

A. Never carry unauthorized persons in your vehicle. Unauthorized passengers include family members, friends, hitchhikers, or other unauthorized employees.

B. Always lock the doors of a company vehicle when it is parked.

C. Alcohol or illegal drugs in your vehicle or possession will result in immediate termination.

D. Reports of unsafe conduct on the highway may result in disciplinary action. Complaints about your driving may result in an unsatisfactory performance report in your personnel file.

E. You must report loss of driving privileges or suspension of your driver's license to your supervisor immediately. Driving on company business with a suspended or revoked license is cause for termination of employment.

VI. Defensive Driving Techniques

A. Stay alert at all times! Scan well ahead for immediate threats, developing situations and potential problems, such as stalled vehicles, animals, pedestrians, cyclists, farm and construction equipment, accidents, debris, etc.

1. Prioritize actions to safeguard people. Be prepared to react appropriately to perceived collision hazards by means of braking, steering, accelerating, or stopping.

2. Pull over or stop at a safe place if you are unable to concentrate on the driving task, such as when it is necessary to consult a map or when physical problems distract attention from driving.

B. Safety comes before right-of-way. There are certain rules to help determine the right of way; but if the other driver doesn't follow these rules, a collision may result. Always yield the right of way unless you are sure the other vehicle has yielded to you and you have the legal right of way.

C. After stopping for a red light or a stop sign, wait to proceed through an intersection until you are sure all other cross traffic will stop. Turn your head and look to the left, then to the right, and again to the left before proceeding.

D. Maintain a "space cushion" around your vehicle to enable you and the drivers behind you to react quickly enough to take actions necessary to avoid a collision.

1. Maintain at least two seconds between your vehicle and the car in front of you.
   a. Never "tailgate" the vehicle in front of you.
   b. It takes about 188 feet to stop a car at 50 miles per hour and about 272 feet to stop at 60 miles per hour.

2. If a vehicle pulls in front of you, reduce your speed until you have restored your space cushion.

3. On multi-lane highways attempt to keep maneuvering space for your car to your right and left sides. Look for a safe way out in the event you have to swerve to avoid a collision.

4. When your vehicle is being tailgated, you should either:
   a. Restore your space cushion by speeding up,
   b. Allow the person to pass, or
   c. Pull off the road.

E. Slow down and increase your following distance when hazardous road conditions are present, such as slick road conditions, driving in rain, ice, dense fog, hail, snow, or lanes closed ahead for construction work. If conditions become sufficiently dangerous, exit or pull off the road. Slow down for curves and exit ramps and before making turns.

F. Check your mirrors frequently so that you are aware of changing traffic conditions around you. Before changing lanes, turn your head and look to be sure there is no vehicle in your blind spot.

1. Do not assume that traffic to your right will be going slower than you. It is permitted to pass on the right on multi-lane highways in many places in Texas.

2. On a six-lane highway, when two vehicles both want to make a lane change into the middle lane at the same time, the vehicle in the left-most lane (fast lane) has the right of way, and the vehicle in the slow lane must yield.

G. Be sure there is adequate clearance from fixed objects:

1. To the side of your vehicle (columns, mailboxes, light poles, trees, etc.);

2. Overhead (i.e. parking garages);

3. Before backing up, make a "safety circle" around your vehicle to be sure you will not hit anything.

H. Use a spotter whenever possible when backing up a large vehicle. When a spotter is not available, turn around and look through the rear window in the direction you are backing to improve your visibility instead of relying only on your mirrors.

VII. Emergency Situations

A. Tire Blowout:

1. Keep a firm grip on the steering wheel and slowly take your foot off the accelerator.

2. Slowly decrease your speed and steer cautiously onto the shoulder as far off the road as possible. Avoid turning sharply or slowing down too fast as this could result in loss on control of your vehicle.

3. Turn on your hazard warning lights and set your parking brake. Raise your hood to indicate car trouble to passing motorists.

4. Change the tire or call for assistance.

B. Skid: If your car starts to skid when your tires lose their grip on the road surface due to poor tire condition or due to driving too fast for slippery road conditions:

1. Don't jam on the brakes. Take your foot off the gas pedal.

2. Turn your steering wheel in the direction of the skid. As you recover, gently straighten the wheels.

C. Brake Failure:

1. If your brakes fail, shift to a lower gear, if possible, and apply your parking brake cautiously so that you do not lock the brakes and throw your car into a skid.

2. Put on your hazard warning lights and try to pull off the road, preferably on the right side shoulder or other safe stopping place.

D. One or Two Wheels on Shoulder:

1. Do not drive while your attention is distracted, while you are drowsy or under conditions in which it is difficult to see. If one or both wheels on one side drop off the road onto the shoulder at a different grade, a sudden turn of the steering wheel could send you across the road in an uncontrollable manner and involve you in a collision before you have a chance to react.

2. To maintain control of your vehicle, slow down and steer gradually, not sharply, back into the road.

E. Jump Starting a Dead Battery:

1. Make sure the disabled vehicle and the rescue vehicle are not touching each other.

2. Do not allow ends of jumper cable to make contact with each other during installation or removal.

3. Set the hand brake of the disabled vehicle. Turn off the ignition and all accessories (air conditioner, radio, lights, etc.). Put the car in neutral or park.

4. Attach one end of the jumper cable to the terminal of the discharged battery that is connected to the starter switch or solenoid. Note whether it is positive or negative. (It is often the positive terminal, but not always.) "Red" color or "+" is positive while "Black" color or "-" is negative.

5. Connect the other end of the same jumper cable to the corresponding terminal post on the booster battery.

6. Attach the other clip to the opposite terminal of the booster battery.

7. Make the last connection to a good ground on the engine block of the disabled vehicle, as far from the battery as possible, such as the alternator mounting bracket.

8. Turn on the ignition of the disabled vehicle. If it does not start immediately, start the engine of the rescue vehicle to avoid excessive drain on the booster battery.

9. After the battery has been recharged and the vehicle starts, remove the cable connections in the reverse order in which they were connected:
   a. Remove the connection to the engine block.
   b. Remove the other end of that cable.
   c. Remove the connection to the other terminal of the booster battery.
   d. Remove the last connection to the recharged battery.

DRUG-FREE WORKPLACE POLICY

The purpose of this policy is to provide a drug and alcohol-free workplace, which will help maintain a work environment that is safe and productive for all employees.

I. Drug-Free Workplace Policy

A. Terms: "company premises" or "company property" for purposes of this policy includes all property owned, leased, used or under the control of BABECO. This includes, but is not limited to, the job site of a customer, structures, buildings, offices, vehicles, facilities and installations.

B. Prohibited Actions: The following actions will result in disciplinary action and/or termination.

1. The company prohibits the use, possession, selling, manufacturing, distributing or transporting on its premises any of the following:
   a. Illegal drugs, inhalants used illegally, prescription drugs not used for legitimate medical reasons as prescribed by a physician, or unauthorized alcoholic beverages.
   b. Equipment and paraphernalia related to illegal drug or substance use.

2. The use, sale, possession, distribution, manufacture, or transfer of controlled substances on non-working time.

3. Reporting to work, working, conducting company business, being on company premises, or being in a company owned or leased vehicle while under the influence of alcohol, illegal drugs, or while in an impaired condition.

C. Prescription Drugs: Employees may maintain prescription drugs and "over-the-counter" medications on company premises provided they report the use of such drugs that may impair safe job performance to their supervisor and:

1. The drugs are prescribed by an authorized medical practitioner for current use (within the past twelve months) of the person in possession and are limited to one day's supply or are kept in the original container.

2. The company may consult with a doctor to determine if the drug produces effects that impair an employee's ability to work safely.

D. Investigations:

1. All employees, as a condition of continued employment, have an obligation to cooperate with any company investigation of a suspected

drug-free workplace violation. Failure to cooperate in any such investigation will result in disciplinary action up to termination.

2. Searches may be conducted as part of an investigation by the company at any time. Searches may include, but are not limited to the following: personal effects such as briefcases, purses, motor vehicles, etc., and company provided property such as lockers, desks, offices, etc.

II. Drug and Alcohol Testing Policy

A. Testing Policy: Because of the importance of the drug-free workplace policy, BABECO may require drug and/or alcohol tests in the following circumstances.

1. **Reasonable Cause**: Employees who exhibit characteristics of being under the influence of drugs or alcohol.

2. **Post-Accident**: Employees who are involved in or contributed to an on-the-job incident that requires medical treatment or results in property damage.

3. **Random**: Employees to be tested and date/time of testing will be selected randomly. Each employee will have an equal chance of being selected for testing at every test.

These tests will be performed at our designated physicians' offices or our designated lab. An employee that tests positive may request a second test within 24 hours at his or her own expense. Test results are kept confidential and may be provided to the employee upon written request.

B. Non-Compliance with Testing Requirements:

1. Employees who refuse to sign the ***Authorization for Drug and Alcohol Testing*** form or who refuse to be tested may be terminated.

2. Employees who refuse medical treatment will not be excused from the testing requirement and may be terminated for doing so.

3. Employees who tamper with samples or otherwise interfere with the actual testing procedure will be terminated.

C. Disciplinary Action for Positive Test Results:

1. When an employee voluntarily admits that he/she has a problem related to dependency on drugs or alcohol:

a. *1st Offense*: Completion of a company-approved rehabilitation program.
b. *2nd Offense*: May result in immediate termination.

Admission based on the timing of the employee's drug test or made in an effort to avoid detection of illegal drugs will be considered the same as detection by testing.

2. When use of illegal drugs or alcohol is detected by testing, it may result in immediate termination.

D. Rehabilitation Requirements:

1. The employee must take a leave of absence without pay and complete an approved rehabilitation program at his/her own expense. Failure to complete the program will result in termination.

2. The company will perform follow-up testing before and after the employee returns to work to ensure the employee remains drug free. A second positive test will result in termination.

ELECTRICAL SAFETY

I. Electrical Safety Instructions for All Employees

A. Report defective electrical equipment immediately; DO NOT USE DEFECTIVE ELECTRICAL EQUIPMENT!

B. Report broken or separated conduit or flexible connections.

C. Report missing covers and accessible openings in controls, damaged receptacles, and exposed energized parts immediately, in order to prevent:

1. Inadvertent contact by employees with exposed energized parts;

2. Combustible dust from contacting a potential ignition source;

3. A possible ignition source for flammable vapors or gases.

D. Keep electrical equipment CLEAN.

E. Keep insulation on electrical equipment INTACT.

F. Keep electrical panel covers and motor starter covers CLOSED.

1. Do not open the covers of motor starters to try to prevent the overload relay heater elements from tripping in hot weather.

2. Consult an electrician if continual overheat conditions exist. It may be necessary to install some form of cooling or ventilation.

3. Continued opening of equipment covers will expose you to live parts inside the equipment.

4. Dust can enter opened equipment and interfere with its operation or create a fire hazard.

5. All breakers in every box must be identified by function.

G. Keep electrical conduit and junction boxes SECURED.

H. Keep the path to ground CONTINUOUS.

1. Do not break off the ground on a plug or use equipment when this condition is discovered until it has been repaired.

2. Do not connect an extension cord without a ground to equipment that is required to be grounded.

3. Report any broken grounds on motors or other machinery.

4. Conduct periodic continuity checks of all three-wire cords & equipment.

I. Do not use temporary wiring or extension cords on a long-term basis in place of permanent wiring that meets National Electric Code requirements.

J. Do not subject flexible wiring or extension cords to physical damage.

1. Do not staple flexible wiring or extension cords to the wall.

2. Do not place flexible wiring or extension cords in walkways or driveways where it will be run over by forklifts or vehicles.

3. Do not run flexible wiring or extension cords through holes in walls, ceilings, or floors or through doorways, windows, or similar openings, except for temporary use.

II. Avoiding Increased Risk of Electric Shock or Overheating

A. Allow circuit breakers time to cool off before resetting.

1. Reset circuit breakers ONE TIME ONLY.

2. If the breaker trips a second time, look for the cause of the overload before resetting the breaker.

B. Ask questions if you don't understand how the equipment operates.

C. Recognize and avoid electric shock hazards:

1. Do not operate electrical equipment that is wet or while standing on a wet surface or while wearing wet boots or while your hands are wet. It substantially lowers your electrical resistance (making you a better conductor of electricity) and makes you far more susceptible to electric shock.

2. Do not touch any exposed energized parts or exposed wires where insulation is damaged.

3. No work may be done near electric transmission or distribution wires until the electric utility company has been contacted and the work area has been made safe in accordance with their instructions or with their assistance,

unless the work is such that the longest conductive object he or she may contact (including any vehicles or mechanical equipment such as a crane) cannot come closer than ten feet to any unguarded overhead line energized at 50,000 volts (phase to ground) or below, or any closer than 25 feet to any line energized at more than 50,000 volts.

4. Conductive materials and equipment that are in contact with any part of an employee's body (especially long conductive objects such as pipes and ducts) shall be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts.

5. Electrically conductive cleaning materials (such as steel wool, metalized cloth, silicon carbide) and conductive liquid solutions shall not be used in proximity to electrical parts, unless procedures are followed to prevent electrical contact.

D. No employee is allowed to disable an electrical safety interlock, except for a qualified electrician on a temporary basis during authorized repairs.

E. Portable electrical equipment shall be handled in a way that will not damage it. Do not raise or lower equipment by its cord.

EMERGENCY PREPAREDNESS

I. Fire

A. Types and Operation of Fire Extinguishers

1. Types of Fire Extinguishers
   a. Class A Extinguisher (for use on wood, paper, rags, and rubbish)
   b. Class B Extinguisher (for use on flammable liquids)
   c. Class C Extinguisher (for use on or near energized electrical equipment)
   d. Class D Extinguisher (for use on combustible metals)

2. Operation of a Typical Fire Extinguisher
   a. Remove fire extinguisher from hook, case, or shelf.
   b. Be sure to stand at least 10 feet away from the fire.
   c. Pull pin from handle (usually located at base of handle closest to body of extinguisher)
   d. Aim hose or nozzle of extinguisher slightly to one side of the base of the fire. Be aware that most models of dry-chemical extinguishers have a high-pressure discharge; it is important to be careful not to aim the initial discharge directly into the burning area, as it may cause the fire to spread.
   e. Squeeze trigger to release extinguishing agent.
   f. For best results, use a fanning action, beginning well in advance of the burning edge and going well beyond the burning edge on each side, attempting to expose all burning areas to the extinguishing agent.

3. All fire extinguishers have been checked and made current. Fire extinguishers are kept current by Taylor Fire & Safety Supply, Taylor, Texas. Contact name: Bobby Copeland (512) 352-7429.

B. Discovery of a Large Fire

1. No employee shall place his/her life in jeopardy in an attempt to save property.

2. No employee should attempt to fight a large fire with a portable extinguisher.

3. **Whenever a large fire is discovered, life safety must be the first and foremost concern. The fire alarm must be sounded and the building must be evacuated immediately according to company procedures.**

C. Discovery of a Small Fire

1. If a small fire is discovered, an employee who knows how to use a portable fire extinguisher should attempt to put the fire out.

2. When an employee observes a fire in its initial stages, he or she should take the following action:
   a. Yell "Fire!" and go to or instruct someone to go to the closest fire alarm pull station, activate the fire alarm, and then call 911 or the emergency number for the Fire Department.
   b. Get the closest fire extinguisher and use as instructed. If the fire is not extinguished with one fire extinguisher, evacuate the area immediately.
   c. The emergency phone number (911) is posted on each facility map.
   d. If the building is not equipped with a fire alarm system, then the employee who discovers the fire must report it to the Incident Commander. The Incident Commander will be responsible for announcing the evacuation in the appropriate manner. The message should be repeated at least three times. A prerecorded message may be used that is repeated continuously.
   e. Evacuate the building.

II. Evacuation Procedures

A. Evacuation Routes: All employees are advised to leave the facility using the nearest exit.

B. Designated Meeting Place:

1. Employees who evacuate the building should meet at the southeast corner of the property by the main gate.

2. **Whenever anyone sounds a fire alarm, all personnel are to immediately leave by the nearest exit and go to the designated meeting area where each person must report in to their supervisor or manager.**

3. **No one is allowed to go back into the facility until the Incident Commander gives the "all clear" report.**

4. No employee is permitted to leave the scene until authorized to do so by the Incident Commander.

5. Only fire fighters will enter a fire area to search for missing persons.

6. The Incident Commander is responsible for coordinating all communications and emergency response activities with Evacuation Wardens and with the Fire Department, emergency medical services personnel and police who may respond to the scene.

7. The Incident Commander is responsible for issuing the "all clear" report and announcing that personnel may re-enter the building when it is safe to do so. The Incident Commander is also responsible for sending personnel home if it is not safe to re-enter the building.

