



RIECK
SERVICES

HEALTH & SAFETY POLICY

Revised
March 2008

Rieck Services Health & Safety Policy Table of Contents

Owner Acknowledgement	Page 3
Accident Prevention Policy and Reporting	Page 4
General Policy Overview	Page 5-8
Rules and Regulations	Page 9-10
Emergency Response Plan	Page 11-16
<ul style="list-style-type: none"> • Initial Actions • First Aid • Rescue Breathing/CPR • Bleeding • Wounds • Shock • Poisoning • Heat • Fractures • Emergency Rescue/Transfer 	
Aerial Work Platforms/Scissors Lifts	Page 16
Combustible Material	Page 17
Compressors/Compressed Air	Page 17
Compressed Gas and Cylinders	Page 17
Confined Space	Page 18-20
Electrical and Assured Grounding/Inspection	Page 20-22
Excavation and Trenching	Page 22-23
Extension Cords	Page 23
Fall Protection	Page 24-25
Fire Safety	Page 25-28
Forklifts	Page 28
Gases	Page 29-34
Hazard Communication	Page 34
Job Site Survey/Inspection	Page 35
Ladders	Page 35
Lockout/Tagout	Page 36
Safeguards for Personnel Protection	Page 37
Material Handling	Page 38-40
Power Tools and Powder Actuated Tools	Page 41-43
Respirators	Page 44
Rigging	Page 45
Scaffolding	Page 46-47
Substance Abuse/Use	Page 48
Temporary Power	Page 49
Tool Maintenance	Page 49
Trailers	Page 49
Welding/Cutting/Brazing	Page 50
Safety Violation Form	Page 51
Progressive Discipline Policy	Page 52
Company Vehicle Operating Policy	Page 53
Company Owned Vehicles are Consider a Privilege	Page 54
Acknowledgement of Receipt	Page 55

Rieck Services Health & Safety Policy Statement

To All Employees:

Rieck Services is dedicated to creating a safe working environment, acknowledging the fact that our people are our most valuable assets.

It is our belief that all employees, and any other person we may be associated with during the tasks performed to complete a job, have a right to know that every effort is being made on our part to provide them with a work environment that exposes them to as little risk as is possible continually striving towards a zero-injury atmosphere.

The performance of all tasks shall be approached in a manner that includes measures to prevent accidents. Management shall include safety as an integral part of the planning and execution of work to be done.

Funds are allocated yearly to allow for expenses associated with providing personal protective equipment and any other items deemed necessary to perform any task as safely as possible. Never, will safety be compromised as a cost cutting effort.

Each Rieck Services employee has the right to take any action necessary to immediately correct a safety hazard that they are exposed to when it is not feasible to contact a supervisor or the Safety Director to correct the problem.

Management accepts the responsibility for safety and the prevention of accidents, encourages and supports safe work practices, and appeals to each employee of Rieck Services to make it their number one priority as they set about their daily tasks.

Safety does not exist if only certain individuals make it a priority. If you are working with someone who is performing an unsafe procedure, your chances of being injured are as high as the other person.

Everyone must work together as a team at all levels to create a safe working environment. Make a commitment to do your part along with management to build a winning safety team. The reward is priceless...it could be your life.

Sincerely,



Harold R. Rieck
Chief Executive Officer
Rieck Services

Accident Prevention Policy

All projects are guided by an established accident prevention policy. This policy is based on a concentrated effort to eliminate personal injuries, occupational illnesses and damage to equipment and property, as well as to protect all persons we are associated with, or the general public we may come in contact with as we work.

All Rieck Services employees are responsible for preventing incidents or conditions that could lead to an occupational injury or illness. While the ultimate success of Safety and Accident Prevention depends upon the full cooperation of each employee, it is management's responsibility to see that safety and health rules and procedures are adequate and enforced. It is also the obligation of management to ensure that effective instruction and training is followed through to the best possible advantage.

Never should safety be sacrificed for production. It must be considered an integral part of quality control, cost reduction and job efficiency. Management and supervision will be held accountable for the safety performance demonstrated by persons under their supervision.

The goal is zero-injury during all operations by performing work in the safest possible manner consistent with good work practices. Management at every level is charged with the task of translating this policy into positive actions.

Accident Procedure

- Immediately notify the foreman or lead person on the job that you have had an accident.
- If the injury requires more than general first aid care, treatment should be sought at Medwork of Dayton, 725 South Ludlow Street, Dayton, Ohio. If you are not working in the Dayton area or the severity of the injury requires immediate treatment, go to the nearest hospital.
- Do not drive yourself unless you and your supervisor are absolutely certain you can do so safely. If there is any question as to the severity of the injury or loss of consciousness, call 911 immediately. The caller must give emergency workers precise information regarding the injury and the location of the injured person.
- Designate a person to meet the emergency personnel where he/she is easily visible to guide them to the injured.
- Complete an accident report as soon as possible, no later than 24 hours of the incident.
- Drug testing will be performed after all accidents.

Serious accidents will always be investigated. The following steps should be taken as soon as the injured has been taken from the scene. The Safety Director will be on site as soon as possible to help with the investigation.

- Secure the area as soon as possible so that the accident scene is not disturbed.
- If possible, take pictures before conditions have been disturbed.
- Make notes on physical conditions that may have a bearing such as lack of guards, poor housekeeping, defective equipment, etc.
- Record names and how to contact all witnesses.
- Interview witnesses still at the scene. Make sure to clarify what the injured was doing, methods, position of equipment and personal protective equipment being used.
- Consider physical or mental deficiencies that may have contributed. I.e. blackout, health, irrational behavior, attempting a task outside their physical ability, etc.
- Do not discuss serious accidents with outsiders as to your opinion of what happened and/or how it happened or why.
- File all documentation with the Safety Director immediately.

Purpose:

This program outlines employee safety practices and procedures designed to increase worker safety and awareness. It is each employee's personal responsibility to use safe working practices at all times.

It is the responsibility of Rieck Services to provide each and every worker with a workplace free of controllable hazards. Together, we can make our workdays injury free.

Procedure:

A. *Accident Reporting*

- ✓ Employees must report all injuries to their supervisor regardless of how minor.
- ✓ Employees and supervisor are responsible for reporting all accidents to the Safety Director within 24 hours.

B. *Injuries Requiring Doctor's Care:*

- ✓ Employees must give prior notice of need to seek medical attention for job-related injury or illness.
- ✓ Transportation will be provided unless the injured feels he/she can transport themselves. However, if the supervisor is not comfortable with the injured transporting himself or herself, transportation will be provided. The supervisors rule on this decision.
- ✓ Modified or light duty will be available in all trades if possible.
- ✓ A written doctor's release indicating restrictions, if any, and permission to return to work is required.
- ✓ All documentation received from treating physician or facility must be turned in to the Safety Director within 24 hours of treatment.

C. *Personal Protective Equipment:*

- ✓ Safety glasses must be worn in required areas.
- ✓ Hard hats are required at all times including welding, grinding or burning.
- ✓ Hard-soled industrial type boots are required on all job sites. Soft soled, athletic type shoes are not acceptable. Site-specific shoes may be required, such as metatarsal guarded boots.
- ✓ Hearing protection when noise is above an acceptable level.
- ✓ Respiratory protection as needed.
- ✓ Hand protection when risk of injury or exposure is present.

Note: All jobs will be reviewed for site-specific Personal Protective Equipment requirements to ensure all equipment will be available as needed. Notify the Safety Director of any hazards you are exposed to without proper protection so that necessary steps can be taken prior to commencing work.

D. *Fall Protection:*

- ✓ Full fall protection is required any time you are exposed to a fall of six feet or more.
 - Body harness and shock absorbing lanyard. The lanyard is to be attached by the end with the shock absorber to the "D" ring on the harness. Tie off must be to an approved tie-off point. Wrapping a lanyard around a railing, beam, etc. and hooking it back onto the lanyard is prohibited. Body belts are prohibited.
 - Guardrails, mid-rails, toe boards will be erected per OSHA standards when fall hazards exist on above groundwork areas and landings.
- ✓ When working off of the ground, beware of potential fall areas such as floor openings, wall openings, etc.

Ladders:

- ✓ Nonconductive ladders required
- ✓ Ladders must meet OSHA requirements and be in good repair. Rungs not bent or damaged, side rails straight and not cracked or splintered, non-skid feet, etc.
- ✓ Proper setup includes adjusting to the proper slope of 4 to 1; tying the ladder off; extending the ladder 36 inches above the landing; step-ladders fully opened; bottom of ladder on solid footing with clear access.
- ✓ The two top rungs of a stepladder are never to be used.
- ✓ Worker is to remain within the confines of the side rails of the ladder while working.
- ✓ Inspect ladder prior to use. Damaged ladders are to be tagged out not to use and returned to the shop.
- ✓ Use of ladders should be for short jobs only. Use scaffolding or scissors lifts for longer jobs.

E. Scaffolds:

- ✓ Scaffolds shall be complete according to OSHA standards.
- ✓ Scaffolds shall have guardrails, mid-rails and toe boards.
- ✓ Platforms must be level and fully planked.
- ✓ Upright shall be plumb and sturdy.
- ✓ Any defective scaffold must be tagged out immediately and dismantled.
- ✓ Scaffolds are only to be erected by a qualified competent person.

F. Aerial Work Platforms – All Types

- ✓ Workers are to be trained and certified to use any RSI Aerial Work Platform (AWP).
- ✓ Fall protection is required on all articulating boom type lifts. Tie-off is not to be on the rail. Operator must use manufacturer's designated tie-off point. Scissors lifts are not to be tied off in unless a manufacturer installed tie-off point is available. Tie-off to railings is prohibited.
- ✓ Travel is prohibited while elevated.
- ✓ All safety features are to be operational. Any dismantled or altered safety features may result in disciplinary action.

G. Floor/Wall Openings:

- ✓ All openings greater than 2 inches in its least dimension shall be considered a floor/wall opening requiring standard guardrail system or appropriate hazard tape marking. Floor/wall coverings shall be made of proper material and strength, including proper markings.
- ✓ Edges or perimeters of floors shall have proper guardrails.

H. Electrical:

- ✓ Cords and leads should be kept off the ground and out of traffic. Minimum height is 7 feet.
- ✓ All power is to be protected by Ground Fault Circuit Interrupter (GFCI).
- ✓ Temporary lighting must be a minimum of 8 feet off the ground
- ✓ A qualified electrician must install temporary heat/electrical in accordance with OSHA standards.
- ✓ Electrical panels must be properly covered. Cardboard is prohibited.

I. Lockout/Tagout

- ✓ Locks are available from the shop.
- ✓ Tags must be fully complete and placed with every lock.
- ✓ Each employee on task must have his or her own-keyed lock.
- ✓ Each employee is to remove his or her own lock.
- ✓ Work on any energized system is prohibited without first isolating all energy sources. This includes electrical, steam, mechanical, spring, gravity or any other form of energy.

J. Hazard Communication

- ✓ Written program available from the Safety Director.
- ✓ Material Safety Data Sheets (MSDS) are located in the job trailer. If no trailer is on site, check with your supervisor for their location.
- ✓ All chemical spills must be reported to supervision immediately.
- ✓ All containers must be properly labeled and stored. Read all labels before use.
- ✓ Chemical training will be provided as needed for proper use, storage and disposal.
- ✓ Proper PPE is required.
- ✓ Proper disposal is required.

K. Fire Prevention

- ✓ Check for site-specific hot work requirements regarding permits.
- ✓ Remove all flammable and combustible material before proceeding with hot work.
- ✓ Set welding screens to protect others.
- ✓ Have a trained firewatch and suitable fire extinguisher immediately available, within 25 feet. Check that fire extinguisher has been properly serviced and is charged.
- ✓ Report all fires immediately.
- ✓ Ensure welders are properly trained including proper use of fire extinguishers.
- ✓ The firewatch shall remain in the area for at least 30 minutes after completion of any hot work.

L. Housekeeping:

- ✓ All work and storage areas are to be maintained in a clean and orderly fashion at all times. Clean up messes and spills immediately.
- ✓ Nails are to be pulled from boards before they are stacked to avoid puncture wounds. If boards are to be disposed of, nails should be bent over to avoid puncture wounds.
- ✓ Aisles, walkways and work areas are to be kept clean.

M. Confined Space:

- ✓ A confined space is any area not designed for human occupancy, restricted access or egress or limited airflow.
- ✓ A confined space entry permit is required before entering any confined space. (A permit outlines the procedure to be followed)
- ✓ Air quality checks are required prior to entry and in some instances continuously.
- ✓ A watch at the access is required. The watch person must be properly trained in his/her duties, the entrant's duties, how to maintain uninterrupted communication with the entrant and how to summon emergency rescue personnel.
- ✓ All entrants must be trained in their duties, hazards and recognition of hazards and proper PPE.
- ✓ Properly trained rescue personnel must be readily available throughout the entire entry, occupation and exit process.

N. Ribbon Barricades:

- ✓ Red plastic ribbon shall enclose potentially dangerous or hazardous areas. Do not enter the area without determining the hazards involved.
- ✓ Yellow plastic ribbon shall enclose areas where exposure is possible. Check to see what potential hazards may be encountered.

O. Tool Care/Responsibilities

- ✓ Inspect tools prior to use including cords. Proper grounding must be used. Any defective tool should be tagged out and returned to the shop.
- ✓ Removal of guards is prohibited and may result in disciplinary action. If guards are missing, do not use, tag out and return to the shop.
- ✓ Make sure tools used are intended for the task at hand.

P. Compressed Gas Cylinders:

- ✓ Always store cylinders upright and secured to prevent the cylinder from falling over.
- ✓ Store cylinders with the cap in place. After use, immediately remove gauges and replace the caps.
- ✓ Separate oxygen and all fuel gases by 20 feet.
- ✓ When cylinders are empty or the task is complete, return them to the proper storage area. Advise the shop of any empty cylinders that need to be picked up.

Q. Personal Lifting Limits:

- ✓ Limit personal lifting to 75 pounds. When lifting or moving items over 75 pounds, get help.
- ✓ Use proper lifting procedures avoiding straining your back by using your legs.

R. Excavation Procedure:

- ✓ All excavations over 4 feet deep shall be shored, sloped or benched away from the opening to avoid engulfment
- ✓ All excavations are to be at minimum marked with yellow ribbon.
- ✓ An access ladder is required within 25 feet of all workers in an excavation over 4 feet deep.
- ✓ Water is not to accumulate in the bottom of an excavation.
- ✓ All excavations are to be inspected prior to entry each day and after each rain or snowfall.
- ✓ Any excavation that has bulging sides or where cave-ins have occurred shall not be entered.

S. Vehicle Safety

- ✓ Private vehicles are restricted to designated parking areas.
- ✓ Occupancy inside the front seat of a company vehicle shall not in any instance exceed the availability of safety restraints.
- ✓ No passengers are to be transported in the bed of pickups or other trucks.
- ✓ The driver is responsible for ensuring that no riders are in violation of company policy.
All front seat passengers must wear safety restraints.

T. Disciplinary Procedure:

Unsafe Acts will result in –

1st violation – Verbal Warning

2nd violation – Written Warning

3rd violation – Suspension or Termination depending upon the severity of the violation.