III. Medical Emergency

A. **If an employee or visitor experiences a heart attack, stroke, diabetic emergency, or other medical emergency while on our premise:**

1. **Someone should call 911 or the posted number for Emergency Medical Services immediately.**
   a. When calling 911, request an ambulance and emergency medical services (EMS). Describe the medical emergency and presence or absence of vital signs, if known.
   b. Stay on the telephone until EMS indicates they have all the information they need. Follow any instructions given by EMS.

2. **Someone should call the Incident Commander** and a designated first aid provider, if available. The following personnel have received First Aid and CPR Training:
   a. Greg Young
   b. David Eschberger
   c. Bob Kerzee
   d. Raymond Knapek

IV. Tornado

A. Characteristics of Tornados:

1. Tornado 'weather' can be hot, sticky days with southerly winds and a threatening, ominous sky. Thunderstorm clouds are usually present.

2. An hour or two before a tornado, top-heavy clouds appear. The clouds often have a greenish-black color.

3. Rain and hail may precede the tornado, and heavy rainfall may also occur after it has passed.

4. Tornadoes, in most cases, move from a westerly direction, usually from the southwest.

5. Tornadoes travel about 25 to 40 miles per hour with wind speed estimated as high as 500 miles per hour within the tornado.

B. Tornado Watch:

1. A tornado watch is issued by the Weather Bureau when a tornado is expected in or near the area.

2. A tornado warning is issued when a tornado has actually been sighted. The tornado warning will state where the tornado was sighted, where the tornado is expected to move, and when it is expected to affect the area warned.

C. Response Procedures:

1. In the event a tornado approaches our facility, remain inside and stay away from doors and windows.

2. Call the Weather Service to report it as soon as it is safe to do so.

3. **Do not open doors or windows** because winds entering the building can be extremely dangerous and can cause extensive damage.

4. Retreat to your designated shelter area:
   a. This area should be next to a bearing wall, preferably in the corner of the building that is toward the tornado.
   b. In a reinforced building, shelter areas may include the basement of a building, an inner hallway on the lower floor, or a similar location, which is away from windows.
   c. A large room with wide, free span roof shall not be used for shelter.

5. Listen to the radio for the latest tornado advisory information.

V. Gas Leak

A. Fuel gas supplied in tanks or gas lines is odorized so that any persons in the vicinity may detect a leak readily.

B. In the event any person detects a gas leak, it must be reported immediately to notify your supervisor and contact the gas company, Taylor Butane Company (512) 365-5249 or (512) 352-5248.

VI. Hazardous Material Spill

A. In the event there is a spill of a material or liquid that is hazardous due to its flammability, reactivity, toxicity, or adverse environmental impact, the employee who witnesses or discovers the spill must first post a co-worker at a safe distance to prevent access to the area of the spill and must then notify their supervisor.

B. All persons who are not designated responders are to stay clear of the spill site.

C. Only persons who have been properly trained and who are wearing the appropriate personal protection equipment are allowed to respond to control and contain a spill or leak of a potentially hazardous material.

FIRE PREVENTION PLAN

I. Potential Fire Hazards

A. List of Major Workplace Fire Hazards: The types of fire hazards that may be expected include the following:

1. *Ignition sources*:
   a. Electrical ignition sources, including alternating current (a/c), direct current (d/c), and discharges of lightening, static electricity, or capacitors.
   b. Lighted cigarettes or cigars, matches, and lighters.
   c. Heat producing equipment such as heaters, furnaces or boilers, welding/cutting apparatus, ovens or dryers, stovetops, or burners.
   d. Improper storage of hazardous materials that will react with each other, such as acids and caustics or oxygen cylinders and readily oxidizable materials or oil and grease.

2. *Materials that may accelerate a fire*:
   a. Accumulations of flammable or combustible liquids in portable containers or cylinders, such as:
      (1) LP-gas or propane;
      (2) oxygen and acetylene cylinders;
      (3) paint or solvents;
      (4) aerosol spray can with flammable propellants and other products that are labeled flammable or combustible.
   b. Tanks of flammable or combustible liquids (such as 55-gallon drums of hydraulic oil in shop area)

II. Control of Ignition Sources

A. Electrical Ignition Sources:

1. Do not overload circuits.

2. Do not use extension cords on a long-term basis instead of permanent wiring.

3. Do not subject electric cords to damage by allowing a file cabinet or heavy object to rest on top of a cord, by stapling a cord to the wall, by closing a door onto a cord, or by placing a cord under a rug where damage cannot be seen.

4. Keep electric panels closed so that a fault caused by lightning or a line voltage surge will be contained within the closed cabinet.

5. Ensure that all 55-gallon drums or larger tanks of flammable liquids are grounded and that portable metal containers into which flammable liquids are dispensed are electrically bonded to the drum or tank to prevent static electricity from igniting flammable vapors.

6. For additional precautions, refer to the Electrical Safety section of this manual and the electrical section of our Lockout/Tagout procedures.

B. Smoking Policy:

1. Smoking is restricted to designated areas inside the building.

2. Smoking is prohibited within 35 feet of where flammable or combustible liquids are used or stored and where there are accumulations of combustible materials or other materials that would accelerate a fire.

3. A portable fire extinguisher should be readily available where smoking is permitted inside buildings.

4. Proper metal receptacles for used smoking materials should be conveniently located where smoking is permitted.

C. Heat Producing Equipment:

1. No flammable or combustible liquids, nor any compressed gas cylinders, may be stored within 35 feet of heat-producing equipment.

2. If all flammable or combustible materials cannot be removed within 35 feet of a welding/cutting operation, then the materials must be covered with fire-resistive materials, or fire-resistant barriers must be used to prevent ignition of combustibles.

3. Suitable fire extinguishing systems and/or approved portable fire extinguishers must be readily available in the immediate vicinity of heat-producing equipment.

D. Use of Non-Sparking Tools: Whenever an employee is assigned a task involving the use or clean up of flammable or combustible liquids or combustible dusts, and/or when flammable or combustible residues or vapors may be present in the work area, non-sparking tools must be used.

E. Proper Storage of Hazardous Materials:

1. Refer to Material Safety Data Sheets provided by manufacturers of potentially hazardous materials to ensure that materials that are incompatible are not stored together. Materials that can react chemically

with each other or that burn more rapidly when they are combined must be separated in storage by at least 25 feet and must not be stored near exits or paths to required exits.

2. Acids and caustics must be separated in storage by at least 25 feet. Acids or caustics are not allowed to be stored near organic materials nor where they may get wet.

3. Oxidizers and readily oxidizable materials must be separated in storage by at least 25 feet.

4. Oil is not allowed to be stored near flammable liquids.

5. Oxygen and acetylene cylinders must be separated in storage by a distance of 25 feet or by a five-foot-high wall with a minimum fire resistance rating of one hour, unless used or connected for use and secured on a dolly.

III. Control of Materials That Could Accelerate a Fire

A. Life Safety Code Requirement: As a general principle, materials that could accelerate a fire must not be located near required exits or paths to required exits. Whenever this is not possible, there must be at least two means of exit remote from each other so that no one is required to exit past materials or equipment that represent an increased fire risk.

B. Separation and Protection: Materials that could accelerate a fire must be separated from potential ignition sources, and portable fire extinguishers must be readily available.

C. Spill Precautions: There must be provisions to contain or collect any significant spill from the tank or dispensing unit.

D. Large Fire Loads:

1. Where storage areas are protected by automatic sprinkler systems, storage is not permitted within 18 inches of a sprinkler head since this would interfere with effective water distribution in the event of a fire.

2. Stacks of wooden pallets stored inside buildings must be limited in height to five feet or less. If this results in inadequate space, then pallets may be stacked outside without height limitations, provided that they are kept at least ten feet from the building.

3. No storage of combustible materials is permitted within six feet of heat-producing equipment.

E. Flammable and Combustible Liquids:

1. *Approved Containers*: Only approved portable containers, such as metal safety cans, will be used for flammable and combustible liquids. Safety cans prevent dangerous buildup of pressure inside the containers by means of safety relief devices and are equipped with flame arresters to prevent inadvertent ignition from static electricity or other sparks.

2. *Prevention of Spontaneous Combustion*: When rags or paper products are used to clean up oil, grease, or other combustible waste materials that could be subject to spontaneous combustion, they must be collected in an approved, self-closing metal can and disposed of on a daily basis.

3. *Allowable Quantities of Flammable/Combustible Liquids in Work Areas*:
   a. No more than 25 gallons of flammable liquids and no more than 120 gallons of flammable and/or combustible liquids are permitted in any one fire area of a building. A fire area is defined as an area separated from other areas by fire-resistant construction, such as doors and walls, with a fire-resistance rating expressed in hours.
   b. If it is necessary to store more than the allowable quantities of flammable and combustible liquids in one fire area, they must be stored in an approved flammable liquids cabinet or an approved flammable liquids storage room.

4. *Allowable Quantities in Inside Flammable Liquid Storage Rooms*:
   a. There may be 5 gallons per square foot of floor area in inside storage rooms if the walls have a 2-hour fire resistance rating.
   b. There may be 2 gallons per square foot of floor area if the walls have a one-hour fire resistance rating.
   c. If the room has sprinklers, the above-referenced quantities may be doubled.
   d. Electric wiring in inside storage rooms containing Class I flammable liquids must be approved for Class I, Division 2 Hazardous Locations. If only Class II and III combustible liquids are stored inside a room, the electrical wiring and equipment may be the type that is approved for general use.
   e. There must be at least six air changes per hour in inside storage rooms for flammable and combustible liquids.
   f. In every inside storage room there must be maintained one clear aisle at least three feet wide. Containers over 30 gallons' capacity are not allowed to be stacked on top of each other.

5. *Allowable Quantities of Flammable/Combustible Liquids in a Warehouse*:
   a. Class IA, 660 gallons and no more than 12 containers per pile
   b. Class IB, 1375 gallons and no more than 25 containers per pile
   c. Class IC or II, 4125 gallons and no more than 75 containers per pile

d. Class III, 13,750 gallons and no more than 250 containers per pile.

6. Physical damage to flammable liquid containers with a forklift truck must be positively prevented by means such as:
   a. Handling only stable loads on pallets that have been shrink-wrapped or banded or boxed.
   b. Using special attachments for safely handling drums.
   c. Limiting speed of the forklift truck to less than 5 miles per hour.

7. Refueling of a forklift with LP-gas shall not be done inside a building.
   a. No more than three spare LP-gas cylinders may be kept inside a warehouse building.
   b. LP-gas cylinders are not permitted to be stored within 25 feet of any exit or path to a required exit.
   c. Additional cylinders that are needed must be kept in a locked cage outside the building at least ten feet from the building and from any combustible materials.

8. Where there is a permanently mounted LP-gas tank on site, there shall be no combustible materials stored within 15 feet.

IV. Fire Protection Systems and Maintenance Requirements

A. Portable Fire Extinguishers:

1. Suitable portable fire extinguishers are located as required throughout company facilities. Most portable fire extinguishers are general purpose (ABC), but some may be special purpose (rated BC) for flammable liquids or electrical equipment exposures.

2. All personnel are required to know the locations of fire extinguishers in their areas and how to operate them in case of an emergency.

3. Although the Maintenance Supervisor is responsible for inspecting and maintaining all fire extinguishers, any employee who observes any of the following conditions should report it immediately to supervisor:
   a. Discharged extinguisher
   b. Blocked extinguisher
   c. Extinguisher that has been removed from its brackets
   d. Damages, dented or corroded extinguisher

B. Maintenance of Heat Producing Equipment: The Maintenance Department inspects and maintains all heat producing equipment to ensure that fire hazards are adequately controlled. If an employee observes any ignition hazards from heat producing equipment, report it immediately to the Maintenance Department.

GOOD HOUSEKEEPING

Each worker is responsible for keeping his or her work area clean and for putting away all papers, tools, and equipment at the end of each workday.

I. OSHA Regulations - Company employees are responsible for complying with applicable Occupational Safety and Health Administration (OSHA) safety standards for housekeeping, including the following excerpts from 29 CFR 1910.22:

A. All places of employment, passageways, storerooms, and service rooms shall be kept clean and orderly and in a sanitary condition.

B. The floor of every workroom shall be maintained in a clean and, so far as possible, dry condition. Where wet processes are used, drainage, false floors, platforms, mats, or other dry standing places should be provided where practicable.

C. To facilitate cleaning, every floor, working place, and passageway shall be kept free from protruding nails, splinters, holes, or loose boards.

D. Where mechanical handling equipment is used, sufficient safe clearances shall be allowed for aisles, at loading docks, through doorways and wherever turns or passage must be made. Aisles and passageways shall be kept clear and in good repair, with no obstruction across or in aisles that could create a hazard.

E. Pedestrians should avoid walking in aisles that are marked for forklifts.

II. Prevention of Trip and Fall Hazards

A. <u>Work Areas and Walkways</u>:

1. All walking surfaces must be kept clear of obstacles, loose papers, debris, tools, cords, hoses, and banding materials.

2. Clean up spills promptly. Even a small spill of water or motor oil onto a floor can cause extremely slippery walking surface that could result in falls.

3. Do not open more than one drawer of a file cabinet at any time. Close all drawers when not in use.

III. Control of Physical Hazards

A. Contact Hazards:

1. For purposes of this section, "contact hazards" are objects which can hit you or that you can bump into, such as materials that are unstable in storage or projections into walkways. Correct or report potential hazards.

2. Be observant in storage areas for materials that may fail due to instability of shelves or overloading, crushing, or improper balance of weight.

3. Shelves that are overloaded may show signs of bowing and must be relieved of excess weight. Load limits should be posted and observed.

4. Cardboard boxes or wood pallets that are crushed or damaged by heavy objects on top of them may suddenly collapse and cause a heavy object to fall into the aisle. Loads on defective pallets should be repalletized and the defective pallets should be discarded or removed from service until repaired.

5. Materials or equipment stored so that it overlaps the edge of a rack or table may fall if it is accidentally dislodged by material handling equipment or personnel. Position materials so they are unlikely to fall.

B. Other contact hazards are objects that project into walkways, such as pipes or low ceilings. Physical hazards should be eliminated, if possible, or should be conspicuously marked with yellow paint or yellow and black caution signs.

C. Cut Hazards:

1. Sharp or pointed tools should be carried in tool pouches or cases, not in pockets.

2. The cutting edge of a knife or razor edge of a utility tool should always be pointed away from you while cutting or slicing.

3. Put away tools with sharp edges so that they are not likely to cause cuts when retrieved from storage.

4. The blade of a paper cutter must not be raised when not in use.

5. Remove metal bands on palletized loads after cutting the bands, or tape the ends, or place them under the pallet in such a way as to prevent sharp edges from projecting into aisles or walkways.

6. Machines and power tools must have guards that will prevent any part of the operator's body from entering the danger zone. Guards must be in place before the machine or power tool is used.

IV. Housekeeping for Fire Prevention

A. To prevent open containers of volatile flammable liquids from evaporating and creating an explosive atmosphere, keep containers of flammable liquids tightly closed when not in use.

B. Do not accumulate combustible materials where they may be accidentally ignited. For example:

1. Do not store cardboard boxes near heaters.

2. Do not store mops by leaning them against electric panels.

3. Do not store drums, aerosol cans and empty containers that have held flammable liquids outside in the sun or where the temperature may reach or exceed the flash point.

4. Keep only minimal quantities of flammable or combustible liquids, and substitute non-flammable products for flammable or combustible products whenever possible.

5. Clean excessive dust or lint off motor parts that may become hot. Keep motor parts and bearings properly lubricated to prevent an ignition source from heat generated by friction.

C. The hazardous properties of chemicals and potentially hazardous materials, such as compressed gas cylinders, can be controlled by following the manufacturer's recommended practices for safe storage, transfer, and cleanup of spills.

HAZARD COMMUNICATION PROGRAM

I. Employee Information & Training

A. Workplace Chemical List: A chemical list is required to be kept along with applicable Material Safety Data Sheets (MSDS). A copy of the most current list and applicable MSDS sheets will be kept by the Safety Program Administrator and will be made available on request to any employee.

B. Updating Chemical List:

1. The Safety Program Administrator will update the list of workplace chemicals as necessary but no less frequently than annually, as required by the State of Texas.

2. The Safety Program Administrator is responsible for communicating to the Executive Program Committee relevant information about any new products for which employee training is needed.

C. Persons Responsible for Training:

1. The Safety Program Administrator or the person who conducts General Safety Training and the supervisor of any new employee will include hazard communication information in the new employee's Job Safety Orientation Training.

2. The Executive Program Committee will train affected employees concerning new products and will conduct annual refresher training.