All persons working on Rieck Service jobs must follow these rules and regulations:

1. All employees, including management, are expected to follow our health and safety policies and make recommendations for their improvement.
2. All supervisors will insist on and enforce health and safety rules.
3. Training will be provided at regular intervals, as well as task specific issues, to assure that all procedures and policies are understood and followed.
4. As determined, personal protective equipment (PPE) shall be used. It is our policy that hard hats and safety glasses be worn at all times.
5. Since alcohol, drugs and fatigue impair judgement, they will not be allowed or tolerated. Since you and your co-workers health and safety depend on your being able to perform the tasks, persons with impaired judgement will be dealt with accordingly.
6. All jobs will be pre-planned and have a continuing plan to monitor for and eliminate health and safety hazards.
7. Any employee involved in horseplay, not following policy, or otherwise endangering themselves or others will be subject to disciplinary action.
8. If you do not know how to perform a task or need help, ask an experienced coworker.
9. Report all accidents and near misses, no matter how minor. Should a minor injury that you did not seek treatment for cause you a problem down the road, the documentation will be on file and reduce the chance of having problems filing the claim.
10. Report all unsafe conditions created or controlled by others to your supervisor. Your exposure cannot be allowed, even though you may not have created the unsafe condition.
11. Work areas are to be inspected each day prior to commencing work for hazards.
12. All relevant OSHA 29CFR 1910 and/or 1926 standards will be followed. Specific items to be adhered to at all times include:
 - (a) Be knowledgeable in this program, including hazard communication, emergency response plan, and lockout/tagout of all machinery.
 - (b) Display the OSHA job protection poster on the job site either in the gang box or job site trailer. You are encouraged to read the information provided in this poster to better understand how OSHA protects you.
 - (c) Attend all weekly safety meetings held with your work group as well as any task or site-specific training.
 - (d) All accidents are to be reported to the Safety Director, immediately if possible or as soon after treatment as is feasible. All accidents are required to be reported within 24 hours of the incident.
 - (e) Employees will be trained in specific tasks as needed.
 - (f) Hazard Communication program and material safety data sheets (MSDS) shall be maintained on site and all employees made aware of their location and how to use them.
 - (g) First aid supplies shall be maintained and readily available.
 - (h) Clean and orderly housekeeping conditions shall be maintained at all times.
 - (i) All Front seat passengers must are proper safety restraints when traveling on company business.
 - (j) Personal protective equipment such as hardhats and safety glasses are to be worn at all times except in designated break areas. Gloves, goggles, earplugs, respirators, harnesses, etc., shall be worn where there is exposure. Hazards, which require the use of PPE that is beyond what is typically normal, will be assessed and provided accordingly.

rules and regulations - *continued*

- (k) No open toe shoes, sandals, or other shoes not affording appropriate protection are prohibited.
 - (l) Charged, fully operable fire extinguishers of the appropriate type shall be in work areas at all times.
 - (m) Only approved containers for flammables shall be used and only amounts necessary for the work kept outside of approved storage areas.
 - (n) All flammable waste and rags are to be disposed of in a self-closing container.
 - (o) All hand or power-operated tools shall be free from defects (mushroomed heads, sprung jaws, cracked handles, etc.) and have all guards in place while in use. If electrical, it must be properly grounded, double insulated, and be used with a ground fault circuit interrupter (GFCI).
 - (p) No electrical equipment is to be used in hazardous or damp locations unless you are absolutely certain it is designed for that use.
 - (q) All ladders will be of sufficient length, or appropriate type, and not have defects.
 - (r) All equipment to be worked on must be in the off position and locked out/tagged out.
 - (s) Confined spaces (tanks, holes, etc.) are never to be entered until it has been determined to be gas free and with sufficient oxygen. Special procedures must be followed in these cases and employees are not to expose themselves or others until trained in entry techniques. Refer to the Confined Space Entry Program for specifics.
 - (t) Material handling equipment will be used where feasible in lieu of manual lifting.
 - (u) For both the public and employees, all exits are to be maintained free of obstructions at all times.
 - (v) All new hires that will be driving on company business will have their motor vehicle records checked to determine if their driving ability is acceptable. Any questionable records will be reviewed.
 - (w) Audits of our operations and conditions will be ongoing. Any source of accidents, injury or illness will be identified, corrected and reported as they occur.
 - (x) Audits for compliance with federal, state and local codes will be ongoing.
13. Always follow and use the plan and specifications for the job. Do not assume since you have done a task before, that the conditions are the same.
14. Have a clear understanding of the potential hazards involved in your work area and their elimination. If in doubt, ask.
15. Report all vehicle defects or accident to your supervisor.
16. Report all equipment or tool defects to your supervisor. Tag out the tool or equipment and discontinue use until repaired by an authorized person.
17. Drug testing policies shall be followed.
18. American Disabilities Act guidelines shall be observed.
19. Always follow and support our health and safety policies. Make it part of your daily job tasks to watch for improvements that can be made to our policies to make Rieck Services a safer place to work in an effort to become a zero-injury establishment.

Emergency Response Plan

- 1) Call 911
- 2) Give dispatch exact name and location of job site.
- 3) Give type of injury/illness. For example: Having a heart attack.
- 4) Give location of the injured. For example: Building #3 at the shipping dock.
- 5) Meet the emergency response team at the gate/area they were instructed to enter.
- 6) Secure assistance to the injured from a coworker or associate who is trained in first aid/CPR until professional assistance arrives.

First Aid

How a person is cared for immediately after an accident or illness can make the difference between life and death. Whenever possible, an injured or ill worker should be attended to by a trained and certified person until professional help can be given.

The following information was taken from Red Cross procedure and is not to be interpreted as replacement of professional treatment. These steps should only be taken while help is on the way.

1) Urgent Care

Urgent Care is high priority first aid given in life-threatening situations. These situations and the priority each should be given is:

1. Respiratory arrest
2. Heavy bleeding
3. Poisoning
4. Shock

For example, it is more important to give artificial respiration than to splint a broken bone or treat a burn.

You may find yourself in a situation where you have to make a choice on whom to help first. Injuries that appear to be life threatening must be treated first. Allow bystanders to summon professional help.

Give them specific instructions on how to direct help to the injured person. In order for the Emergency Medical Services System (EMS) to be effective, information must be thorough and accurate. If Possible, never leave a person with serious injuries to seek help.

Your first decision may be whether or not to move the victim. You must consider whether or not the move will cause further injury to the victim. You must also consider the possible danger to yourself.

If the victim must be moved, drag the long way from the shoulders or feet. Do not pull the victim sideways. Try to support the head and neck as you move the victim. When you and the victim are out of danger, identify and correct life-threatening problems first.

Rescue Breathing:

Step 1: With the victim's head tilted back and chin lifted pinch the nose shut

Step 2: Give 2 slow breaths. Breathe into the victim until chest gently rises.

Step 3: Check for a pulse

If a pulse is present but victim is still not breathing...

Step 4: Give 1 slow breath about every 5 seconds. Do this for about 1 minute (12 breaths).

Step 5: Recheck pulse and breathing about every minute.

Continue rescue breathing as long as pulse is present but victim is not breathing.

CPR- (Cardio Pulmonary Resuscitation)

When the victim has no pulse and is not breathing...

Step 1: To position the hand for compressions, find the notch at the base of the breastbone, place two fingers at that point, position heel of hand above the fingers and clamp other hand over the hand resting on the victim's chest.

Step 2: Position shoulders over hands. Compress chest 15 times.

Step 3: Give 2 slow breaths

Step 4: Do 3 more sets of 15 compressions and 2 breaths.

Step 5: Recheck pulse and breathing for about 5 seconds.

If there is no pulse...

Step 6: Continue the sets of 15 compressions and 2 breaths. Once any heartbeat is noted, compressions should be stopped.

Bleeding

Severe bleeding is easy to see. After rescuing the victim, check for breathing and pulse. At the same time, look for signs of serious bleeding. You may need to control bleeding and be administering rescue breathing at the same time.

Bleeding can be internal or external. Obviously, if there is internal bleeding, there isn't much a non-professional can do for the victim. However, external bleeding needs to be controlled as quickly as possible. The best methods are:

1. Direct Pressure
2. Elevation
3. Pressure Point

Direct pressure is the most effective method of control. Use your hand, your hand and a dressing, fingers, or a pressure dressing to apply pressure directly to the wound.

NEVER remove a dressing once it is in place. It may start additional bleeding or cause further injury.

Unless there is evidence of a fracture, an impaled object, or possible spinal injuries, a severely bleeding wound should be elevated. Elevation uses the force of gravity to help reduce blood pressure in the injured area slowing down the loss of blood through the wound. To use elevation, you should elevate the injured extremity and continue to apply pressure.

If severe bleeding from an open wound of the arm or leg does not stop after the application of direct pressure plus elevation, the pressure point technique may be required.

Use of the pressure point technique temporarily compresses the main artery against the underlying bone.

If the use of a pressure point should be necessary, do not substitute its use for direct pressure and elevation, but use the pressure point in addition to those techniques.

To control bleeding from the arm, apply firm pressure with the flat of the fingers to the brachial artery, which is the main artery running up the right side of the neck area.

To control bleeding from the leg, apply firm pressure with the heel of one hand to the femoral artery, which is located on the inner thigh.

Wounds

There are two basic types of wound, open and closed.

Closed wounds are internal; the skin has not been broken. Most closed wounds are caused by impact with blunt objects. Bruises are the most common.

Bleeding with internal injuries can range from minor to major. Injuries can be bruises to broken bones to ruptured organs.

Even if no outward signs of injury are obvious, internal injury is possible when any of the following signs and symptoms are present.

1. Cold, clammy skin, rapid and weak pulse
2. Pain and tenderness
3. Swelling
4. Discoloration
5. Vomited or coughed up blood
6. Blood in ears, mouth or nose
7. Rigidity in abdomen

Emergency care consists of maintaining an open airway, giving artificial respiration if needed, treating shock and getting medical care.

Open wounds cause visible outward damage to the skin.

Injuries can be of any type:

1. Small wounds should be cleaned and covered with a sterile dressing and bandaged.
2. Nosebleeds. **DO NOT** tilt the victim's head backwards. Have the victim lean forward and pinch nose.
3. Impaled object should **NOT** be removed. Secure in place with bandages.
4. Amputations-make sure the severed body part is put on ice and transferred to hospital with the victim.
5. Head wounds, internal or open wound tends to look worse than they are. Light pressure should be effective. **DO NOT** apply firm pressure. Suspect internal injuries when the head has been subjected to trauma. Do not stop any fluids draining from the mouth, nose or ears. Turn the victim on his/her side to allow fluids to drain.

Shock

In ALL accidents or sudden illness treat for shock. Shock is life threatening. Injuries that are not normally serious can kill as a result of shock.

The symptoms include:

1. Weakness
2. Nausea
3. Thirst
4. Dizziness
5. Coolness
6. Feeling of impending doom, fear, restlessness

More definite signs of shock are:

1. Unresponsiveness, faintness or sudden loss of consciousness
2. Rapid and weak pulse
3. Shallow and rapid breathing

Shock - continued

4. Pale, cool, clammy skin
5. Lackluster, dilated pupils
6. Paleness, signs of cyanosis (Blue coloring)

Treating Shock –

1. Improve circulation
 - Reassure the victim
 - Keep the victim quiet, avoid rough handling
2. Prevent loss of body heat
3. Do not give food or fluids unless medical help is delayed from more than one hour. Do not give fluids when victim is unconscious, semiconscious, vomiting or likely to vomit, or having convulsions because they may aspirate fluids into the lungs.
4. Maintain an open airway and monitor breathing and pulse.

Poisoning

The steps for a **conscious** victim of poisoning are:

1. Dilute using water or milk (unless ingested substance was a medication)
2. Save the label, container, and/or sample of vomit.
3. Call the Poison Control Center.

Treating Poisoning

1. Maintain an open airway
2. Give care to prevent shock.

If the victim is conscious and medical assistance is unavailable, dilute and induce vomiting except for acids, alkalis, and petroleum products. Treat for shock and maintain an open airway.

DO NOT follow antidote directions on containers. Many are incorrect.

DO NOT attempt to counteract the poison with substances other than milk or water unless directed to do so by medical professionals.

For medications, DO NOT dilute unless told to do so by Poison Control or a physician.

The steps for an **UNCONSCIOUS** victim of poisoning are:

1. Assess the situation it may be dangerous
2. Maintain an open airway
3. Begin rescue breathing if necessary.
4. Save the container or sample of poison if possible.
5. Save sample of vomit.
6. Do not give fluids.
7. Do not induce vomiting.

If the victim was poisoned via inhalation, assess the situation, get the victim to fresh air, and call 911. Insure the airway is open or administer artificial respiration if necessary.

Positioning of injured while waiting for professional help:

1. Standard position – on back, feet and injury elevated. Do not elevate suspected fractures.
2. With head wound or breathing difficulty, elevate head and shoulders. Do not elevate feet and head at the same time.

Positioning - continued

3. If fractures are suspected, elevation is painful, or you are unsure, just keep the victim flat.
4. When bleeding from the mouth, vomiting or may vomit, place the victim on the side to allow fluids to drain.
5. When there is abdominal injury, place support under knees of victim.

If medical assistance will be delayed for more than an hour, give fluids in small quantities: A glass of water with two pinches of salt, or one pinch of soda which is the best, otherwise plain water.

Heat Stress

When the body is subjected to high temperatures and/or humidity, especially in work or exercise, three common problems arise:

1. **Heat Cramps**
 - Long exposure to heat under near normal temperatures
 - Water and salt loss results in painful muscle cramping, usually in legs and/or abdomen
2. **Heat Exhaustion**
 - Mild form of shock
 - Exposed for long periods at relatively high temperatures
3. **Heat Stroke**
 - A true life-threatening emergency
 - Failure of the sweating mechanism
 - All cases require IMMEDIATE medical attention

Symptoms and Care:

Heat Cramps-severe muscle cramps-legs and abdomen

- Move to a cool place
- Give salted water to drink
- Massage muscles

Heat Exhaustion – cool clammy skin, weak pulse, rapid shallow breathing, possible dizziness, possible convulsions

- Move to a cool place
- Keep at rest
- Cool-fanning, remove clothing-do not chill
- Give salted water to drink
- Treat for shock
- If rapid recovery isn't apparent, call 911 immediately

Heat Stroke – red, dry hot skin, large pupils, possible convulsion, and muscle twitching

- Cool rapidly
- Call 911
- Treat for shock, continue aggressive cooling until temperature is down to 102°F
- Monitor temperature for rise again

Fractures

If you are within fairly close range to professional medical help, there is no need to splint a fracture. Call 911 if assistance is needed to transport the victim. Do not attempt to move the victim if there has been a serious injury unless they are in physical danger of being exposed to additional injuries from a fire, carbon monoxide, etc.

- Do not try to reduce or straighten fractures
- Do not try to re-place bone ends
- Do not try to re-place bone ends
- Any fragments of bone or skin should be put in a clean container and sent to the hospital with the victim.

Emergency Rescue and Transfer

Involvement of the first aid provider in emergency rescue and transfer is limited to situations in which professional ambulance or rescue personnel and equipment are not or will not be available to assist the professionals when they are available and to removing victims when there is imminent danger to their lives.

Unless there is imminent danger to life of the victim, he/she should not be transferred until life-threatening problems as no breathing and hemorrhages are cared for, wounds are dressed and fractures splinted, which should be taken care of by rescue squad.

It should be recognized that more harm can be done through improper rescue and transportation than through any other measures associated with emergency assistance. In the majority of situations, rescue from confinement or ambulance or rescue personnel should carry out pinning. Pending their arrival, you should gain access to the victim, give him/her emergency care, reassure him/her, and avoid ill-advised or foolhardy attempts at rescue that might jeopardize the safety of the victim as well as your own.

Note: Consideration should always be given to Blood borne Pathogens. These include contracting conditions such as but not limited to Hepatitis B and HIV. Extreme caution should always be used to avoid direct contact with a victim's blood or any other type of bodily fluid.

Aerial Work Platforms/Scissors Lift

Aerial work platforms and scissors lifts are to be operated by trained and certified personnel. Since the operator is in direct control of the unit, conformance with good safety practices is a must. Manuals are stored on all units for the operator's use in the safe operation of the unit. It is also the responsibility of the operator to observe all decals and ratings on the machine.

Prior to use daily, the operator must perform a pre-start inspection including a visual inspection and functional testing. Regular inspection and maintenance records are maintained in the office. Problems or malfunctions require that the unit be tagged not to use and reported to the office immediately.