D. Hazardous Non-Routine Tasks: Employees may be required to perform hazardous non-routine tasks from time to time. Each affected employee will be given information by his/her supervisor or manager about hazards to which they may be exposed during such an activity, including:

1. Specific hazards related to non-routine tasks;

2. Protective/safety measures which are required;

3. Measures to lessen potential hazards, including ventilation, respirators, "buddy system", and emergency preparedness.

E. Hazardous non-routine tasks may include cleaning spills or unusual maintenance activities.

II. Summary of Texas and OSHA Hazardous Communication Requirements

A. Texas Hazard Communication Act:

1. Each employer is required to compile a Workplace Chemical List for all chemicals used or stored in excess of 2,000 gallons or 10,000 pounds.
   a. The list must be sent to the Texas Department of Health. The chemical list must be updated at least annually.
   b. Copies of Workplace Chemical Lists must be kept for 30 years.

2. Employees must be trained before working with hazardous chemicals and refresher training must be conducted annually.
   a. The employees shall have ready access to the most current Material Safety Data Sheets.
   b. Protective equipment specified by the manufacturer must be made available to affected employees.

3. Employee's rights under the Texas Hazard Communication Act are as follows: "Employees may file complaints with the Texas Department of Health and may not be discharged or discriminated against in any manner for the exercise of any rights provided by this act. Employees and citizens may make written requests to the Texas Department of Health to require listing of small quantities of certain highly hazardous chemicals."

4. The names and telephone numbers of persons who can be contacted in case of emergency must be provided to the local fire department, if requested, as well as other reasonably necessary information. The Fire Chief must be permitted to conduct on-site inspections.

III. OSHA Hazard Communication Requirements

A. Chemical manufacturers are required to evaluate the chemicals they produce and determine if they are hazardous, based on reliable sources of information.

1. If a mixture has been tested to determine its hazards, that data must be referenced.

2. In general, if a mixture has not been tested, then it will be assumed to present the same health hazards as the components, which comprise one percent or more of the mixture.

3. If a mixture contains 0.1% or more of a component, which is considered a carcinogen (cancer-causing agent), the mixture is assumed to present a cancer risk. The manufacturer is required to label containers with appropriate hazard information.

B. Labeling Requirements:

1. All containers of potentially hazardous materials are required to be labeled. Chemical containers must be properly labeled to meet OSHA requirements when they are shipped from the manufacturers or distributors.

2. **No unlabeled containers of chemicals are to be accepted by any company representative.**

3. Do not deface or remove product labels containing hazard information. If a chemical container has no label, inform your supervisor so that the contents can be labeled appropriately.

4. When transferring chemicals from large containers to a smaller container a label must be applied to the new container unless the product will be used up within one shift by the person who transferred the chemical. Portable containers must be labeled with the following information:
   a. The chemical identity of the contents of the container;
   b. Name of the manufacturer;
   c. Appropriate hazard warnings.

IV. NFPA Hazard Rating System

A. Labels may contain hazard information in a four-colored diamond with a number from 0 to 4 that indicates the severity of potentially hazardous properties. The National Fire Protection Association developed this system.

B. Color coding and hazard rating system is explained below.

Color Coding	Hazard Rating	Specific Hazards (white w/letters or symbols)
Health Hazards/Blue	4 Severe	Oxy Oxidizer
Fire Hazards/Red	3 Serious	Acid Acid
Reactivity/Yellow	2 Moderate	Alk Alkali
	1 Slight	Cor Corrosive
	0 None	~~W~~ Do Not Use Water

V. General Precautions for Hazardous Substances

A. Personal Protective Equipment: The personal protective equipment recommended by the manufacturers of the majority of our flammable, combustible, toxic, and irritating chemicals includes:

1. Impervious gloves;

2. A chemical-splash face shield or goggles or safety glasses with side shields when there is likelihood that irritating substances may be splashed in eyes;

3. Rubber aprons are recommended for products that are corrosive or very toxic if absorbed through the skin.

4. Respiratory protection is usually recommended by the manufacturer "above TLV" or "above PEL," which means above the Threshold Limit Values or Permissible Exposure Limits established by OSHA for the regulated ingredients.

B. Always wash protective gloves and hands with soap and water before starting other activities.

C. No eating, drinking or smoking is allowed where potentially harmful substances are used or stored. All food should be kept in a separate area away from locations where chemicals are used.

D. Contact lenses should not be worn around chemicals that could be splashed into eyes or dusts that are known to irritate eyes.

E. If any article of clothing or protective clothing is contaminated with chemicals that are irritating or potentially toxic by absorption through skin, remove the clothing promptly and launder before reuse.

VI. Symptoms of Overexposure & First Aid

A. Symptoms of Overexposure:

1. The symptoms of overexposure to chemicals may be non-specific, such as dizziness, headache, nausea, irritation, cough, etc.

2. Employees should refer to the MSDS for information related to symptoms of overexposure when large amounts of chemicals are to be handled or when nonspecific symptoms appear after working with chemicals.

B. General First Aid Instructions

1. If the chemical is spilled onto skin, promptly remove clothing over affected area and wash well. Manufacturers generally recommend flushing with water for 15 minutes.

2. If the chemical is splashed into eyes, flush eyes at water fountain or eyewash station for 15 minutes, holding eyelids apart. If irritation persists, call an ophthalmologist.

3. If the chemical is swallowed, check MSDS for instructions or call Poison Control Center of closest hospital.

4. If inhalation of vapors or gases results in symptoms of overexposure, move victim to fresh air. If symptoms persist, seek prompt medical attention.

VII. Flammable/Combustible Liquids and Solvents

A. Fire Hazards of Materials: All substances classified as flammable or combustible liquids represent a fire hazard if exposed to any source of ignition, including, but not limited to lighted cigarettes, matches, flames, heat sources, sunlight, electricity, sparks from static electricity, welding or cutting, friction, or the heat of a chemical reaction.

1. *Classes of Flammable Liquids*: OSHA's definition of a flammable liquid includes all substances that have 1% or more of a flammable liquid in mixture.

Class	Flash Point	Boiling Point
IA	Below 73 degrees F.	Below 100 degrees F.
IB	Below 73 degrees F.	At or above 100 degrees F.
IC	At or above 73 degrees F.	Below 100 degrees F.

2. *Classes of Combustible Liquids*:

Class	Flash Point
II	At or above 100 degrees F. and below 140 degrees F.
IIIA	At or above 140 degrees F. and below 200 degrees F.
IIIB	At or above 200 degrees F. (not a regulated combustible liquid)

B. No ignition sources are permitted where flammable and/or combustible liquids are used or stored. Surfaces that are sufficiently hot may ignite even a liquid product in the absence of sparks or flame.

C. Volatile, flammable, or combustible liquid vapors that are heavier than air may travel along the ground or be moved by a ventilation system and cause flash fires or be ignited explosively by pilot lights or other flames, sparks, heaters, smoking, electric motors, static discharges, or other sources of ignition at locations distant from material handling point. Examples include isopropyl alcohol, 2-butoxyethanol, toluene, and xylene.

D. Containers that have had flammable or combustible liquids may be hazardous when empty due to residue. Do not cut, drill, grind, or weld on or near

containers, even if empty. Keep out of direct sunlight and away from ignition sources.

E. Do not let oil-soaked materials accumulate where they may be exposed to air and/or heat sources. Such absorptive materials may spontaneously combust. Use a safety can with a tight-fitting, spring-loaded lid.

F. Reactive materials must not be allowed to contact flammable or combustible liquids.

G. Flammable and combustible liquids are subject to disposal restrictions.

1. In the event of a spill, the liquid must be collected using absorbent materials, which must be put into an approved container for hazardous waste.

2. Flammable and combustible wastes are not permitted to be stored with other classes of hazardous wastes, such as ink sludge or waste oil.

H. Volatile Organic Compounds: Many flammable and combustible liquids are volatile organic compounds. Volatile means a substance that will vaporize or evaporate quickly. Most solvents are considered to be volatile organic compounds.

1. If a container of a volatile liquid is left open for a long time, it may totally evaporate into the air. Containers of volatile flammable and combustible liquids must be kept tightly closed when not in use.

2. The volatility of a substance increases the fire risk and the risk that harmful amounts may be inhaled. Many solvents are toxic by means of inhalation. It is important to always have sufficient ventilation while using volatile substances so that the concentration in the air does not reach a level that may produce harmful effects. The concentration at which a solvent is considered harmful to breathe is usually well below its lower flammable limit. Therefore, if the health hazard is controlled, the fire hazard is also controlled.

I. Solvents can remove oils that occur naturally in skin, resulting in drying of the skin and possible itching or various kinds of skin inflammations (dermatitis).

1. Some solvents can penetrate the skin and be absorbed into the blood stream, causing "systemic" effects to internal organs, such as the kidneys, liver, brain, or central nervous system.

2. Prolonged or repeated overexposure to solvents can cause diseases, which may or may not be reversible. Read the Material Safety Data Sheets to find out what the effects of overexposure may be.

LADDER SAFETY

I. Selection and Inspection of Ladders

A. Selection Criteria: Select the correct ladder for each job assignment according to height, weight, and other requirements.

1. When changing light bulbs and when performing work on or near energized electrical conductors, a wooden ladder or a ladder with non-conductive fiberglass side rails must be used. Metal ladders are prohibited for electrical work.

2. When selecting a ladder type by its load capacity, consider the weight of any tools or equipment to be used in addition to the weight of the person climbing the ladder:
   a. Type I-A is rated for 300 pounds.
   b. Type I is rated for 250 pounds.
   c. Type II is rated for 225 pounds.
   d. Type III is rated for 200 pounds.

B. Inspection Criteria: Ladders must be inspected before each use to ensure they are in safe condition.

1. Steps and rungs must be intact, firmly attached, and free from grease or oil, with slip-resistant surfaces.

2. Support braces, bolts, and screws must be in place and tight.

3. A-frame ladders must have spreaders or other locking devices.

4. Straight or extension ladders must have safety feet, if so designed, or anti-slip features at the base of the ladder.

5. A ladder with any of the following defects must not be used:
   a. Broken or missing rungs or steps.
   b. Broken or split side rails.
   c. Dents or bent parts of metal ladders that may have reduced its strength.
   d. Wooden ladders that are painted with colored pigments (defects would not be apparent).

II. Safe Use of Ladders

A. Proper Setup of Ladders:

1. Place the ladder on a firm, level surface. Wide boards may be used on soft ground to prevent the ladder legs from punching through the surface, provided that the wood can withstand the weight of the load that will be placed on it.

2. Position an extension ladder before you extend it. Adjust extension ladders while standing at base (not while standing on the ladder or from a position above the ladder).

3. When using a straight or extension ladder, position the ladder so that the distance from the base to the wall is one-fourth the length of the ladder and so that the top of the ladder extends at least 3 feet above the roof, platform or top support.

4. Do not rest a ladder on a window. Do not place a ladder in front of a door unless it is locked or blocked open or guarded.

B. Securing Ladders to Prevent Falling:

1. Safety feet should be positioned parallel to the floor or ground. If the ladder was not designed with safety feet, then the base must be secured against slipping or moving while a person is on it, such as by lashing it, holding the ladder or using "safety legs" or other effective means.

2. The top of a straight ladder or an extension ladder should be secured with a stout rope, strong strap or other means to positively prevent it from falling.

C. Safety Rules for Climbing Ladders:

1. Only one person is allowed on a ladder at a time.

2. When job assignment includes climbing a ladder, you must wear shoes with non-skid soles and a defined heel (not a flat bottomed athletic shoe).

3. Face the ladder while climbing up or down and hold the side rails with both hands.

4. Carry tools on a belt or with a rope or hoist, not in your hands.

5. Don't step on the top two steps of an A-frame stepladder, nor on the top four ladder rungs or steps of a straight ladder.

6. Keep your body centered on the ladder so your belt buckle is between the side rails. Avoid extended reaches by repositioning the ladder.

7. Move slowly and cautiously while working aloft on a ladder.

D. Misuse of Ladders and Prohibited Practices:

1. Do not place ladders on boxes, barrels, or other unstable bases to obtain additional height.

2. Do not move a ladder while you are on it.

3. Do not use ladders as braces, skids, platforms, scaffolds, gin poles, or for other than their intended purpose.

LANDSCAPE MAINTENANCE

I. Hazardous Materials

A. Control of Fuel Hazards:

1. Keep gasoline in an approved safety can that is properly labeled. These safety cans are the type with the spring-loaded and vented caps.

2. Do not fill tanks of mowers indoors and do not fill tanks while mower is running or on grass. Always shut off the engine of any gasoline-powered tool and place the tool on the pavement prior to filling with gasoline.

B. Pesticides and Herbicides:

1. Pesticides and herbicides must be approved in accordance with manufacturer's instructions by persons who have been properly trained and who are wearing approved personal protective equipment, including appropriate respiratory protection when required.

2. Only certified applicators will be allowed to apply pesticides and herbicides that are restricted by state or federal regulations for sale to certified applicators. Assistants may apply chemicals when properly supervised by certified applicators.

3. Prior to mixing chemicals, ensure the tank is completely cleansed of any former chemicals. Certified applicators are the only employees allowed to perform applicator duties.

4. Stay upwind when applying pesticides or herbicides.

II. Contact Hazards

A. Do not operate or authorize another employee to operate a piece of equipment they have not been properly trained or authorized to operate. Do not leave mowers running when they are unattended. Do not leave equipment or keys where unauthorized persons may have access to them.

B. Keep hands and feet away from moving parts of lawn mowers, weed eaters, chain saws, and power trimmers.

1. When the blades of a lawn mower become jammed or clogged, ensure that the motor has been shut off for at least 60 seconds prior to placing your hand under the lawn mower to free the blades.

2. Do not attempt to repair a riding mower unless adequate precautions are taken to prevent it from starting up inadvertently while you are working on it. Report uncorrected defects to your supervisor.

3. Ensure that chain saws are equipped with all required guards and anti-kickback devices. Do not use a chain saw overhead. Avoid extended reaches.

C. It is recommended that all employees wear a hard-soled boot with slip-resistant tread.

D. Safety glasses must be worn when operating all powered lawn maintenance tools and equipment.

E. Pick up rocks, wire, etc., before mowing and put in trash container. Watch for other obstacles. When mowing in tall grass, pay close attention to the area in front of you for objects that may be hidden in the grass that could be caught in the mower and ejected forcibly.

F. When mowing, weed eating, or using an edger, ensure that you have sufficient distance between yourself and other persons who may be struck by a rock or other object that is ejected from the equipment.

G. When using a hedge trimmer, look for and avoid high-rise sprinklers.

H. Use drop chains on tractor-towed mowers and be sure that the chains are within one-half inch of the ground. Watch slopes. Go slow with no hot-rodding or showing off.

III. Transporting Equipment and Personnel

A. When loading equipment on the trailer or truck, always get assistance to lift bulky and heavy items, such as lawn mowers.

B. Ensure that all equipment loaded onto the truck or trailer is properly secured and will not fall off, creating a hazard in traffic.

C. When riding in the back of a vehicle, remain seated at all times. Do not sit on equipment, guardrails, tailgates, or sides of the bed. Employees will not be allowed to stand in the back of a moving vehicle or trailer at any time. Employees should remain seated in the bed of truck until the truck has come to a complete stop.

D. Work Area Protection:

1. When parking a vehicle on a street, the driver should place orange safety cones in the front and back of the truck. Prior to moving a vehicle, the driver should retrieve the orange safety cones from the front and back of the truck.

2. When you will be working on the side of the road, place a "Men Working" sign where the work area starts and place a "Landscaping Ahead" sign on the side facing traffic, about 500 feet ahead of the work area.

3. Use flashing lights on vehicles used for watering and other operations by the side of the road in which the vehicle is moving or that lasts 15 minutes or less. Whenever the flashing lights are used on a watering truck, there should be a sign on the back of the truck that says "Truck Stops Frequently."

LOCKOUT/TAGOUT

I. Authorized Repairs and Servicing of Equipment

A. Only designated personnel are permitted to service or maintain equipment.

1. No employee is to perform any maintenance or repair to any piece of equipment without first contacting and obtaining permission from his/her supervisor.

2. No maintenance or repair is to begin until a safety officer has inspected the lockout/tagout and has given his/her permission.
   a. A log of all such repairs and maintenance will be kept by the safety officer.
   b. All such repairs/maintenance must be signed off by the safety officer.

3. The Maintenance Supervisor shall designate and authorize qualified maintenance repairman and contractors and shall limit authorized work to that which is performed strictly in accordance with these procedures.

4. The locks that are used to control hazardous energy must not be used for any other purpose and must be applied personally by the person who is doing the repair or servicing work.