A workplace inspection must be done to ensure safe travel and awareness of any overhead obstructions. The unit must be used in accordance with the manufacturer's guidelines. All guardrails must be intact and access gates closed. Fall protection must be used in an articulating unit. Scissors lifts do not require fall protection provided the unit stays positioned over the base of the unit. Stabilizers and outriggers must be used appropriately. Personnel shall maintain firm footing on the platform floor while working. Altering of safety devices is strictly prohibited and reason for disciplinary action up to and including termination.

Combustible Materials

All combustible scrap, debris and waste materials (oily rags, etc.) must be stored in covered metal receptacles and removed from the work site promptly. Proper storage to minimize the risk of fire, including spontaneous combustion must be practiced. Only approved containers and tanks are to be used for the storage and handling of flammable and combustible liquids. All connections on drums and combustible liquid piping, vapor and liquid must be kept tight. All flammable liquids should be kept in closed containers when not in use (e.g., parts-cleaning tanks, pans, etc.). Bulk drums of flammable liquids must be grounded and bonded to containers during dispensing. Storage rooms for flammable and combustible liquids must have explosion-proof lights. Storage rooms for flammable and combustible liquids should have mechanical or gravity ventilation. Liquefied petroleum gas must be stored, handled, and used in accordance with safe practices and standards. No smoking signs must be posted on liquefied petroleum gas tanks. Liquefied petroleum storage tanks should be guarded to prevent damage from vehicles. All solvent wastes and flammable liquids should be kept in fire-resistant, covered containers until they are removed from the work site. Vacuuming should be used whenever possible rather than blowing or sweeping combustible dust. Fire separators should be placed between containers of combustibles or flammables when stacked one upon another to assure their support and stability. Distance, fire resistant barriers, etc. must separate fuel gas cylinders and oxygen cylinders, while in storage. Fire extinguishers are selected for the types of materials and placed in areas where they are to be used. These fire extinguishers are classified as follows: Class A - Ordinary combustible materials fires. Class B - Flammable liquid, gas or grease fires. Class C - Energized-electrical equipment fires. Appropriate fire extinguishers must be mounted within 75 ft. of outside areas containing flammable liquids, and within 10 ft. of any inside storage area for such materials. All extinguishers must be serviced, maintained and tagged at intervals not to exceed one year. Extinguishers should be placed free from obstructions or blockage. All extinguishers must be fully charged and in their designated places unless in use. Where sprinkler systems are permanently installed, are the nozzle heads arranged so that water will not be sprayed into operating electrical switchboards and equipment? Check to see that heads have not been bent or twisted from their original position. "NO SMOKING" rules will be enforced in areas involving storage and use of hazardous materials. "NO SMOKING" signs have been posted where appropriate in areas where flammable or combustible materials are used and/or stored. Safety cans must be used for dispensing flammable or combustible liquids at point of use. All spills of flammable or combustible liquids must be cleaned up promptly. Storage tanks should be adequately vented to prevent the development of excessive vacuum or pressure as a result of filling, emptying, or atmosphere temperature changes. Storage tanks are equipped with emergency venting that will relieve excessive internal pressure caused by fire exposure.

Compressors & Compressed Air

All compressors must be equipped with pressure relief valves and pressure gauges. All compressor air intakes must be installed and equipped to ensure that only clean, uncontaminated air enters the compressor. Every air receiver must be provided with a drainpipe and valve at the lowest point for the removal of accumulated oil and water. Compressed air receivers must be periodically drained of moisture and oil. All safety valves shall be tested frequently and at regular intervals to determine whether they are in good operating condition. A current operating permit issued by the Division of Occupational Safety and Health shall be maintained. The inlet of air receivers and piping systems must be kept free of accumulated oil and carbonaceous materials.

Compressed Gas & Cylinders

Cylinders with a water weight capacity over 30 pounds must be equipped with means for connecting a valve protector device, or with a collar or recess to protect the valve. Cylinders must be legibly marked to identify clearly the gas contained. Compressed gas cylinders should be stored only in areas that are protected from external heat sources such as flame impingement, intense radiant heat, electric arcs or high temperature lines. Cylinders must not be located or stored in areas where they will be damaged by traffic, falling objects, or subject to tampering by unauthorized persons. Cylinders must be stored or transported in a manner to prevent them from creating a hazard by tipping, falling or rolling. All cylinders containing liquefied fuel gas must be stored or transported in a position so that the safety relief device is always in direct contact with the vapor space in the cylinder. Valve protectors must always be placed on cylinders when cylinders are not in use or connected for use. All valves must be closed off before a cylinder is moved, when the cylinder is empty, and at the completion of each job. Low pressure fuel-gas cylinders must be checked periodically for corrosion, general distortion, cracks, or any other defect that might indicate a weakness or render them unfit for service. The periodic check of low-pressure fuel-gas cylinders includes a close inspection of the cylinder bottom.

Confined Space

A confined space is any space that is not designed for usual human occupancy and has a limited means of egress.

Each employee that is required to enter a confined space must be trained and qualified to do so. Each employee must be knowledgeable of the hazards involved, the necessary precautions to be taken, and the use of required personal protective equipment, emergency equipment and the procedure to follow in the event of an emergency.

Tanks, silo, vaults, pits, open topped spaces more than 4 feet deep, pipeline, duct, sewers, tunnels, manholes are some of the examples of spaces that are classified as confined space. Other areas not in this listing could also be found to have the characteristics that qualify it as a confined space. Those conditions are:

1. Having a limited means of access and/or egress.
2. Not designed for continuous human occupancy.
3. Has less than 19.5% oxygen.
4. Have flammable/combustible/explosive atmospheres present or able to be generated or enter into an area. Combustible materials are liquids, solids, or gases that are relatively difficult to ignite (140°F or more) and that burn relatively slowly such as paper, wood, etc.
5. Toxic atmosphere present or able to be generated or enter into an area. A hazardous toxic atmosphere may be caused by:
 - Atmospheric oxygen concentration below 19.5% creating oxygen deficiency or above 21.5% causing an oxygen-enriched atmosphere by volume.
 - A flammable gas, vapor or mist in excess of 10% of its lower explosion limit (LEL).
 - A hydrogen sulfide gas concentration above 2 parts per million (PPM).
 - A carbon monoxide gas concentration above 25 parts per million. (PPM)
 - An airborne combustible dust at concentration that inhibits vision to a distance of five feet or less.
 - Presence of any substance in an atmospheric concentration above Permissible Exposure Limits (PEL) published in subpart Z or 29 CFR 1910. In addition to consulting subpart Z, relative Material Safety Data Sheet, MSDS, must be reviewed for any applicable hazards.
 - Any atmospheric condition recognized as immediately Dangerous to Life or Health (IDLH).
6. Areas not protected from engulfment from the entry of water, gas, sand, gravel, ore, grain, coal, biological, radiation, corrosive chemicals, or any other substance, which could possibly trap, suffocate, or harm a person. Engulfment is a liquid or solid closing over an employee's head or body.
7. Poor ventilation.
8. Restricted means of entry for rescue purposes.

Confined Space Entry

Before any employee is allowed to enter what has been determined to be a confined space. A confined space permit must be issued. All persons involved in a confined space operation must be trained and certified.

Authorized Entrant's Duties

- Know space hazards, including information on the mode of exposure, such as through inhalation or dermal absorption, signs or symptoms, and consequences of exposure.
- Use appropriate personal protective equipment properly, such as face and eye protection, gloves, coveralls, respirator, etc.
- Maintain communication through telephone, radio or visual observation, with attendants to enable the attendant to monitor the entrant's status as well as to alert the entrant to evacuate.
- Exit from permit space as soon as possible when ordered by an authorized person, when the entrant recognizes the warning signs or symptoms of exposure exists, when a prohibited condition exist, or when an automatic alarm is activated.
- Alert the attendant when a prohibited condition exists or when warning signs or symptoms of exposure exist.