5. The locks issued to different authorized individuals must not be keyed alike, so that only the individual who placed the lock can remove it.

B. No equipment is permitted to be serviced or repaired while it is operating. All malfunctioning of equipment must be immediately reported by the operator to their supervisor, who will make the necessary arrangements with the maintenance repairman or machinist.

1. Under no circumstances is an employee ever permitted to place any part of his or her body within a hazardous area, such as the point of operation, while the equipment is running or energized (and alternative protective measures have not been taken) or around power transmission apparatus.

2. Effective lockout protection does not include simply pushing buttons, selector switches and other control-circuit-type devices, which lack a control logic such as an interlocked arrangement, which provides a single operator with exclusive control.

C. These procedures do not apply to normal production operations, provided that machine guards are not circumvented, bypassed, or removed and provided that no body part is placed into an area on a machine or piece of equipment where

work is actually performed upon the material being processed or where an associated danger zone exits during a machine operating cycle.

1. Minor tool changes and adjustments and other minor servicing activities which take place during normal production operations are not covered by these procedures if they are routine, repetitive and integral to the use of the equipment for production, provided that the work is performed using alternative measures which provide effective protection to personnel.

2. If the machine or equipment is powered by electricity and connected by cord and plug to a receptacle and the exposure to hazards of unexpected operation are effectively controlled by unplugging the equipment, then it is permissible to service or maintain the equipment when it is unplugged with controls in the OFF position, as long as the plug is in sight of the person doing the work or as long as the plug has a lockout device on it.

II. When Lockout/Tagout is Required

A. Lockout and tagout of the equipment is required if extensive disassembly of the equipment is required or if employees are required to bypass machine guards and could be exposed to the hazards of machine start-up or to the unexpected release of hazardous energy.

B. Lockout/tagout is required when the machine operator must remove major parts of the equipment, such as panels or other barriers that restrict access to moving mechanical parts or energized electrical equipment. Lockout/tagout is also required when performing extensive work without removal of such components.

C. Lockout/tagout is required when the operator must leave the immediate area containing the operating controls because exclusive control by the operator is required.

D. When more than one employee performs a particular servicing or maintenance operation on a machine or equipment, it is <u>not</u> considered minor in nature and the machine or equipment must be locked out of service and tagged.

III. Lockout/Tagout Procedures

A. If lockout/tagout of equipment is required during maintenance or repairs to equipment, all of the following steps and precautions must be taken without fail, in the order indicated and without a shortcut.

1. Notify affected employees (operations, persons in the general vicinity, and appropriate supervisors) that equipment is being taken out of service for repairs or maintenance.

2. To avoid the danger of serious injury to yourself and to others, place the machine in "SAFE" (OFF or neutral) condition and isolate the machine from all sources of power by operating the circuit breaker so that it is OFF. Never rely on deactivated control circuit.

3. Lock out the main electrical power disconnect and apply a "DANGER: DO NOT OPERATE" tag that is signed and dated.
   a. If the circuit breaker will accept a locking device, then the locking device is required to be applied.
   b. If the circuit breaker is of an older design that will not accept a locking device, then the circuit breaker must be operated to isolate the equipment and the breaker box must be locked, then tagged.
   c. When two or more persons are working together on a piece of equipment that has been taken out of service, one or both of the following controls is necessary:
      (1) Each repairman must apply his own lock and tag; OR
      (2) One person must be designated as the person in charge who will be responsible for ensuring that everyone is in the clear before equipment is re-energized, and that person's name must be written on the tag.
   d. Using a voltage tester check the known energized voltage source before testing the circuit.
   e. Test the circuit on the load side after opening the disconnect.
   f. Make certain that any interlocked circuits are safely de-energized.
   g. Test the control circuit in the stator and make certain it is deactivated.
   h. After performing voltage tests, recheck the tester on a known energized voltage source.
   i. Check to see that the machine is deactivated.
   j. Control or dissipate any electrical or other residual energies.

4. Close any valve(s), block and bleed off all pressure when there are hydraulic lines, pneumatic components, steam lines, compressed gas or hazardous chemical supply lines or other hazardous energy components that are valve operated or that can be blocked or stopped effectively.

5. NOTE: A "DANGER: DO NOT OPERATE" tag must be placed on the valve or blocking means if it is not in sight of the repairman or if it is not under his exclusive control or if two people are working on the equipment.

6. Secure all parts that can fall, and take any other specific precautions required for the particular equipment.

7. For all equipment there is a documented method to use as a guide when performing lockout/tagout maintenance and/or repair. Check for the

identification number on the equipment. Equipment lockout/tagout directions can be obtained from the Safety Program Administrator.

8. Perform the servicing or repairs on the equipment that has been taken out of service.

B. When servicing or repairs have not been completed by the end of the shift, the person performing the work is usually required to stay and complete the repairs. However, if the repairman must leave the work site, the equipment must remain locked out and tagged overnight or during the repairman's absence, unless it is absolutely necessary to restore the equipment to operation, in which case only the Maintenance Supervisor is authorized to remove the lock and tag of a worker under his supervision.

C. In situations in which lockout or tagout devices must be temporarily removed in order to test or position the machine or equipment being serviced, the following sequence of actions is required:

1. Clear the machine or equipment of tools and materials and make sure all personnel are in the clear.

2. Remove the lockout or tagout devices, and energize the equipment.

3. Proceed with the testing or positioning.

4. De-energize all systems by placing controls in the OFF or neutral position.

5. Continue with the servicing or maintenance.

D. When repairs or servicing work has been completed, the following steps must be taken in the sequence indicated:

1. Remove all tools and unnecessary materials. Clean up the work site and make the area safe for re-energization by making sure that all components are operationally intact and that all personnel are in the clear.

2. Notify all affected personnel immediately prior to re-energizing the equipment.

3. Verify that the machine controls are in the OFF or neutral position.

4. Remove danger tags and locks from any applicable control valves or operating mechanisms of non-electric hazardous energy sources and open the valves or unblock the supply lines or controls.

5. Remove the danger tag and lock from the electrical disconnect. If more than one lock was applied, each lock shall be removed by the person who applied it.

6. Operate the circuit breaker to the ON position, restoring power to the equipment. Notify the operator and supervisor that the equipment is ready to be placed back in service.

IV. Electrical Maintenance/Repair Safety Rules

A. The following lockout-tagout procedures apply to electrical maintenance or repair work in our company's premises, regardless of whether the work is contracted out or whether it is done by qualified employees.

B. No work will be done by contractors or company employees on exposed energized conductors, nor on de-energized equipment until it has been isolated and verified to be de-energized.

C. No qualified electrician on company property may approach or take the conductive object any closer to exposed energized parts than the distances indicated below, unless the person is insulated by means of protective equipment that is rated for the voltage involved and tested and maintained in accordance with OSHA requirements:

Voltage (Phase to Phase)	Approach Distance
300 volts and less	Avoid contact
301 volts up to 750 volts	1 foot
751 volts up to 2,000 volts	1 foot 6 inches
2,001 volts up to 15,000 volts	2 feet

D. Personnel shall not wear conductive articles (jewelry, watchbands, bracelets, rings, chains, or conductive clothing) when they are assigned electrical work.

E. When it is necessary to use a portable ladder during electrical work, the ladder must be wooden or have non-conductive side rails.

F. Electrical test instruments:

1. Electrical test instruments must be rated for the circuits and equipment to which they will be connected, and must be dust-tight and moisture-tight.

2. Electrical test instruments and all associated test leads, cables, power cords, probes, and connectors must be visually inspected for defects prior to each use.

3. Damaged equipment must not be used but taken out of service until it has been repaired.

G. Safety glasses are to be worn while performing electrical maintenance and repairs.

H. Class B hard hats are required to be worn wherever there is a danger of the employee's head contacting exposed energized parts.

I. When working near exposed energized secondary voltage conductors or circuit parts, each employee shall use insulated tools or insulated handles if there is a possibility of slipping or inadvertently making contact with adjacent conductors.

MACHINERY AND TOOLS

I. Machine Guarding

A. All safety guards must be in place prior to operating a piece of equipment.

1. Hazardous moving parts of a power tool need to be safeguarded. For example: belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded if such parts are exposed to contact by employees.

2. Safety guards must never be removed when a tool is being used. For example, portable circular saws must be equipped with guards. An upper guard must cover the entire blade of a saw. A rectangular lower guard must cover the teeth of the saw, except when it makes contact with the work material. The lower guard must automatically return to the covering position when the tool is withdrawn from the work.

B. No employee may remove, modify, or tamper with any machine guard.

C. Guards that become defective during operation will be reported immediately, and operation of that equipment will be terminated until the guard is repaired.

D. The openings of guards must not permit entry of any body part to the danger zone or point of operation of a machine or piece of equipment. When metal mesh guards are used, openings are not to exceed 1/2 inch.

E. Abnormal vibrations or functioning will be reported immediately and operation terminated until corrective action has eliminated the defect.

F. Only authorized personnel may perform maintenance on machinery and equipment. The company's Lockout/Tagout procedures shall be followed during maintenance inside the area protected by a machine guard or when the repairman could be injured due to inadvertent activation or release of hazardous energy.

II. Inspection and Training Requirements

A. Prior to using any piece of power equipment or hand tool, inspect the equipment for any defects, worn parts, and proper operating condition.

1. Report any unsafe conditions or defective equipment, including vehicles, to supervisor.

2. Do not use unsafe equipment.

3. All portable electric tools that are damaged shall be removed from use and tagged "Do Not Use."

B. For your own protection, avoid using any equipment or tool you have not been authorized and properly trained to operate. This includes all machinery and mobile equipment.

III. Power Tools

A. Tools should be maintained with care. They should be kept sharp and clean for the best performance. Follow instructions in the operating manual for lubricating and changing accessories.

B. Loose clothing and loose jewelry are prohibited when operating a power tool with moving parts.

C. Do not startle, touch, distract, or talk to an employee while he or she is operating a machine or power tool. All observers should be kept at a safe distance away from the work area.

D. Electric Tools:

1. To protect the user from shock, tools must have a three-wire cord with an intact ground and a continuous path to ground, or must be double insulated and/or protected by a ground fault circuit interrupter.

2. At no time will a three-prong plug be inserted into a two-prong receptacle, nor should the ground plug be removed.

3. Electric tools shall not be used in damp or wet locations unless a ground fault circuit interrupter is utilized.

4. Never carry a tool by the cord or hose.

5. Never yank the cord or the hose to disconnect it from the receptacle.

6. Keep cord and hoses away from heat, oil, and sharp edges.

7. When utilizing extension cords, ensure that the cord is not in an aisle or passageway where equipment might run over it or where people might step on it. This will cause the insulation to break down in the cord, increasing the exposure to fire or electrical shock.

E. Safety Switches:

1. The following hand-held power tools must be equipped with a momentary contact "on-off" control switch: drills; tappers; fastener drivers; horizontal, vertical, and angle grinders with wheels larger than 2 inches in diameter; disc and belt sanders; reciprocating saws and other similar tools.

2. These tools also may be equipped with a lock-on control provided that the turnoff can be accomplished by a single motion of the same fingers that turn it on.

F. Controls for Unintended Movement or Operation:

1. Secure work with clamps or a vise, freeing both hands to operate the tool.

2. Be sure to keep good footing and maintain good balance when operating a power tool, especially a table saw.

3. Avoid accidental starting caused by bypassing safety features of equipment, such as taping an operating control in the ON position.

4. Disconnect tools when not in use, before servicing, and when changing accessories such as blades, bits, and cutters.

5. All power tools, drill presses, etc. must be secured against movement.

G. Drills:

1. Be sure the chuck is tightly secured to the spindle, especially on reversible drills. Tighten the drill bit securely if there is a chuck key, but remove the key before starting the drill.

2. Always hold or brace the drill firmly. Brace against stationary objects for maximum control.

3. When guiding a drill by hand, put a sleeve over the drill bit to protect your hand and to stop the drill in the event it punches through the material.

4. Do not actuate a "lock-on" switch if it is reasonably foreseeable that the drill could bind.

   a. If the drill binds, release the trigger, unplug the drill and then remove the bit from the work place.
   b. Never try to free a jammed bit by stopping and starting the drill.

5. Always unplug the drill before changing bits, accessories, or attachments.

H. Grinders:

1. All bench grinders must be inspected before every use.
   a. Grinding wheel - check for damage, dress if needed.
   b. Tool rests - adjust if needed (1/16" from grinding wheel).
   c. Safety shields - adjust and clean if needed.

2. All pedestal grinders must be inspected before every use.
   a. Grinding wheel - check for damage or any breakage.
   b. Wheel guards - must be properly in place at all times.
   c. Power cords - check for damage, do not use until repaired.

3. Powered abrasive grinding, cutting, polishing, and buffing wheels can break if they are not mounted correctly or if the work becomes jammed between the workrest and the wheel.

4. Before an abrasive wheel is mounted, check to make sure that the maximum speed (in revolutions per minute or "rpm") on the wheel is greater than or equal to the maximum speed of the spindle. If you were to mount a wheel that could not withstand the fastest speed of the grinder, it could explode into pieces while you are using it.

5. Before you mount a wheel, you must also check to be sure it has no cracks. Inspect it closely and "ring test" it. The ring test consists of tapping the wheel gently with a light non-metallic instrument in four places an inch or two from the outside edge, spaced evenly apart. If the wheel does not resonate or "ring" clearly when struck and presents a dull thud, the wheel should be considered defective since it may have cracks that are not readily apparent on the surface.

6. To prevent the wheel from cracking during use, it must spin freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place without distorting the flanges. The flanges must be the same size and diameter. Follow the manufacturer's recommendations.

7. When a wheel is first mounted, the operator should be sure to stand to one side, out of the direct "line of fire," should the wheel break. This is also a good practice when "warming up" an abrasive wheel. Most manufacturers recommend warming up the grinder for a minute or so prior to applying the work to the wheel.

8. On offhand grinding machines, a workrest is required to be used to support the work. The workrest must be adjustable to compensate for wheel wear and must be kept adjusted closely to the wheel with a

maximum opening of 1/8 inch to prevent the work from being jammed between the wheel and the rest, which may cause the wheel to break.

a. The workrest must be securely clamped after each adjustment.
b. The workrest shall not be adjusted while the wheel is in motion.

9. The grinding surface of the wheel must be kept "true." This means that the bearing surface must be flat and free of imbedded materials, such as aluminum, which is soft and should not be applied to regular wheels. When necessary, the bearing surface must be resurfaced or made true.

10. On grinders in which the operator stands in front of the grinder, the upper guards must be adjusted to within 1/4 inch or less of the wheel as the diameter of the wheel decreases with use. The purpose of this adjustment is to ensure that particles of material that are caught by the wheel are not forcefully ejected upward toward the operator's face.

I. Compressed Air for Cleaning:

1. Compressed air shall not be used for cleaning purposes except where reduced to less than 30 p.s.i. and then only with effective chip guarding and personal protective equipment.

2. Compressed air must not be used for cleaning clothing or any body part since it may imbed grease, dirt, or other potentially hazardous contaminants into the skin and possibly into the blood stream.

J. Air Powered Tools (Drills, Sanders, Descalers, Etc.)

1. All air sanders must be inspected before every use.
   a. Sanding disk - check for any damage or tears.
   b. Sander air inlet - oil daily.

2. All air-powered tools must be periodically inspected for function and wear. These depend on an airline for lubrication and can be dirty and worn without proper filtration and repair.

3. Check noise levels around air tools annually.

4. Inspect for loose parts that may fall off or be ejected at pressure.

5. Use air-powered tools only as designed. Keep all safeties intact. Keep moving parts away from your body.

6. Always wear proper Personal Protective Equipment.

IV. Inspection and Maintenance of Hand Tools

A. Tool Inspection: Examine each tool for damage or defects before use.

1. Do not use sledges, hammers, axes, or other tools if the handles are loose, splintered, or split, since the head of the tool may fly off and strike the user or someone else.

2. Do not use a wrench if its jaws are sprung, cracked, or worn since it could slip and cause an injury to the user.

3. Do not use an impact tool with a chipped, mushroomed, or loose head because the head may shatter or become a projectile on impact, causing sharp fragments to strike the user or a passer-by. Tools in this category include hammers, punches, chisels, wedges, and drift pins. Do not redress or reshape tools with this type of defect--discard them.

4. Do not use a file without a handle or a file that is dull. Use a file-cleaning card, if necessary, but do not clean the file by sticking it against a vise or other metal object because the extremely hard, brittle steel of the file chips easily.

5. Do not use a screwdriver that has a bent blade or a dull, rounded, or twisted tip.

B. Maintenance of Tools: Keep all tools in good condition with regular maintenance. If a tool is defective, broken, or otherwise unsafe and you cannot fix it yourself, it must be tagged "out of service" or discarded and replaced.

V. Safe Use of Hand Tools

A. Selection of Tools: Use the right tool for the job and appropriate personal protective equipment. The minimum personal protective equipment to be utilized when using hand tools is a pair of impact resistant safety glasses.

1. When a hammer is used to strike another tool, such as a chisel, punch, or wedge, the striking face of the hammer should be about 1/8 inch larger than the face of the tool being struck.

2. Use a wrench of the correct size and fit. Do not use shims to make the wrong wrench fit. For bolts and nuts that are extremely difficult to remove, first use penetrating oil and then use a heavy-duty, sledge-type

box wrench or a specially designed wrench that can accept a longer handle.

3. Wire cutters or bolt cutters must be heavy enough for the size of wire or stock being cut to prevent the jaws from being sprung or spread.

4. Use spark-resistant tools made of nonferrous materials (such as a beryllium-copper alloy, brass, plastic, aluminum or wood) when ignition hazards must be avoided around flammable liquids or combustible dusts and especially when cleaning up major spills.

5. When it is necessary to work around motor parts or electric equipment energized at 110 volts or less, always use insulated tools and avoid contact with conductors. De-energize, isolate, and test the equipment in accordance with lockout/tagout procedures.

B. Abuse of Tools: Do not abuse tools by using them for something other than the purpose for which they were designed.

1. Do not use a chisel as a screwdriver, or a screwdriver as a chisel, since the tip may break suddenly and unexpectedly, causing injury.

2. Do not use a screwdriver as a punch, wedge, pinch bar, or to pry something open.

3. Do not use a nail hammer to strike hardened tools, such as a chisel or wedge.

4. Do not use pliers as a substitute for wrenches.

5. Do not use a pipe, "cheater bar", or other extender to increase leverage on a tool such as a wrench since the wrench may break or be propelled in an uncontrolled manner, injuring someone or damaging equipment.

6. Do not use a file as a hammer or as a pry since this abuse frequently causes the file to chip or break. Do not use a file as a center punch, chisel, or other type of impact tool because it is likely to fracture.

7. Do not use cutters as nail pullers or pry bars. This is likely to nick or chip the blades.

C. Safe Handling of Tools:

1. Sheathe or guard the exposed edges of cutting tools, such as knives and saw blades or chisels and other sharp tools, when carrying or storing them.

2. Do not carry tools in your hands while ascending or descending a ladder. Use a tool punch, hoist a material bag, or have the tools handed to you.

3. Do not throw hand tools to persons asking for them; hand them over.

4. Do not drop tools or equipment to the ground when working from an elevated position. Persons should not be allowed in the immediate vicinity below someone working with tools aloft, or such persons must wear hard hats and watch the activities going on above him/her.

D. Preventing Slippage: Make sure work piece is properly secured against unintended movement before applying a tool to it or making the last cut.

E. Screwdrivers:

1. Do not use a screwdriver on an object held in your hand since the screwdriver commonly slips and may puncture your hand.

2. When putting in a screw, hold the work in a vise or lay it down on a flat surface.

F. Hacksaws:

1. Mount tightly in frame.

2. Apply pressure on the forward stroke only when using a hacksaw.

3. If the blade is twisted or too much pressure is applied, the blade may break.

4. Do not continue an old cut after changing to a new blade because the teeth on the new blade are thicker than on a used blade and the new blade may bend and break.

5. When using hacksaws:

   a. Use blades with 14 teeth per inch to cut soft metal.
   b. Use blades with 18 teeth per inch for cutting tool steel, iron pipe, hard metal, and for general shop use.
   c. Use blades with 24 teeth per inch for drill rods, sheet metal, copper, brass, and tubing.
   d. Use blades with 32 teeth per inch for thin sheet metal less than 18-gauge (0.12 cm) and for tubing.

MATERIAL HANDLING

I. Manual Material Handling

A. When manually moving materials, employees should seek help when a load is so bulky it cannot be properly grasped or lifted, when they cannot see around or over it, or when a load cannot be safely handled due to its weight or center of gravity.

B. When carrying a load as a team, communicate with each other to avoid obstacles and trip hazards and when putting the load down. Do not drop your end of a heavy load because it is likely to injure your co-workers.

C. Check the path ahead of you to ensure you will not trip or fall due to obstacles or debris.

D. Make sure that piles of materials are stable and that materials are stacked so that they will not fall or collapse, creating a hazard to personnel.

E. Do not pile or store materials in aisles, walkways, or in such a way as to block fire or safety equipment, eyewashes, electrical circuits, and exits.

F. Dollies and Rolling Carts:

1. When using hand trucks, keep the center of gravity of the load as low as possible and load only to a height that will allow a clear view ahead.

2. Place the load well forward so that the weight will be carried by the wheels, not by the handle.

3. Four wheel trucks should be pushed rather than pulled because of less stress on the low back.

II. Mechanized Material Handling

A. The rated capacity of mechanical material handling equipment and rigging equipment must not be exceeded. Do not use equipment with observable defects that may impair safe operation.

B. Only pallets in good condition may be used to handle loads with a forklift. Defective pallets must be removed from service until repaired.

C. Standard hand signals must be used when one or more persons are rigging, blocking, or guiding the load while another employee operates mechanical material handling equipment. If you do not know the proper signal or if you

do not understand a signal that is given by someone else, do not proceed further until you are sure of what is being communicated.

D. When an employee is placing blocks under raised loads, the employee should avoid putting himself under the load and must use blocking materials that are strong enough to safely support the load. Materials with evidence of cracks, rounded corners, splintered pieces, or dry rot should not be used for blocking.

E. All bound materials should be stacked, placed on rocks, blocked, interlocked, or otherwise secured to prevent it from sliding, falling, or collapsing.

III. Forklift Safety

A. Pre-Operational Inspections of Forklift Trucks:

1. A pre-operational visual inspection of the forklift must be conducted at the beginning of each workday by a licensed operator. The pre-operational safety inspection should include checking of the following items:
   a. Manufacturer's data plate is clean and readable, especially rated capacity diagram.
   b. Check for distortion or cracks in forks.
   c. Check lift chain for equal tension, broken pins, and excessive wear.
   d. Look for loose or broken bolts and cracks on the overhead guard and backrest extension.
   e. Inspect the tilt cylinders for loose lock nuts and fluid leaks.
   f. See if there are any leaks of oil, coolant, or fuel under the forklift.
   g. Check fluid levels for the brake, engine, hydraulic tank, and coolant systems.
   h. Check tires for cracks and signs of wear (and air pressure, if applicable).
   i. Start the lift truck and make sure the gauges give proper readings.
   j. Test the horn.
   k. Test the parking brakes.
   l. Make sure the steering wheel has the right amount of tension and free play.
   m. Mast and forks should raise, lower, and tilt smoothly.
   n. Check to make sure the clutch engages properly.

2. Hold the foot brake down for 10 seconds. There should be no noticeable drift with the pressure.
   a. Periodically clean the air filter. Wear a face shield or goggles when using pressure for cleaning. Most air filters have a service indicator with a clear window, which displays a color code (green or red) that shows its condition. Clean and service or replace the filter when the indicator shows a red color.

b. Check the exhaust system for leaks, loose bolts, nuts, and missing parts.
c. Check the injectors for loose connections, unsecured mountings, missing bolts, nuts, and for leaks.
d. Transmission fluid levels should be checked and filled between the "full" and "add" marks.

3. Defective brakes, controls, tires, lights, power supply, load-engaging mechanism, lift system, steering, and signal equipment must be repaired before the forklift is allowed to go into service.

B. Loading Dock Safety:

1. Before unloading or loading any truck with a forklift, the following must be done:
   a. Truck emergency brakes must be set.
   b. It is the forklift operator's responsibility to ensure that the trailer is chocked prior to entering it.
   c. Portable dock board must be positively secured in position.
   d. Fixed jacks may be necessary to support a semi trailer and prevent upending during the loading or unloading when the trailer is not coupled to the tractor.
   e. The weight to be lifted must be within the rated capacity of the forklift truck, and the load must be safely arranged and stable.

2. Whenever a forklift is unattended, the forks shall be fully lowered, the controls neutralized, the brakes set, and the key removed so that unauthorized persons are not able to use it.

C. Safety Rules to Prevent Injuries to Personnel:

1. The speed limit for forklift trucks on site is 5 miles per hour. Slow down when approaching pedestrians.

2. Stop at blind corners and before passing through doorways. Sound the horn before crossing aisles and when approaching pedestrians.

3. When forward vision is blocked by big, bulky loads, drive in reverse to maintain a clear view.

4. Loads must not be raised or lowered while in motion.

5. No other persons except for the operator are allowed to ride on any part of a forklift truck.

6. Trucks shall not be driven up to anyone standing in front of a bench or fixed object.

7. No person is allowed to stand or pass under the elevated portion of any truck, whether empty or loaded.

8. Operator should never put hands or feet between the uprights of the mast or outside the running lines of the truck.

9. Operators involved in overhead loading should wear hard hats.

10. Maintain required clearance from electrical lines and energized equipment. Exercise caution when working near gas or water lines.

11. A forklift may not be used to lift personnel unless and until all of the following requirements are met:
    a. There must be a safety platform with standard guardrails that is firmly secured to the lifting carriage and/or forks.
    b. Means shall be provided whereby personnel on the platform can shut off power to the truck.
    c. Protection from falling objects as indicated necessary by the operating conditions shall be provided.
    d. Personnel who are being elevated must either utilize a safety belt and lanyard or must secure a chain or bar or gate across the opening to the platform that is capable of withstanding a minimum force of 200 pounds applied horizontally.

D. <u>Preventing Collisions With Objects, Overturning or Loss of Control</u>:

1. Stunt driving and horseplay are strictly forbidden and will result in disciplinary action.

2. Maintain a safe distance from the edge of the loading dock or any open sided platform. Never turn while on a ramp.

3. Loads must be well balanced. Keep the load as close to the floor as possible when moving and avoid driving over loose objects or slippery surfaces.

4. Driving with the load pointing upgrade permits better control, but it is important to keep the forks tilted back and positioned as low as possible, just enough to safely clear any ramps.

5. Low gear or the slowest speed should be used when a truck is descending a grade or ramp. An operator should never make a turn on the ramp.

6. With forks spread wide, a load is well distributed and tends to bind itself together. Placing forks too close together can break pallet and/or cause the load to fall off.

7. Collisions between trucks and stationary objects (or people) often occur while backing, usually when turning and maneuvering. Operators must look in the direction of travel.

IV. Truck Loading/Unloading Safety Rules

A. Before starting the loading and unloading operations, check the truck trailer or flatbed for obstacles or hazards such as bad flooring and protrusions on the walls.

B. Ensure that the dock plates are secured in position.

C. Use caution when opening the doors of a trailer. The load may have shifted and heavy containers could fall out on you when you open the back door.

D. Never enter a trailer when there are noticeable chemical vapors or visible airborne concentrations of dust. Allow the trailer to "air out" thoroughly or allow time for the dust to settle, and then enter with caution. If you suspect hazardous chemical spills, notify your supervisor promptly before unloading.

E. Gloves and steel-toed safety shoes are recommended during all loading and unloading operations. When handling freight manually, use proper lifting techniques and do not hesitate to get help when lifting heavy objects.

F. Jumping from docks and platforms or truck bodies is an unsafe practice and should be avoided.

G. Use care when working or climbing around a truck or trailer. Be sure of footing and handholds.

1. Remember that running boards become very slippery in bad weather.

2. When walking around a unit at night, the use of a flashlight is recommended to minimize stumbling or falling due to unseen trip hazards.

H. When rigging is involved, follow safe procedures for rigging operations.

I. When loading materials, ensure the load is evenly distributed and stable. Tie down all material securely, or use load locks when available. Stair-stack the end of the load to prevent the materials on the back from falling over.

J. All pedestrians and non-essential personnel must stay clear of areas where trucks are being loaded or unloaded. Whenever possible, use warning signs, barricades, or flashing lights to mark the bay where a truck is being loaded or unloaded.

V. Backing Assistance Policy:

A. Assistance in backing a truck or trailer to the loading dock shall be provided whenever it is practical to do so.

B. The person who provides assistance to the truck driver while backing is to stand in a safe position to the side of the truck and toward the rear of the truck so that he/she is in clear view of the driver who is backing the truck or trailer. If there is a loading dock, the employee should remain positioned out of harm's way on the loading dock. The person providing assistance is required to be in sight of the driver at all times and is not permitted to go behind the truck in the driver's blind spot.

C. Instruct the driver not to back the truck unless the person who is providing backing assistance can be clearly seen. The driver should use his mirrors or should turn and look at the person who is providing assistance. If at any point the driver cannot see the person providing backing assistance, he is required to stop the truck.

D. Occasionally the person providing backing assistance gives verbal directions and may be aided by the use of radios or walkie-talkies, but usually the person providing backing assistance gives hand signals. The standard hand signals are described below:

1. *"Go to the right"* -- Index finger on right hand pointing to the right.

2. *"Go to the left"* -- Index finger on right hand pointing to the left, with the forearm across the chest.

3. *"Proceed slowly"* -- Circular motion with right index finger pointing upward and forearm raised.

4. *"Nearing equipment or nearing stopping point"* -- Both hands raised in front of chest with palms facing each other approximating the distance from the back of the truck or trailer to the equipment or stopping point and closing with the motion of a slow clap until the stopping signal is given.

5. *"Stop"* -- Clenched first.

E. Position the vehicle and trailer as close as possible to the work area.

F. Ensure that the driver has secured the brakes and set wheel chocks.

MEDICAL TREATMENT GUIDELINES

I. Policy on Work-Related Injuries and Illnesses

When an employee sustains an injury in the course and scope of his/her employment, BABECO's first priority is to get that employee back to full health as quickly and efficiently as possible. Not only does the injured employee suffer but the company also suffers significantly from the employee's absence. Therefore, the company has established the following set of guidelines to ensure that the employee returns to full health as quickly as possible. Failure to follow these guidelines will be treated the same as any policy violation. No employee will ever be disciplined or terminated just because of an injury.

A. Company Policy for receiving injury benefits

1. *Employees must report all work-related injuries and incidents immediately to their supervisor or other specified person. Employees must fill out the* ***Employee Report of Incident*** *form and the* ***Employee Notice of Injury*** *form as soon as possible.*

   Reporting the incident immediately allows injuries to be treated in a timely manner and allows the supervisor to investigate the incident for possible hazards or unsafe practices that may result in further incidents. Reporting the incident immediately also helps prevent any question at a later date of the legitimacy of the work-related injury. The longer an employee waits to report the injury; there is a greater chance that the claim will be denied.

2. *The company encourages you to use company-designated physicians and clinics.*

   BABECO has taken the time to identify quality medical providers for an employee's care. While good physicians may cost the company more money up front, their quality ensures that an employee will be returned to full health sooner and save the company money.

3. *Employees must take the appropriate forms for medical care with them on doctor visits and return the necessary forms to the appropriate personnel in a timely manner.*

   The company monitors the quality and cost of an employee's care to ensure that all employees get the care they need at a fair price. These forms are an integral part of that process. All medical information is kept confidential.

4. *Employees must follow the physician's recommendations regarding appointments, medication, physical therapy, work restrictions, etc. as authorized by the company.*

   Following the company-authorized recommendations of the physician is essential for an employee to reach his/her full health potential as quickly as possible. The company will have appropriate personnel review the recommendations to ensure consistent quality. Occasionally, the company may request a second opinion or other variations of treatment.

5. *Employees must report to work no later than the next working day after they are medically released to any level of restricted or full duty.*

   When possible, the company will provide the injured employee a modified position that will meet any work restrictions imposed by the doctor. Being at work, even if in a limited role, keeps the person involved and reduces the strain on the company that is created by an employee's absence. Accepting a modified position is mandatory, but is valuable enough that the company will continue to pay an employee 100% of his/her normal wages.

6. *Employees must follow any other guidelines established by the company or their supervisors.*

   Other policies or instructions may be issued in order to maintain the company's standard of quality care. It is important that all employees observe these guidelines.

II. Medical Leave of Absence Policy

A. A leave of absence without pay may be granted for medical reasons, including maternity. Any employee requesting a medical leave of absence must state in writing the following:

   1. Reasons for requesting leave;
   2. Estimated duration of leave; and
   3. Expected date of return.

B. Granting of a medical leave of absence will depend upon each individual's circumstance.

   1. A medical leave of absence is granted without loss of accumulated time. However, vacation time will not be earned during a medical leave.

   2. An employee requesting a medical leave or returning from a medical leave may be required to undergo an examination by a physician of our choice.