Attendant's Duties

- Remain outside permit space during entry operations unless relieved by another authorized attendant.
- Perform non-entry rescues
- Know existing and potential hazards, including information on the mode of exposure, signs or symptoms, consequences of the exposure, and their physiological effects.
- Maintain communication with and keep an accurate account of those workers entering the permit-required space.
- Order evacuation of the permit space when a prohibited condition exists, when a worker shows sign of physiological effects of hazard exposure, when an emergency outside the confined space exists, and when the attendant cannot effectively and safely perform required duties.
- Summon rescue and other services during an emergency.
- Ensure that unauthorized persons stay away from permit spaces or exit immediately if they have entered the permit space.
- Inform authorized entrants and entry supervisor of entry by unauthorized persons.
- Performs no other duties that interfere with the attendant's primary duties.

Entry Supervisor's Duties

- Know space hazards including information on the mode of exposure, signs or symptoms and consequences of exposure.
- Verify emergency plans and specified entry conditions such as permits, tests, procedures, and equipment before allowing entry.
- Terminate entry and cancel permits when entry operations are completed or if a new condition exists.
- Take appropriate measures to remove unauthorized entrants.
- Ensure that entry operations remain consistent with the entry permit and that acceptable entry conditions are maintained.

Emergencies

The standard requires the employer to ensure that rescue service personnel are provided with and trained in the proper use of personal protective equipment, including respirators, trained to perform assigned rescue duties, and have had authorized entrant's training. As part of the permit process, the Safety Director contacts local emergency services in the area that the confined spaced entry will take place, to ensure they are trained in and prepared to deal with confined space rescue operations.

Also, where appropriate, authorized entrants who enter a permit space must wear a full body harness with a retrieval line attached to the center of their back near shoulder level or above the head. Wristlets may be used if the use of a body harness can be demonstrated as infeasible or creates a greater hazard. The other end of the retrieval line must be attached to a mechanical device or to a fixed point outside the permit space. A mechanical device must be readily available to retrieve personnel from vertical type permit spaces more than five (5) feet deep.

In addition, if an injured entrant is exposed to a substance for which a Material Safety Data Sheet (MSDS) or other similar written information required at the entry site, that MSDS or information must be made available to the medical facility treating the exposed entrant.

Procedures for Atmospheric Testing

Atmospheric testing is required for two distinct purposes:

(1) Evaluations of the hazards of the permit space; (2) Verification that acceptable conditions exist for entry into that space

- **Evaluation testing:** The atmosphere of a confined space must be analyzed using equipment specified and with sufficient sensitivity to identify and evaluate any hazardous atmospheres that may exist or arise, so that appropriate permit entry procedures can be developed and acceptable entry conditions stipulated for that space. A qualified person must do evaluation and interpretation of this data and development of the entry procedure.
- **Verification testing:** The atmosphere of a permit space which may contain a hazardous atmosphere should be tested for residues of all contaminants identified by evaluation testing using permit specified equipment to determine that residual concentrations at the time of testing and entry are within the range of acceptable entry conditions. Testing order should be oxygen, flammables and then toxics. Results of testing are to be recorded in the designated area of the entry permit.
- **Duration of testing:** Measurement of values for each atmospheric parameter should be made for at least the minimum response time of the test instrument specified by the manufacturer.
- **Testing stratified atmospheres:** When monitoring for entries involving a descent into atmospheres which may be stratified, the atmospheric envelope should be tested a distance of approximately four (4) feet in the direction of travel and to each side. If a sampling probe is used, the entrant's rate of progress should be slowed to accommodate the sampling speed and detector response.
- **Retesting:** Periodically retest to verify that the atmosphere remains within acceptable entry conditions.

Electrical and Assured Grounding

Proper electrical and assured grounding procedures must be developed to eliminate all serious injuries resulting from possible malfunctions, improper grounding and/or other electrical power tools, equipment, cord sets, receptacles and other electrical connections.

The following actions and methods should, if followed, reduce and keep to a minimum accidental and serious injury. The following procedures are intended to eliminate unsafe conditions involving electrical equipment and tools, including faulty insulation, improper grounding, loose electrical connections, defective parts, ground faults in equipment and unguarded live electrical parts.

Each project must provide a safe place to work for every employee, which includes protecting the employee from electrical hazards such as fault currents to ground.

When an electrical ground fault occurs, the current flows through the path of least resistance. It is imperative that an employee does not inadvertently become the conductor of the current.

Two approved methods of protecting the worker from a ground fault, in addition to other requirements for equipment-grounding conductors are:

- Use of ground fault circuit interrupters (GFCI)
- An assured equipment grounding conductor program

Ground Fault Circuit Interrupter (GFCI)

Ground fault circuit interrupters shall be used with all power tools. Care must be given to ensure proper installation and maintenance of GFCI's as per the guidelines of the National Electric Code (NEC). GFCI's will be provided by RSI. All GFCI's shall meet the requirements of Underwriters Laboratories Standard 943, Ground Fault Circuit Interrupters.

Each circuit protected by a circuit breaker GFCI requires its own neutral conductor. Receptacle-type GFCI's may be used on common neutral systems and where receptacles are more than 250 feet from the breaker. GFCI's are to be installed on circuit breakers used for construction power.

Assured Equipment Grounding Program

Wherever possible, GFCI's are to be used with the assured grounding program.

The most important aspects in establishing an effective program are:

- To establish and implement a program to reduce the potential of injuries caused by electric shock from cord sets, receptacles and equipment connected by cord and plug.
- To meet the requirements of local, state and federal rules and regulations.

To prevent injury from a ground fault, the integrity of the grounding system must be maintained at all times. To achieve this, a program of inspection and testing shall be implemented. A knowledgeable person such as the foreman or lead person on the job should conduct these inspections and testing procedures.

An inspection and test of each cord set, electric tool, piece of electrical equipment and receptacle:

- Before first use
- Before equipment is returned to service following repairs
- Before equipment is used after any incident that can be reasonably suspected to have caused damage]
- Every month

Each cord set, electric tool, receptacle and piece of electrical equipment shall be tested to ensure a continuous ground circuit, and that the equipment-grounding conductor is connected to its proper terminal. The testing equipment shall be capable of testing for ground conductor continuity and resistance line fault and proper connection of conductors to terminals. All testing equipment shall also be tested each month. Documentation of testing should be noted on daily job logs.

Receptacles that are a permanent part of the wiring of permanent buildings are excluded from the monthly testing and inspection. Also excluded are trailers and similar structures. However, after installation and before initial use, each receptacle shall be tested.

If permanent receptacles of permanent buildings, trailers etc., are being used to support construction use, a ground fault circuit interrupter device must be used on each cord set, electric tool or piece of electrical equipment.

Each cord set, the user prior to use daily must visually inspect electric tool or piece of electrical equipment. Signs of damage such as frayed or damaged insulation, crushed cable, loose or missing covers, screws, missing ground prongs on plugs, missing safety guards and other easily visible signs of disrepair require that the item be tagged out for repair and not used.

The following color code system shall be used to mark tools, cords, etc., which have been inspected in the shop prior to being sent to a jobsite.

- January – MarchBlack
- April – JuneRed
- July – SeptemberBlue
- October – DecemberYellow

Assured Equipment Grounding Program- continued

Any electric tool, cord set or piece of electrical equipment bearing an expired inspection tape or no inspection tape shall be considered defective and is not to be used until it is inspected.

Only authorized persons may remove inspection tapes. Unauthorized removal of tape is considered a safety violation and may be cause for disciplinary action.

Any employee given the responsibility to perform this testing will be trained accordingly as to the type of testing required, hazards and precautions to be taken.

Excavation and Trenching

This program provides guidelines to ensure the safety of all workers who are required to work in and around excavation and to provide guidelines for locating existing underground utilities.

The lead person and/or project manager will have the responsibility to enforce this program. The competent person in charge of the excavation work ensures that:

- ✓ All preparatory work is conducted as described in this program before any excavation begins.
- ✓ Excavation work is performed within the guidelines of this program.
- ✓ Soil classification is performed before employees are allowed in the excavation.
- ✓ All safety guards are in place prior to employee beginning associated tasks.

Soil Classifications

Type A Soil

Type A soil means cohesive soils with an unconfined compressive strength of 1.5 tons per square foot or greater.

Examples of cohesive soils are: Clay, silty clay, sandy clay, clay loam and in some case silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A.

Soil cannot be classified as Type A if the soil is fissured, or subject to vibration from heavy traffic, pile driving or similar effects or the soil has been previously disturbed.

Type B Soil

Type B soil means cohesive soils with an unconfined compressive strength greater than .5 but less than 1.5 tons per square foot.

Examples of Type B soils are: granular, cohesionless soils including angular gravel (similar to crushed rock), silt, silt loam, sandy loam and in some cases silty clay loam and sandy clay loam. Previously disturbed soils except those which would otherwise be classified as Type C soil and soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration or dry rock that is not stable.

Type C Soil

Type C soil means soil with an unconfined compressive strength of .5 tons per square foot or less.

Examples of Type C soil are: granular soils including gravel, sand, and loamy sand, or submerged soil or rock and previously disturbed soils.

Unclassified soil will be sloped 1½:1 or shored when the excavation exceeds 4 feet in depth.

A competent person responsible for the excavation must be on site during all operations relating to the open excavation.

The competent person shall make soil classification.

All shoring for excavation over 20 feet must be designed by a registered professional engineer, and all shoring installed must be approved and signed off by a registered professional engineer.

Excavation & Trenching (continued)

All soils must be placed a minimum of 2 feet from the edge of the excavation. Loose soil or rocks shall be removed from the sides of the excavation walls.

Excavations 4 feet in depth or greater must have a stairway, ladder, ramp or other safe means of egress within 25 feet of any employee.

A competent person before entry shall inspect all excavation at the start of each shift, after heavy rains, after freezing and/or thawing temperatures occur, or any other condition that may change the integrity of the soil.

For all excavations 4 feet in depth or greater, the atmosphere in the excavation must be tested to ensure that no hazardous atmosphere exists.

The competent person responsible for the crew working in the excavation must inspect the excavation throughout the work period and stop operations when unsafe conditions exist.

A number of workers in the excavation shall be limited to the number needed to perform the work.

Water shall not be allowed to accumulate in excavations at any time. Pumps, drains or any other means feasible shall be used to continuously drain any water from the excavation while work is being performed.

Stability of adjacent structures shall be evaluated before starting an excavation and monitored daily thereafter.

Each employee in an excavation shall be protected at all times from cave-ins. Emergency rescue equipment must be readily available in the event of an accident.

In Summary

- ✓ Type A soil shall be sloped at $\frac{3}{4}$ to 1.
- ✓ Type B soil shall be sloped at 1 to 1.
- ✓ Type C soil shall be sloped 1½ to 1.
- ✓ Unclassified soil will be sloped 1½ to 1 or shored when the excavation exceeds 4 feet in depth.
- ✓ A registered professional engineer must design all shoring for excavation over 20 feet.
- ✓ All soils must be placed a minimum of 2 feet from the edge of the excavation.
- ✓ Excavations 4 feet in depth or greater must have a safe means of egress within 25 feet of any employee.
- ✓ A competent person prior to entry must inspect all excavations.
- ✓ For all excavation 4 feet in depth or greater, the atmosphere in the excavation must be tested.
- ✓ The competent person must inspect the excavation throughout the work period and stop operations when unsafe conditions exist.
- ✓ Water shall not be allowed to accumulate in the excavation at any time.
- ✓ Stability of adjacent structures shall be evaluated and monitored daily.
- ✓ Emergency rescue equipment shall be readily available.
- ✓ Each employee shall be protected from cave-ins.

Extension Cords

All extension cords must be marked with ratings acceptable for construction use as per the guidelines in OSHA 29 CFR 1926.

All splices must retain the insulation, outer sheath properties and usage characteristics of the cord being spliced.

Extension cords shall not be run through windows, doorways, walls or similar openings unless they are protected from pinch points or damage. Extension cords running across floors must be protected from damage from ordinary daily traffic over the cords.

When cords are to be used in wet areas or exposed to natural elements, they shall have all connectors approved and designed for the location.

No receptacle or cord shall accept different voltage attachments plugs.

All situations, which present a fall hazard, must be properly marked with covers, protected by properly constructed guardrails, handrails, or other means of fall protection as outlined by OSHA standards.

Fall Protection

A large percentage of accidents in the construction industry are falls. Constant attention must be given to fall protection efforts on job sites to continually protect employee from fall hazards.

Supervision must ensure that employees have a thorough understanding on the proper use of fall protection as per OSHA regulations, Subpart M, effective February 6, 1995. Training must include at a minimum:

- ✓ Nature of fall hazards in the area.
- ✓ Determination of the type of fall protection needed to address fall hazards.
- ✓ Application limits.
- ✓ Proper anchoring and tie-off procedures
- ✓ Method of use.
- ✓ Proper Inspection.
- ✓ Proper storage.
- ✓ Emergency rescue.

Full body harnesses are required for fall arrest protection. Harnesses are required when employees are exposed to a fall potential of six feet or greater and 100% fall protection must be achieved at all times while this exposure exists. Attached to the harness must be a six-foot minimum lanyard with a deceleration device attached to the lanyard. While employees are traveling in unprotected situations, an additional lanyard with the same deceleration device will be required to maintain 100% fall protection. At least one lanyard must be used at all times.

Guardrails:

Guardrails, handrails and covers will be constructed per the U.S. Department of Labor OSHA standards. A standard railing consists of a top rail, mid rail and toe board. The top rail must be a height of 42 inches. A complete railing system must be capable of withstanding a force load of 200 lbs. in any direction. All handrails around floor opening must be clearly marked "Do Not Remove".

Fall hazard protection must be inspected at the start of each shift to ensure all fall protection is in place prior to working in the area and that it is secure.

Floor Holes:

A floor hole cover must be constructed as follows:

- ✓ Covers must be capable of supporting without failure, at least twice the weight of employees, equipment, and material that may cross the cover at any one time.
- ✓ All covers must be secured when installed to prevent accidental displacement by wind, equipment or employees.
- ✓ All covers must be clearly marked as to what they are covering.

Full Body Harness, Lanyards and Lifelines

Standard body belts are prohibited as per OSHA regulations effective January 1998. Although in some instances body belts are still acceptable for fall protection, their use is prohibited on all Rieck Services sites.

All full body harnesses and lanyards must be inspected for defects in hardware and straps. Any defect, regardless of how minor requires that the harness be tagged out and not put in service. Return the harness to the shop for a replacement. Special care must be given to storage of fall protection equipment. Storage must be separate from tools and chemicals that may damage the harness. Harnesses that become wet must be hung from the "d" ring where they can air dry.

Fall Protection

Full Body Harness, Lanyards, and Lifelines - continued

Horizontal lifelines shall be designed, installed and used under the supervision of a qualified person, as part of a complete personal fall arrest system that maintains a safety factor of least two. Lifelines must be protected against cuts or abrasions.

Lanyards and body harnesses are not to be used for any work other than for employee safeguarding. Lanyards are not to be connected at the anchorage point by wrapping the lanyard around the point of connection and hooking the snap back on the lanyard. Lanyards are not to be tied off to equipment rails or scaffolding for any reason.

Full body harnesses and lanyards are required at all times when working in an aerial work platform with an articulating boom. They are not required to be worn in scissors type lifts unless it is a site-specific requirement. Any person exposed to a fall of 6' or greater must wear fall protection unless working on a ladder within the confines of the side rails.

A harness and lanyard must be removed from service after a fall. Cut the straps to insure a coworker does not use it.

Fire Extinguishers / Fire Safety

Fire extinguishers have different classifications, which make them suitable to extinguish different types of fire. Care must be given to use a fire extinguisher that is suitable for the area or material that is on fire. Always summon help by calling 911 immediately. Often loss from a fire would have been minimal had professionals been called in conjunction with employees trying to control or extinguish a fire. Valuable time has been lost if help is not called until you have tried to extinguish the fire yourself and it has gotten out of control.

Class "A" fire involve ordinary combustibles like wood, paper, many plastics, cloth and rubber. A pressurized water extinguisher will extinguish this type of fire.