C. No employee will be allowed to return to work if the physician determines that they are medically unable to perform the duties of their job.

III. Family and Medical Leave Policy

A. If you have accumulated 12 months of employment with BABECO, and you have worked at least 1,250 hours in the last consecutive 12 months, you may be eligible for the following types of unpaid leave:

- For the birth of a child.
- For the placement of child of adoption or foster care with you.
- For a serious, personal medical condition. You must provide medical authorization certifying you are unable to perform the basic functions of your job. You will need a doctor's release when you return to work.
- For a serious health condition of a child, spouse, or parent. This condition must require inpatient medical care or continuing treatment by a medical provider. Documentation certifying the need for you to care for the individual must be provided to the company.

B. You are eligible for a maximum of 12 weeks of unpaid leave in a 12-month period. Your position or an equivalent one will be available when you return, and you can maintain any health care benefits provided by the company while on leave as long as you provide reasonable notification (30 days if possible), proper justification, and follow any additional guidelines related to this policy.

C. Leave for a personal medical reason or a family health care reason may be granted on an intermittent basis; however, leave for the birth, adoption or foster care of a child must be taken consecutively.

D. You will be required to use any personal or vacation days you have available in order to be eligible for this policy. You will also be required to contact your supervisor on a regular basis while on leave.

E. Each request will be considered on an individual basis in order to determine eligibility because there are other criteria that might apply and will have to be considered. Failure to return to work after the maximum granted leave has been utilized is grounds for termination.

F. Other types of unpaid leave requests will be considered at the company's discretion.

OFFICE ERGONOMICS

I. Prevention of Common Sources of Discomfort in Offices

A. Common Complaints:

1. Injuries and discomfort in the office may result from poor work station design, prolonged periods of poor posture, glare on the monitor or low contrast of the displayed text.

2. Persons at computer workstations sometimes report eyestrain, blurred vision, headaches, dizziness, pain or stiffness in the neck, shoulders, back, arms, wrists, and hands.

II. Work Station Design

A. A good design for an individual workstation should provide:

1. A comfortable sitting position;

2. Wrist and arm support while entering keystrokes or writing at a desk;

3. Arrangement of work materials, such as computer screen and reference documents, that minimizes or eliminates repeated turning of the head or twisting of the spine.

B. Posture support:

1. The backrest of the chair should firmly support the lower back in the area of the arch, where many injuries and discomforts originate.

2. The backrest should be adjustable horizontally and vertically or it may be necessary to attach an additional back support device.

C. Legs and feet:

1. The chair height should be adjusted so that feet can rest flat on the floor or footrest, without having to lean forward in the chair.

2. Knees should be slightly higher than the forward edge of the seat. This allows better circulation of blood in the legs.

D. Position of arms and wrists:

1. The arms are in an ideal position if the forearm and upper arm form a right angle, or when arms are supported so that wrists are relatively straight.

2. An employee who spends many hours a day on a computer or typewriter should have a place to rest his or her wrists on or near the leading edge of the keyboard, and should have arm rests on his or her chair. Alternately, forearm supports can be installed in the workstation to reduce discomfort or fatigue.

E. Positioning of keyboard:

1. The keyboard of a computer or typewriter should be located directly in front of the typist, so that no twisting of the spine or awkward positioning of the wrists is required.

2. If the keyboard is lower than table or desktop height, it may reduce a source of fatigue for a worker who is experiencing symptoms of arm or shoulder soreness.

F. Soreness of wrists:

1. The position assumed by a writer or a typist should involve the least possible flexing or bending of either wrist in any direction.

2. A work position that causes excessive flexion of wrists or an awkward position can result in chronic soreness or persistent irritation. In such cases, a device that wraps around the wrist and is adjusted snugly with a Velcro closure may provide some relief until the symptoms go away.

G. Position of computer screen:

1. Most monitors are mounted on swivels, which can be turned and tilted to adjust the viewing angle. Ideally, the topmost line of the display should be straight ahead and at or near eye level, to avoid neck strain.

2. The computer screen should be placed about two feet from the employee's eyes.

3. If possible, the screen and reference documents should be about the same distance from the eye (to avoid constant refocusing of eyes). Repeated or excessive movement of the neck or back should be avoided.

III. Legibility and Lighting

A. Legibility: Documents are easier to read and there is less eye strain when:

1. There is a high degree of contrast between the background and letters;

2. Larger symbols and a combination of upper and lower case letters are used in the document; and

3. Paragraphs are kept short.

B. Eye Strain: Legibility is reduced and the chance of eyestrain is increased by:

1. Glare on the screen;

2. Lesser differences between the color of the background and letters;

3. Long paragraphs; and

4. Elaborate design of characters or all capital letters.

C. Glare:

1. Glare is defined as harsh, uncomfortable bright light.

2. Workstations and lighting should be arranged to avoid reflections on the screen or surrounding surfaces.

3. Light should be directed so that it does not shine into the operator's eyes when the operator is looking at the screen.

4. In offices with window(s), natural light may cause illumination levels to vary significantly throughout the day and from season to season. If eyestrain or headaches result, adjustment of artificial light levels may be helpful.

5. If additional measures are necessary to reduce eyestrain, consider the following options:
   a. Anti-glare screens that can be overlaid onto the monitor are available for most types of video display terminals.
   b. Place the display screen at a right angle to the window, so that the line of sight between your eye and the screen is parallel to the window surface. Use drapes or blinds to reduce excess sunlight and to minimize glare.
   c. If reflected light from white walls is the source of the glare, the walls could be painted a medium to dark color with a paint that has a non-reflective finish.

PERSONAL PROTECTIVE EQUIPMENT

I. General Rules for Personal Protective Equipment

A. Take care of the personal protective equipment that has been issued to you and the equipment that is available for your use. Inspect, clean, and store all personal protective equipment in accordance with manufacturer's recommendations so that the equipment will perform optimally to protect you.

B. If personal protective equipment is shared by two or more workers, it must be cleaned and disinfected after each use and stored in a clean container.

C. There are no exceptions to requirements for personal protective equipment for quick jobs or when you may think it is inconvenient or uncomfortable.

II. Eye and Face Protection

A. Safety glasses and/or safety shields are to be worn at all times by all employees.

B. Safety glasses shall meet the requirements specified in the most current version of applicable American National Standards Institute standards (ANSI Z87.1). If they meet these impact resistance and other standards, the package and/or the glasses will be marked with this warranty.

C. Impact tools, power tools, and saws: Impact resistant safety glasses with side shields are mandatory for impact tools, power tools, and saws.

D. Grinders:

1. The minimum required eye protection for use of grinders consists of impact resistant safety glasses. Chipping goggles provide the best protection.

2. Face shields must be worn at all times when using any grinder. A plastic face shield or plastic goggles without safety glasses does not meet impact resistance requirements.

E. Buffers and pneumatic tools: Safety glasses with side shields or plastic safety goggles are mandatory when buffers and pneumatic tools are used or when compressed air is used for cleaning purposes.

F. Chemicals that irritate eyes: Chemical splash goggles or a face shield that is chemical resistant or safety glasses with side shields must be worn whenever there is the possibility that irritating chemicals may splash into eyes.

G. Electrical work: Impact resistant safety glasses with protection against ultraviolet radiation are required when working with electrical equipment or conductors.

H. Welding and cutting: An approved welding helmet is required for welding, and approved welding goggles are required for cutting with a torch.

I. Anyone working in the immediate vicinity of someone operating or using any of the equipment described above must wear the same eye and face protective equipment as the operator.

III. Suitable Clothing

A. Hazards Around Machinery:

1. No loose fitting clothing or jewelry is permitted to be worn when operating machinery or equipment with moving parts or in running rolls.

2. Long hair must be kept pinned up or otherwise controlled to positively prevent being caught in moving parts of machinery, equipment, or fans.

B. Appropriate Footwear:

1. Steel toe shoes or boots are required to be worn by all BABECO shop personnel.

2. No sandals are permitted to be worn. A full shoe is required to be worn at all times. Shoes with slip resistant soles and leather tops are recommended.

C. Hand/Skin Protection:

1. Wear suitable gloves when handling rough or sharp materials, chemicals, and hot objects.

2. Suitable leather or cloth work gloves with leather palms must be worn when handling objects with sharp edges.

3. Personal protective equipment specified by the manufacturer of a potentially hazardous chemical being used by an employee must be worn. This may include rubber, neoprene, PVC or PVA gloves, sleeves, and/or aprons.

D. Head Protection: Hard hats or helmets are to be worn in any work area where there is a danger of falling objects.

E. Back Support Belt:

1. Back support belts are provided to every shop employee and are to be worn for all tasks involving heavy lifting.

2. Back support belts will be made available to persons who may be at increased risk of injury due to material handling requirements of the job, or due to pre-existing medical conditions.

3. If back support belts are issued, they are required to be worn.

IV. Hearing Protection

A. Disposable hearing protectors are available for any employee who may occasionally work in an environment with noise levels above 85 decibels. Hearing protectors are required to be worn whenever noise levels are so loud that you cannot hold a normal conversation with another person at arm's length and/or whenever noise levels exceed the following OSHA limits:

Sound Level	Duration per day
90 dBA	8 hours
92 dBA	6 hours
95 dBA	4 hours
97 dBA	3 hours
100 dBA	2 hours
102 dBA	1-1/2 hours
105 dBA	1 hour
110 dBA	1/2 hour
115 dBA	1/4 hour or less

B. Any employees whose occupational exposure to noise exceeds 85 decibels for an eight-hour time weighted average will be included in the company's Hearing Conservation Program.

V. Respiratory Protection Program

A. Respirator User Responsibilities:

1. Respirators are to be used by employees when any hazardous or irritating dust, vapor, smoke, or fumes caused by a particular work activity, or are a result of the presence of any chemical or material.

2. Each employee is responsible for wearing the appropriate respirator for the chemical or mixture being handled.

3. When in doubt, do not proceed until you have asked your supervisor or the Safety Program Administrator about the respiratory protection requirements.

4. Each employee is responsible for advising his/her supervisor when physical conditions or illnesses would be aggravated by use of a respirator or by working with potentially irritating substances.

5. Respirators shall not be worn when conditions prevent a good face seal, such as a beard, sideburns, or temple pieces on glasses.

B. Approved Respirators:

1. Whenever there may be employee exposure to air contaminants above permissible levels, approved air purifying respirators must be worn, provided that the protection factor of the mechanical filter is adequate for the expected concentration of the contaminant.
   a. For painting, a canister respirator as listed below (or equivalent) is required:
      (1) 3M 6100 (small) - 6300 (large) respirator;
      (2) 6001 organic vapor cartridge.
   b. For sand blasting, a supplied air respirator is required.

2. Gas mask canisters are required to be marked with the name of the atmospheric contaminant they are designed to protect against and the maximum percent by volume of that contaminant for which the canister is approved. Whenever there may be air contaminants in excess of the maximum percent indicated, then an air-purifying respirator may not be used. In such cases, only a positive pressure, self-contained breathing apparatus or an approved supplied air respirator may be used.

3. Whenever there may be an atmosphere that is hazardous to life or health, our company policy is to evacuate the building and let Hazardous Materials Emergency Response Team members handle the emergency, equipped with full protective gear. This might occur in an emergency situation such as a ruptured hose line or major spill of a highly hazardous chemical.

4. Respirators must be selected to protect against the specific contaminants that may cause adverse health effects by inhalation.

C. Color Coding of Gas Mask Canisters:

1. *Acid gases:* white canisters.

2. *Acid gases and ammonia gas:* green canisters with a 1/2 inch white stripe.

3. *Acid gases and organic vapors:* yellow canisters.

4. *Acid gases, organic vapors and ammonia gases:* brown canisters.

5. *Ammonia gas:* green canisters.

6. *Carbon monoxide:* blue canisters.

7. *Chlorine gas:* white canisters with 1/2 inch yellow stripe.

8. *Hydrocyanic acid gas:* white canisters with 1/2 inch green stripe.

9. *Organic vapors:* black canisters.

10. *Particulates (dusts, fumes, mists, smoke) and specific radioactive materials:* purple (magenta) canisters (indicating a high efficiency filter).

11. *Particulates in combination with other gases or vapors:* canister color for gas or vapor, with 1/2 inch gray stripe.

12. *All of the above air contaminants:* red canisters with 1/2 inch gray stripe.

D. Example of Approved Respirators:

1. For raw materials or mixtures containing about 25% or more of alcohols, glycols, amyl acetate, chlorinated solvents such as xylene, styrene or toluene, and volatile petroleum based products, wear a half-mask or full-mask respirator with organic vapor cartridges (color coded black) or with combination acid gas-organic vapor cartridges (color coded yellow) or acid gas-organic vapor-particulate cartridges (color coded yellow with a 1/2" gray stripe).

2. For spray painting operations, wear a respirator with organic vapor cartridges and paint spray prefilters, or a supplied air respirator, depending on airborne concentration.

3. For raw materials or mixtures containing about 25% or more of formic acid, hydrogen chloride, hydrogen fluoride, oxalic acid, phosphoric acid, sulfuric acid or other acid in solution, wear a half-mask respirator with acid gas cartridges (color coded white) or combination acid gas-organic vapor cartridges (color coded yellow) or acid gas organic vapor-particulate cartridges (color coded yellow with a 1/2" gray stripe).

4. For aqueous ammonia, wear a full-face shield with ammonia gas cartridges (color coded green) or a half mask face shield with gas tight chemical goggles.

5. For raw materials or mixtures containing about 25% or more calcium silicate, dibutyl phthalate, manganese compounds, potassium hydroxide, sodium hydroxide, tetrasodium pyrophosphate, zirconium compounds or nuisance dusts, wear a half-mask respirator with high efficiency filter cartridges (color coded purple) or combination acid gas-organic vapor-particulate cartridges (color coded yellow with a 1/2" gray stripe) or a properly fitting dust mask.

6. If substance is a mixture, check Material Safety Data Sheet to see ingredients and percentages of mixture. When in doubt, an employee should ask his supervisor concerning approved respiratory protection.

E. Annual Fit Testing and Training:

1. Any employee who is required to wear an air-purifying respirator (mechanical filter) must be fit tested for each different type he/she may need to use.
   a. This fit testing must be performed annually, as long as the employee's duties involve the use of a respirator.
   b. Each employee will be given an opportunity to learn to adjust and inspect the different types of respirators, have them fitted properly, test the face piece to face seal, and wear it in a test atmosphere.
   c. No employee with a beard or facial hair along the sealing surface of the respirator is allowed to take or pass a fit test.

2. Employees must understand the proper use and limitations of air purifying respirators for which they have been fit-tested.
   a. Chemical cartridge respirators cannot be used for protection against a gas that is extremely toxic in small concentrations.
   b. Cartridge respirators should not be used against any harmful gas that cannot be clearly detected by its smell.
   c. Cartridge respirators shall not be relied upon in an atmosphere that could be oxygen deficient, nor are they permitted in an atmosphere that is immediately dangerous to life or health.
   d. Air purifying respirators shall not be used when the concentration of air contaminants exceeds the protection factor of the respirator:
      (1) A single-use dust mask or a quarter-mask dust respirator shall not be used in atmospheres that are five times OSHA's permissible exposure level (PEL).
      (2) A half mask particulate removing respirator or dust respirator or a half mask gas-and-vapor removing respirator or a half

mask demand-type supplied air respirator shall not be used in atmospheres that are ten times OSHA's PEL.

(3) A full face piece high efficiency particulate removing respirator or a full face piece gas-and-vapor removing respirator or a full face piece demand-type supplied air respirator or a full face piece hose mask without blower shall not be used in atmospheres that are fifty times OSHA's PEL.

3. Each employee must demonstrate performance of a positive pressure and a negative pressure field test of the respirator's seal, as follows:
   a. A positive pressure test can be used on respirators equipped with tight fitting inlet coverings which contain both inhalation and exhalation valves. (This test may be impossible to carry out on valveless respirators and on many disposable respirators.)
      (1) Cover the exhalation valve or breathing tube or both, and exhale.
      (2) The seal is OK if the respirator bulges out slightly, indicating positive pressure inside the mask without breaking the seal or feeling any air leaks around the sealing surface.
   b. A negative pressure test can be performed on air-purifying respirators equipped with tight fitting respirator inlet coverings. (This test may be impossible to carry out on valveless respirators and on many single use disposable respirators.)
      (1) Cover the inlet opening of the respirator's canisters or cartridges or filters with the palms of your hand.
      (2) Inhale and hold your breath for at least ten seconds.
      (3) If the face piece collapses slightly and no inward leakage of air into the face piece is detected, the seal is considered OK.

F. Cleaning and Storage:

1. Respirators must be regularly cleaned and disinfected.
   a. Whenever a respirator is used by more than one person, it must be thoroughly cleaned and disinfected after each use.
   b. Whenever a respirator is assigned to only one person, it must be cleaned at least once every three times it is used or when it obviously needs cleaning.

2. Respirators will be stored in sealable plastic bags or clear containers that will be labeled with the initials of the person who cleaned and inspected the respirator and the date it was done.
   a. Respirators must be protected against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals.
   b. Respirators should not be stored in lockers or toolboxes unless they are in carrying cases.

G. Inspection and Maintenance:

1. All respirators shall be routinely inspected before and after use. A respirator that is not routinely used shall be inspected after each use and at least monthly.

2. Respirator inspection must include:
   a. A check of the tightness of the connection;
   b. The condition of face piece, headbands, valves, and connecting tube;
   c. Rubber or elastic parts for pliability and signs of deterioration;
   d. Canister expiration date and condition.

3. If respirators are defective, they will be taken out of service and replaced with new respirators.

4. An employee must perform a positive and negative pressure check of an air-purifying respirator each time it is put on.

5. Persons assigned to inspect and maintain self-contained breathing apparatus and/or supplied air respirator systems must be trained and knowledgeable in the manufacturer's recommended inspection criteria, troubleshooting, breathing air quality requirements, and guidelines for repairs or replacement.

H. Replacement of Canisters: The service life of air purifying cartridges varies greatly. However, it is generally time to replace the canisters when:

1. Leakage is detected by smell, taste, or eye, nose or throat irritation;

2. High resistance to breathing develops;

3. If the canister shelf life is expected;

4. Uncomfortable heat in the inhaled air;

5. If the wearer has a feeling of nausea, dizziness, or illness;

6. If canisters show specified color change (for type with window indicators).

SANDBLASTING

- An approved breathing air source shall be used.
- The compressor for supplying air shall be equipped with necessary safety and standby devices.
- Compressors shall be constructed and situated so as to avoid entry of contaminated air into the system and suitable in-line air purifying sorbent beds and filters installed to further assure breathing air quality.
- A receiver of sufficient capacity to enable the respirator wearer to escape from a contaminated atmosphere in event of compressor failure, and alarms to indicate compressor failure and overheating shall be installed in the system.
- If an oil-lubricated compressor is used, it shall have a high-temperature or carbon monoxide alarm, or both.
- If only a high-temperature alarm is used, the air from the compressor shall be frequently tested for carbon monoxide.
- All sandblasters will be equipped with a forced air hood.
- An air filter should be installed in the airlines for the hood.
- All filters will be inspected on a regular basis and cleaned as necessary.
- All sandblasters will be equipped with a dead man switch.
- All helpers are required to wear facemasks and eye protection.

SPRAY PAINTING OPERATIONS

I. Paint Booth Room Requirements

A. Mechanical ventilation will be turned on prior to beginning the spraying and left on for at least thirty minutes after completion. A capture velocity in the range of 100 feet per minute to 200 feet per minute or greater is recommended as measured with a velometer at the face of the booth.

B. The spray area must be free of hot surfaces.

C. The spray area must be free of any flames, and all operations causing heat or flames must be at least twenty feet away from the spray booth.

D. Electrical equipment should be intrinsically safe or explosion proof design suitable for Class I, Division I locations.

E. **No smoking signs shall be posted 20 feet from the paint room or paint booth.**

F. Ventilation systems should be designed to restrict air turbulence as well as to eliminate "dead air pockets."

G. Conduct paint-spraying operations away from other operations when possible. Provide a large enough enclosed area so that explosive mixtures of vapor and air cannot easily be formed.

H. Eliminate heating units, air filters, and piping that might become coated with flammable materials or protect them against such accumulations. Do not bring portable electrical equipment into the spray area.

I. Fires in spray booths and in spray-booth operations most frequently result from spontaneous ignition of spray deposits. Prevent these fires by regular cleaning.

J. Do not operate a non-water-wash spray booth whose exhaust is less than 6 feet from any combustible exterior wall or roof, nor discharge in the direction of any combustible construction or unprotected opening in any noncombustible exterior wall within 25 feet.

K. All discarded filter pads and filter rolls shall be immediately removed to a safe, well-detached location or placed in a water-filled metal container and disposed of at the end of the day's operations unless maintained completely in water.

II. Personal Protective Equipment

A. Employees must wear protective equipment at all times when spraying, regardless of the size of the job or the time involved. The type of equipment shall conform to the paint manufacturer's recommendations.

B. Worker respiratory equipment must fit the operator securely. Beards or facial hair are not allowed for any employee who will be working in the spray area. (Beard or facial hair prevents the respirator from fitting securely.)

C. Worker respiratory equipment shall be cleaned in accordance with manufacturer's recommendations.

D. Workers are not to perform jobs requiring respirators or spray equipment unless proper training has been received.

E. Respirator filters must be cleaned or replaced on a regular basis to ensure proper protection to the user.

III. Disposal of Flammable Liquids

A. Return unused, uncontaminated flammable liquids to the vendor, salvage them for resale or use them in some other approved way.

B. When drummed and properly stored, most flammable liquids are stable and can safely be used for a period of several years.

C. If recycling or recovery of flammable liquids is not feasible, flammable liquids should be given to a licensed disposal contractor. Observe all regulatory requirements such as those of the Resource Conservation and Recovery Act.

TRUCK DRIVING SAFETY

I. Documents and Certificates

A. It is the responsibility of a commercial driver to ensure that ALL necessary documents, permits, certificates, delivery tickets, and personal certification cards are present at all times and in compliance with regulatory requirements.

B. Drivers must keep current D.O.T. logs, commercial license, medical exam card, road test certificate, and other cards issued.

C. Conduct necessary pre-trip, post-trip, and periodic enroute inspections to assure safe condition of vehicle, trailer, and load.

II. Physical Condition for Driving

A. Drivers must be physically fit for duty. A driver suffering from an illness or fatigue will not be required or permitted to work.

B. Drivers who become ill or who are fatigued on the road shall stop in the nearest safe place. In the event of a delay in excess of one hour due to such illness or fatigue, the driver shall notify his/her supervisor or manager to request relief.

C. D.O.T. hours of service rules requiring eight hours of rest before going on duty must be adhered to by all drivers. Drivers who have not had proper rest will not be dispatched until they have had sufficient sleep.

D. **No driver is allowed to drink alcoholic beverages while on duty nor within eight hours of reporting for work.**

III. Accidents and Citations

A. Vehicle accidents and/or job-related injuries are required to be reported immediately to your supervisor or manager at the main office.

B. In case of a vehicle accident, provide first aid in accordance with training you have received and call for Emergency Medical Services if there are any serious injuries.

C. Protect the scene of an accident by activating emergency flashers, placing reflective triangles or flares, and posting a flagman or other necessary means.

D. Protect your equipment and cargo from further damage or theft. If possible, do not move your vehicle until after police have arrived.

E. Obtain information for the ***Traffic Accident Report***, but do not admit responsibility nor discuss the accident with anyone except the police, your supervisor or manager, and the insurance adjuster. Be courteous.

1. Record information concerning witnesses. Get names, addresses, telephone numbers, and statements of any eyewitnesses, if possible. If they will not give you their names or statements, write down their license plate numbers.

2. If the other driver says that you are not at fault, try to get him to sign the remarks section of your Traffic Accident Report.

3. Turn in your written report to your supervisor/manager as soon as possible.

F. Damage to or loss of cargo should be reported to your supervisor or manager at the main office as soon as the loss or damage is known to have occurred.

G. In cases where cargo is separated from the trailer and cannot be reloaded, the driver should ask the supervisor or manager to arrange for police protection of the cargo and to secure the scene for the safety of others.

H. Drivers must report all arrest, traffic citations, and fines to your supervisor or manager at the main office. Repeated traffic violations or failure to report violations will result in disciplinary action.

IV. General Truck Driving Rules

A. If in doubt, play it safe. Regardless of any other consideration, do not take chances. Arriving safely is more important than arriving on time. Plan your trip carefully and you are less likely to run into trouble.

B. Knowing your route is vitally important. In the event of an emergency in which a driver must be dispatched on a run with which he/she is unfamiliar, the utmost care shall be exercised to guard against the unexpected.

C. Never insist on exercising the right of way. Always let the other driver go first. Above all, never use the size of your vehicle to intimidate other drivers. To do so invites criticism of you, the company, and the trucking industry. Yield the right of way unless you are sure the other vehicle has yielded to you and you have the legal right of way.

D. Stay alert at all times! Watch for stalled vehicles, animals, pedestrians, farm and construction equipment, accidents, debris, and other potential hazards.

1. The safety of pedestrians and workmen on the side of the road must always be given foremost consideration. Any large group of persons on or near the roadway or any sudden traffic congestion should be considered a danger signal.

2. Slow down and hold your position until you know the way is clear.

E. Rain, sleet, snow and ice, water on the road, and sometimes mud or gravel mean reduced traction and are conditions that call for slow speed and utmost care in driving. Anticipate emergencies and avoid the need for last minute maneuvering which could cause a skid and loss of control.

1. Avoid locking the wheels when stopping on slippery pavements. When necessary to fan brakes on vehicles equipped with air brakes, do not let air pressure drop below 60 pounds.

2. Do not attempt to cross flooded areas, or bridges or culverts, which may have been weakened by floods.

3. When conditions become too hazardous to drive, pull off the road at the first safe place, contact your supervisor or manager, and wait until conditions improve.

F. Obey state and federal traffic laws at all times. Obey Department of Transportation (D.O.T.) and Federal Highway Administration rules and regulations at all times as they apply to you.

G. **Alcohol or illegal drugs in your vehicle or possession or driving under the influence will result in immediate termination.**

H. Never carry unauthorized persons in your vehicle.

I. Always wear your safety belt and shoulder harness.

J. Drive defensively and conservatively.

1. Stop for a yellow light at all times if you can do so safely.

2. Do not proceed through an intersection unless you are sure the other vehicle is stopping.

V. Following Distance

A. **NEVER** follow another vehicle so closely that you cannot stop safely and easily if the vehicle ahead makes an emergency stop. Allow at least one

vehicle length between you and the vehicle ahead for each ten miles per hour of speed. Reports of "tailgating" will be taken seriously.

1. The National Safety Council recommends that commercial drivers maintain a four-second "space cushion" behind a passenger car.

2. If a vehicle pulls in front of you, reduce your speed until you regain the recommended space cushion.

B. Never follow another vehicle, especially another truck, closer than 500 feet on the open highway. Always leave enough space between you and the vehicle ahead to allow faster traffic to pass you and to get back into the right lane.

C. The above rules are not intended to prohibit you from overtaking and passing slower vehicles when you can do so safely. If you start to pass another vehicle but find out that you cannot do so safely, drop back enough so that passenger car drivers can pass you and get back into the right lane.

D. Maintain a safe lateral clearance or safe distance back from vehicles to either side of you on a multi-lane highway whenever possible.

VI. Passing and Being Passed

A. Passing will be attempted only when the driver has adequate space ahead to complete the pass without racing and without risk to himself or to the vehicle being passed.

1. Do not attempt to pass unless there is sufficient difference between your speed and the speed of the slower vehicle so that you can pass without undue delay.

2. Never attempt to pass while traveling through an intersection.

B. Never attempt to pass when approaching a hill, a curve, intersection, side road, bridge, railroad crossing, or any place where you do not have a clear view of the road ahead or where you cannot see traffic approaching from the side.

C. Do not attempt to pass more than one vehicle at a time. If you try to pass a line of traffic, you might find yourself in a position where you cannot return to the right hand lane should the need arise suddenly.

D. When being passed by another vehicle, drivers shall keep well to the right side of the road and, if necessary, shall reduce speed to facilitate safe passing. Never speed up while being passed since this creates a hazard for other drivers.

E. DO NOT SIGNAL THE DRIVER OF AN OVERTAKING VEHICLE THAT IT IS SAFE TO PASS. This practice is prohibited by D.O.T. regulations. To give such a signal may result in liability to the company if the passing vehicle is involved in an accident.

F. Be alert for the driver who tries to pass in an unsafe place. Do not try to block him, but be ready to do anything that may be necessary to avoid being involved in an accident.

G. At night, dim your lights after being passed to avoid creating objectionable glare in other driver's mirror.

H. If you see a vehicle approaching on your side of the road, slow down, pull as far to the right as you safely can, and stop if necessary. NEVER PULL TO THE LEFT TO AVOID AN ONCOMING VEHICLE.

VII. Parking

A. Whenever it is necessary to park outside the city limits, emergency warning signals must be set out in accordance with D.O.T. regulations unless the unit is at least ten feet from the nearest part of the traveled roadway. Always set out emergency warning signals within 10 feet of the rear of the truck, 100 feet behind the truck, and 100 feet in front of the triangle or flare set at the back of the truck.

B. Whenever a unit is parked, the parking brake must be set and the transmission must be placed in the lowest forward gear or reverse.

1. Never park on the left side of the multi-lane highway.

2. Never park on the side of the highway or interstate unless it is absolutely necessary. If you must do so, then pull off the right of way as far as possible without taking the chance of rolling your vehicle down an embankment. Mark your vehicle according to D.O.T. regulations with emergency triangles or flares.

C. If a curb is present, the front wheels shall be turned toward the curb on a downward slope or grade.

D. Wheels shall be turned away from the curb when parking on an upward grade.

E. If the steepness of the grade or other factors greatly increase the danger of the runaway unit, all wheels must be blocked. Never park on steep grades unless it is absolutely unavoidable.

VIII. Curves and Turns

A. Curves and turns must always be negotiated at reduced speed consistent with the available sight distance, the sharpness of the curve or turn, and other prevailing road and traffic conditions. Slow down for curves and exit ramps to positively prevent the load from shifting, possibly causing your vehicle to roll over.

B. When turning or negotiating a curve on the open highway, be sure to stay entirely within your own lane. If you swing wide or cut across lanes, it puts your vehicle into the opposing traffic lane and may create a hazard.

C. In city traffic, turn signals shall be given continuously for the last 100 feet or one block (whichever is shorter) prior to turning. On the open highway, turn signals shall be given for the last 500 feet prior to turning.

D. Watch your off-track. On any turn, the rear wheels of a commercial vehicle always follow a shorter path than the front wheels.

1. Allowance must be made for this fact to keep the rear of the vehicle from striking another vehicle, person or object while turning.

2. When extra room is required to allow the rear wheels to clear a corner, pull carefully across the centerline of the side street and avoid making a wide swing on the street from which you are turning so that other traffic will not attempt to pass while you are preparing to turn.

IX. Spotting Trucks for Loading/Unloading

A. Plan your route to keep backing at a minimum. Never back into traffic or onto a highway if you can avoid it.

B. Be sure to inspect your line of travel before backing. You may have to get off your seat and onto your feet.

1. Use a spotter if possible. A spotter is a person who will provide directions or signals to assist the driver to back up safely to the loading dock. The spotter is required to stand out of harm's way on driver's side of the truck.

2. You should get out of your vehicle and see what is behind you, even if you are using a spotter.

3. Back slowly, scanning your mirror or turning to look at the spotter. The driver must maintain visual contact with the spotter when backing.

4. Watch clearance of overhead and side objects.

C. Even when a helper is directing you, you are responsible for safe backing. Be sure your helper is in a position where he has a clear view and where his signals can be seen or heard.

D. When spotting trucks or trailers at a platform, precautions shall be taken to guard against rollaways. Always block the wheels before leaving the trailer.

X. Railroad Crossings

A. Railroad crossings must be approached with the expectation that a train is coming. Speed must be reduced in accordance with the driver's ability to see approaching trains in any direction. Speed must be controlled to allow the driver to stop short of the tracks in case a stop is necessary. DO NOT RELY SOLELY ON WARNING SIGNALS OR GATES since any mechanical device can fail and a signal or gate could malfunction.

B. Never attempt to race a train to a crossing. It is extremely difficult to judge the speed of an approaching train. The train may be coming so fast that you cannot clear the tracks before a collision occurs, even though the train may appear to be a long way off when first seen. If in doubt, wait patiently.

C. Never permit traffic conditions to trap you in a position where you have to stop on the railroad tracks. Be sure you can get all the way across the tracks before you start across.

D. A full stop is required at railroad crossings by D.O.T. regulations whenever you are carrying hazardous materials. Stops shall be made not less than 15 feet nor more than 50 feet from the nearest rail. The driver shall pull as far to the right as possible before stopping and shall signal traffic appropriately (such as with flashers) to avoid being rear-ended.

E. Do not shift gears while crossing railroad tracks.

F. Double tracks require a double check. Remember that a train stopped on one track may hide from view of a train on the other track. Look both ways before crossing. After one train has cleared a crossing, be sure no other trains are near before starting across the tracks.

XI. Clearances

A. Bridges, tunnels, alleys, and similar narrow places or obstructions that make roadways narrow demand special care on the part of the driver to avoid accidents and damage to equipment or cargo.

1. Road repairs, rough roads, ice, snow, flooding, and empty equipment may cause difficulty where clearance is otherwise adequate.

2. Width of many bridges and tunnels will not permit two trucks or a truck and a car to pass in opposite directions safely. If there is any doubt, let the other driver go first.

B. Know the height of the highest point on your vehicle or cargo at all times. Watch posted clearances on bridges and underpasses. Where posted clearances exceed the height of your unit by six inches or less, slow down to avoid bouncing into an obstruction on rough roads. You can't always rely on permit routing. Road repairs or improvements tend to alter road conditions and posted elevations. If in doubt, STOP.

C. Watch for fire escapes, shutters, or other overhead obstructions in alleys or near the curb line. Beware of low tree limbs, low power lines, fixtures, and other fixed objects that you may strike.

D. Mark loads that protrude from truck or trailer with a red flag at least 12" x 12".

XII. Caution Zones

A. Always slow down in school zones. Children cannot be expected to exercise good judgment when it comes to traffic situations.

B. Animals on or near the road are a warning to keep the unit under close control. Do not rely on the presence of fences to keep livestock off the road.

C. Reduce speed in residential areas and when passing through small towns along the highway.

D. All hills must be descended with great care. On long hills, particularly when there are curves or where a clear view of the road is not available for at least 1000 feet, units shall be geared down and speed shall be controlled primarily by using the engine as a brake.

1. Where gearing down is necessary, it shall be done at the top of the hill before speed is built up to a point where gearing down is impossible.

2. Service brakes shall only be used for its intended purpose. Depending on service brakes for complete control of the unit on long grades will result in burned out brakes or loss of air--either way, you won't be able to stop.

XIII. Types of Inspections for Commercial Vehicles

A. Definition of "Commercial Vehicle." A commercial vehicle is defined as a vehicle or combination of motor vehicles used to transport passengers or property if:

1. The motor vehicle has a gross vehicle weight or gross combination weight rating of 26,001 pounds or more (inclusive of a towed unit with a gross vehicle weight rating of more than 10,000 pounds); or

2. The motor vehicle is designed to transport 16 or more passengers, including the driver; or

3. The motor vehicle is of any size used to transport hazardous materials that must be placarded according to D.O.T. regulations (49 CFR 172, Subpart F).

B. Pre-Trip Inspection. You are required to do a pre-trip inspection of a commercial vehicle before each trip to find problems that could cause a crash or breakdown and to ensure that you have all required emergency equipment.

C. NO DRIVER IS ALLOWED TO DRIVE A TRUCK THAT IS IN UNSAFE CONDITION or a truck that is missing emergency equipment.

D. Enroute Inspections. During a trip you should:

1. Watch gauges for signs of trouble.

2. Use your senses to check for problems (look, listen, smell, feel).

3. Check critical items such as:
   a. Tires, wheels, and rims;
   b. Service brakes, trailer brake connections, and parking brakes;
   c. Lights, turn signals, and reflectors;
   d. Steering, horn, mirrors, and windshield wipers;
   e. Trailer coupling devices and cargo securement devices.

E. Post-Trip Inspection and Report. You are required to do a safety inspection at the end of the trip, day, or tour of duty on each commercial vehicle you operated. It includes filling out a **Daily Vehicle Inspection Checklist** listing any problems.

1. The inspection report must be given to your supervisor or manager when there are defects that must be corrected.

2. Before driving a truck which has been repaired after a defect was reported, the owner is required to certify by signature that repairs were made and the driver is required to sign the Daily Vehicle Inspection Checklist for the date it was reported after verifying that the items were corrected and before completing the Pre-Trip Inspection for the current day.

XIV. Inspection Criteria

A. The inspection items are listed on the Daily Vehicle Inspection Checklist. The completed inspection form(s) for the past seven days must be kept in the cab with the driver of a commercial vehicle at all times.

B. Tire Problems. It is dangerous to drive with bad tires. Look for problems such as:

1. Too much or too little air pressure.

2. Excessive wear. You need at least 4/32 inch tread depth in every major groove on front wheels. You need 2/32 inch on other wheels. No fabric should show through the tread or sidewall.

3. Cuts or other damage.

4. Tread separation.

5. Dual tires that come in contact with each other or parts of the vehicle.

6. Mismatched sizes.

7. Radial and bias-ply tires used together.

8. Cut or cracked valve stems.

C. Wheel and Rim Problems. Bad wheels or rims could cause an accident. A damaged rim can cause the tire to lose pressure or come off.

1. Rust around wheel nuts may mean the nuts are loose, check tightness.

2. After a tire has been changed, stop a short while later and recheck tightness of nuts.

3. Missing clamps, spacers, studs, or lugs mean danger.

4. Mismatched, bent or cracked lock rings are dangerous.

5. Wheels or rims that have had welding repairs are not safe.

D. Bad Brake Drums or Shoes. A truck must be taken out of service if any of the following defects are noted:

1. Cracked drums.

2. Shoes or pads with oil, grease, brake fluid on them.

3. Shoes worn dangerously thin or missing or broken.

E. Steering System Defects. Out of service criteria includes:

1. Missing nuts, bolts, cotter keys, or other parts.

2. Bent, loose, or broken parts, such as steering column, steering gearbox, or tie rods.

3. If power steering equipped, check for leaks in hoses, pumps, and fluid level.

4. Steering wheel play of more than 10 degrees (approximately 2 inches of movement at the rim of a 20-inch steering wheel) can make it hard to steer, resulting in an unsafe condition.

F. Suspension Systems Defects. The suspension system holds up the vehicle and its load. It keeps the axles in place. Therefore, broken suspension parts can be extremely dangerous. Check for the following defects:

1. Spring hangers that allow movement of axle from proper position.

2. Cracked or broken spring hangers.

3. Missing or broken leaves in any leaf spring. If one-fourth or more are missing, it will put the vehicle out of service, but any defect is dangerous.

4. Broken leaves in a multi-leaf spring or leaves that have shifted so they might hit a tire or other part.

5. Leaking shock absorbers.

6. Torque rod or arm, U-bolts, spring hangers, or other axle-positioning parts that are cracked, damaged, or missing.

7. Air suspension systems that are damaged and/or leaking.

8. Any loose, cracked, broken, or missing frame members.

G. Exhaust System Defects. A broken exhaust system can let toxic fumes into the cab or sleeper berth that might even result in death if you were overcome by carbon monoxide. You should check for:

1. Loose, broken, or missing exhaust pipes, mufflers, tailpipes, or vertical stacks.

2. Loose, broken, or missing mounting brackets, clamps, bolts, or nuts.

3. Exhaust system parts rubbing against fuel system parts, tires, or other moving parts of vehicle.

4. Exhaust system parts that are leaking.

H. Emergency Equipment. Commercial vehicles are required to have the following emergency equipment:

1. Fire extinguisher(s).

2. Spare electrical fuses (unless equipped with circuit breakers).

3. Warning devices for parked vehicles (three reflective triangles or flares).

I. Cargo. You must inspect for cargo overloading and correct balance and securement before each trip. If the cargo contains hazardous materials, you must inspect for proper completion of manifest and required placards. If the load protrudes beyond the back of the truck or trailer, it must be marked with a red flag no smaller than 12" x 12" with a holder that will keep it in an upright position.

1. Inspect the cargo and its securing devices again within 25 miles after beginning a trip. Make any adjustments needed. Check the cargo and securing devices as often as necessary during a trip to keep the load secure. Inspect again:
   a. After you have driven for 3 hours or 150 miles.
   b. After every break you take during driving.

2. Federal, state, and local regulations of weight, securement, cover, and truck routes vary greatly from place to place. Know the regulations where you will be driving.

WELDING AND CUTTING

I. Safe Welding and Cutting Practices

A. **Only authorized and trained personnel are permitted to use welding, cutting, or brazing equipment.**

B. Only approved, compatible parts (torches, regulators, pressure-reducing valves, acetylene generators, manifolds) are to be used for welding, cutting, and brazing equipment.

C. Workers must wear appropriate clothing and personal protective equipment to reduce exposure to injuries from heat, fire, hot particles, and radiation.

1. Polyester and synthetic clothing are prohibited because it presents an increased risk of burn injury.

2. Flame retardant cotton, heavy cotton, leather, and/or wool clothing are recommended.

3. Welding helmets or cutting goggles with the correct shade lenses are required to be worn to prevent flash burns to eyes.

D. Before beginning welding operations, ensure that adequate ventilation is available.

1. Local exhaust ventilation must be sufficient to reduce the exposure to metal fumes below permissible exposure limits; OR

2. A low profile respirator approved for fumes of toxic metals must be worn under the welding hood or in conjunction with cutting goggles.

E. Before beginning welding operations, equipment must be inspected.

1. Hoses and connections should be checked for cracks and cuts, and ensuring that all connections are tight and are not leaking.

2. The torch body and tips should be checked and cleaned daily.

3. Regulators should be checked to ensure correct adjustments.

F. Welding curtains will be used when operations permit, for both temporary and permanent work stations. When welding, cutting, or brazing near a passageway, a welding screen must be in place to prevent exposure to employees or visitors passing by.

G. Suitable fire extinguishers must be readily available when welding. Extinguishers must be large enough to handle a possible fire and approved for the class of combustibles. When dry powder extinguishers may add to fire damage, a carbon dioxide or halon extinguisher is recommended.

H. Welding must never be done on used barrels or tanks until and unless they have been completely evacuated of all residue and purged of all vapors or traces of previous contents. Triple rinsing or washing and double rinsing is recommended for containers that have held flammable or combustible liquids.

II. Inspection Procedures

A. At the beginning of all welding or cutting operations, the operator will confirm that a functioning portable multi-purpose fire extinguisher is accessible to the work site. If one is not available, the operator will bring one to the area.

B. Prior to the starting of all welding or cutting operations, an inspection shall be made of the immediate work area for flammable liquids and combustible material (minimum clearance of 35 feet).

1. An inspection will be made to look for items that could be damaged by flames, sparks, or hot metal. Special attention will be given to electrical wiring, fuel supply lines, and high-pressure lines (steam, hydraulic, or air).

2. Structures and objects that will burn within 35 feet of welding operations shall be protected by covering with flame retardant material or fire resistive materials.

C. When there is an increased risk of fire, a continual inspection procedure during welding or cutting operations will be initiated. Conditions that require a second person to provide continual inspections are:

1. The existence of flammables or combustibles that cannot be moved outside a 35-foot radius of the welding/cutting operation.

2. Operations that propel sparks beyond the 35-foot horizontal safety zone.

3. Work that presents "free fall" vertical exposure of sparks and metal.

4. The close proximity of other workers.

5. The operator is at risk of falling because of working heights (regardless of fall protection equipment used).

D. At the completion of all welding or cutting operations, a careful inspection shall be conducted to detect smoke, flames, or hot metals that could initiate a fire. Work areas shall be continually monitored for 20 minutes after "hot work" has been completed.

E. If a Hot Work Permit system is in place, obtain signed permit from the Maintenance Supervisor prior to commencing work.

III. Safe Handling and Storage of Cylinders

A. All gas cylinders must be legibly marked to clearly identify the gas contained.

B. All cylinders must be stored away from incompatible materials:

1. Acetylene cylinders must be separated from oxygen cylinders in storage by a minimum of 20 feet or by a wall at least five feet high that has a fire resistance rating of at least one-half hour.

2. Cylinders must be stored in a well-protected, well-ventilated, dry location at least 20 feet from highly combustible materials such as oil, cardboard, or packing materials.

3. Oxygen cylinders shall not be stored within 20 feet of oil, grease, reserve stocks of acetylene, or LP-gas cylinders, nor any other substance that are likely to cause or accelerate a fire.

C. Other storage requirements for cylinders are as follows:

1. All cylinders are to be kept away from sources of heat, stairs, exits, and passageways to required exits.

2. Cylinders should be secured in an upright position, preferably chained to a wall or firm support.

3. Acetylene cylinders shall always be stored with the valve end up.

4. No more than 2,000 cubic feet or 300 gallons of fuel-gas cylinders, not including those cylinders that are in use or connected for use, may be stored inside a building outside of specially constructed storage rooms of an approved design.

5. Empty cylinders should be stored separately from other cylinders. Valves of empty cylinders shall be closed.

D. **"No Smoking" signs must be posted within 35 feet of all cylinder storage or oxygen-acetylene welding and cutting operations unless the entire work area is designated a no smoking area.**

E. Oxygen may cause immediate ignition of very small amounts of organic materials. Such a fire is likely to flash back to you and may also cause the cylinder to catch fire and explode.

1. Keep all oxygen cylinders, valves, couplings, regulators, hose, and other apparatus free from oily or greasy substances.

2. Do not handle oxygen cylinders or apparatus with oily or greasy hands or gloves.

3. Never allow a jet of oxygen to strike an oily surface or greasy clothes or enter a fuel oil or other storage tank.

F. Take precautions to prevent damage to cylinders that may result in an unintended mixture of air or oxygen with flammable gases outside of a burner or standard torch.

1. Compressed gas cylinders should be regularly examined for obvious signs of defects, deep rusting, or leakage.

2. If cylinders are found to have leaky valves or fittings, which cannot be stopped by closing of the valve, the cylinders shall be taken outdoors away from sources of ignition and slowly emptied.

3. Do not use valve protection caps to lift cylinders.

4. Do not pry valve protection caps open with bars.

5. Do not tamper with safety devices in cylinders or valves.

6. Do not use a hammer or wrench to open a stuck cylinder valve. If the valve cannot be opened by hand, the supplier shall be notified.

G. Cylinders that do not have fixed hand wheels must have keys, handles, or non-adjustable wrenches on valve stems while these cylinders are in service. When a special wrench is required, it shall be left in position on the stem of the valve while the cylinder is in use so that the fuel-gas flow can be quickly turned off in case of emergency.

1. The cylinder valve must always be opened slowly.

2. An acetylene cylinder valve shall not be opened more than one and one-half turns and preferably no more than three-fourths of a turn.

3. Before connecting a regulator to a cylinder valve, the valve shall be cracked, that is, opened slightly and closed immediately. Never crack a fuel-gas cylinder valve near other welding work or where there are sources of ignition.

H. Unless cylinders are well secured on a special dolly, regulators shall be removed and valve protection caps shall be in place before cylinders are moved. Before removing the regulator from a compressed gas cylinder valve, make sure the valve is closed and that residual gas has been released.

I. Use care in the handling and storage of cylinders to prevent damage from falling, tripping, or rolling since cylinders are under pressure and may rupture violently.

1. Take care not to drop or strike cylinders.

2. Do not roll cylinders on their sides since this may cause excessive pressure on the valve stem and lead to rupture.

J. Cylinder valves shall be closed when work is finished.

IV. Electric Arc and Resistance Welding

A. Prior to the activation of electric arc welding equipment, an inspection will be made of the equipment to confirm a safe condition.

1. Lines and leads must be in good condition. Cables with damaged insulation or exposed bare conductors shall be replaced. Cables with splices within 10 feet of the holder shall not be used.

2. All connections to the machine shall be checked to make certain they are properly made.
   a. The work lead shall be firmly attached to the work and magnetic work clamps shall be freed from adherent metal particles of spatter on contact surfaces.
   b. Coiled welding cable shall be spread out before use to avoid serious overheating and damage to insulation.

3. Valves, gauges, and switches must be functional.

4. Welding must not be done when the presence of water exposes the operator to a slip hazard or electrical shock. Electric arc welding

machines shall be thoroughly dry. Resistance welding must never take place on a wet floor.

5. There shall be no leaks of cooling water, shielding gas, or engine fuel.

B. The following precautions related to unsafe methods of completing a welding circuit are necessary to prevent electric shock hazards when welding:

1. Conduits containing electrical conductors shall not be used for completing a work-lead circuit.

2. Pipelines shall not be used as a permanent part of a work-lead circuit but may be used during construction, extension, or repair, provided that current is not carried through threaded joints, flanged bolted joints, or caulked joints and that special precautions are used to avoid sparking at connection of work-lead cable.

3. Chains, wire ropes, cranes, hoists, and elevators shall not be used to carry welding current.

C. The welder is forbidden to coil or loop welding electrode around his/her body.

D. When electric arc welding equipment is not in use or when it is unattended, electric power to the welder must be shut off, and electrodes shall be removed from holders and placed so that they cannot make electrical contact with persons, conducting objects, fuel, or compressed gas tanks.