- At proper distance, maximum range of discharge stream, pull safety pin and squeeze lever.
- Aim at base of fire at front edge and sweeping side to side, moving closer as fire gets smaller.
- 60-second discharge duration, may be used intermittently. Maximum range is 30 to 40 feet.
- Works by cooling.
- Ensure used extinguisher is properly recharged.

Class "B" fires involve flammable liquids, oils, greases and gases. A dry chemical extinguisher, either multipurpose A/B/C or combination B/C fire extinguisher must be used.

- Dry chemical extinguishers require operation similar to water extinguishers. However, technique is more critical because of shorter range of 12-20 feet.
- Duration of discharge is 8-25 seconds.
- Work by blanketing fuel and interrupting chemical chain reaction to fuel surface.
- Continue blanketing to prevent re-ignition after fire appears to be out.
- Ensure used extinguisher is properly recharged.

Class "C" fires involve energized electrical equipment. A combination B/C, carbon dioxide (CO₂) extinguishers.

- Commonly used on Class "C" fires, identifiable by horn.
- Nonconductive extinguisher agent required because of electrical shock hazard.
- Operation similar to above except short range, 3-8 feet and 8-30 second discharge time.
- Works by displacing oxygen, smothering fire.
- Continue discharging to prevent re-ignition after fire appears to be out.
- Does not leave moisture or corrosive residue.
- Ensure used extinguisher is properly recharged.

Fire Extinguishers - continued

A/B/C or B/C Halon extinguisher

- Operation is similar to CO₂, but has a longer range of up to 15-20 feet and short discharge time of 8-15 seconds.
- Works by interrupting the chemical chain reaction at fuel surface.
- Continue discharging to prevent re-ignition after fire appears to be out.
- Does not leave moisture or corrosive residue.
- Ensure used extinguisher is properly recharged.

Class "D" fires involve combustible metals such as magnesium, titanium; certain suspended metal powders or finely divided iron or steel dust.

- CAUTION! Metal fires must be only fought with special extinguishing agents (dry compounds)

Fire Safety

Policy and planning for fire safety at Rieck Services takes into account the special fire hazards for specific operating areas, the protection of high-value property, and the safety of employees. Access to professional fire department, always staffed and trained in the control of emergencies that could occur at the Company. (The Fire Department makes the initial response to all requests for emergency aid received on the emergency telephone number, 911.) This chapter covers the fire safety responsibilities of employees and supervisors and sets forth the fire safety rules and procedures.

Fire Department

The Community Fire Department is responsible for protecting people and property from fires, explosions, and other hazards through prevention and expeditious control of such events. In addition, the Fire Department provides first-response rescue and transportation services in medical emergencies. The Fire Department's inspection staff is responsible for ensuring company-wide compliance with fire safety and protection requirements and for reviewing all plans and procedures for compliance with these requirements; for inspecting and testing automatic fire protection and alarm systems and ensuring their maintenance and repair; for conducting fire safety and protection inspections; and for providing fire prevention recommendations. Other responsibilities include training employees in fire safety equipment, practices, and procedures. All these fire protection and response functions are performed in conformance with OSHA regulations, State law, Rieck Services policies, and nationally recognized standards and guidelines for fire and life safety. The Fire Chief and the Fire Marshall have the authority to enforce applicable requirements of the Uniform Building Code; the Uniform Fire Code; National Fire Protection Association Codes (including the Life Safety Code), Standards, and Recommended Practices; and the fire protection provisions of OSHA Orders. All employees must immediately report fires, smoke, or potential fire hazards to the Fire Department (dial 911). All employees must conduct their operations in such a way as to minimize the possibility of fire. This means applying rules such as keeping combustibles separated from ignition sources, being careful about smoking, and avoiding needless accumulations of combustible materials. Supervisors are responsible for keeping their operating areas safe from fire. The responsible Safety Director and the Fire Department will provide guidance and construction criteria with respect to fire and life safety as well as inspections. The provision and maintenance of fire detection systems and both automatic and manual fire extinguishing equipment is the responsibility of the responsible Safety Director. But the supervisor, who best knows the day-to-day nature of his/her operations, is responsible for notifying the responsible Safety Director of operations that change the degree of fire risk and will therefore require a change in the planned fire protection provisions.

Supervisor Responsibilities

Supervisors must ensure that their personnel are properly instructed regarding potential fire hazards involved in their work and around their workplaces, the proper precautions to minimize fires, and the procedures in case of fire. The local Fire Department and the responsible Safety Director also offer formal courses and training materials on fire prevention and response: * Fire Safety * Fire-Extinguisher Operation * Self-Contained Breathing Apparatus.

Fire Safety/Supervisor Responsibilities - continued

Class A Combustibles

Class A combustibles are common materials such as wood, paper, cloth, rubber, plastics, etc. Fires in any of these fuels can be extinguished with water as well as other agents specified for Class A fires. They are the most common fuels to be found in non-specialized operating areas of the work place such as offices. Safe handling of Class A combustibles means: Disposing of waste daily. Keeping work area clean and free of fuel paths, which can spread a fire, once started. Keeping combustibles away from accidental ignition sources such as hot plates, soldering irons, or other heat or spark-producing devices. Keeping all rubbish, trash, or other waste in metal or metal-lined receptacles with tight-fitting covers when in or adjacent to buildings. (Exception: wastebaskets of metal or of other material and design approved for such use, which are emptied each day, need not be covered.) Using safe ashtrays for disposal of smoking materials and making sure that the contents are extinguished and cold to the touch before emptying them into a safe receptacle. Planning the use of combustibles in any operation so that excessive amounts need not be stored. Storing paper stock in metal cabinets and rags in metal bins with automatically closing lids. Making frequent inspections and checks for noncompliance with these rules in order to catch fires in the potential stage.

Class B Combustibles

Class B combustibles are flammable and combustible liquids (including oils, greases, tars, oil-base paints, lacquers) and flammable gases. Flammable aerosols (spray cans) are treated here. Cryogenic and pressurized flammable gases are treated elsewhere in this manual. The use of water to extinguish Class B fires (by other than trained firefighters) can cause the burning liquid to spread carrying the fire with it. Flammable-liquid fires are usually best extinguished by excluding the air around the burning liquid. Generally, this is accomplished by using one of several approved types of fire-extinguishing agents, such as the following: Carbon dioxide ABC multipurpose dry chemical Halon 1301 (used in built-in, total-flood systems) Halon 1211 (used in portable extinguishers) Fires involving flammable gases are usually controlled by eliminating the source of fuel, i.e., closing a valve. Technically, flammable and combustible liquids do not burn. However, under appropriate conditions, they generate sufficient quantities of vapors to form ignitable vapor-air mixtures. As a general rule, the lower the flash point of a liquid, the greater the fire and explosion hazard. It should be noted that many flammable and combustible liquids also pose health hazards. NOTE: The flash point of a liquid is the minimum temperature at which it gives off sufficient vapor to form an ignitable mixture with the air near the surface of the liquid or within the vessel used. It is the responsibility of the user to ensure that all Class B combustibles are properly identified, labeled, handled, and stored. If assistance is required, contact the Responsible Safety Director. Safe handling of Class B combustibles means: Using only approved containers, tanks, equipment, and apparatus for the storage, handling, and use of Class B combustibles. Making sure that all containers are conspicuously and accurately labeled as to their contents. Dispensing liquids from tanks, drums, barrels, or similar containers only through approved pumps taking suction from the top or through approved self-closing valves or faucets. Storing, handling, and using Class B combustibles only in approved locations, where vapors cannot reach any source of ignition, including heating equipment, electrical equipment, oven flame, mechanical or electrical sparks, etc. Never cleaning with flammable liquids within a building except in a closed machine approved for the purpose. Never storing, handling, or using Class B combustibles in or near exists, stairways, or other areas normally used for egress. In rooms or buildings, storing flammable liquids in excess of 10 gallons in approved storage cabinets or special rooms approved for the purpose. Knowing the locations of the nearest portable fire extinguishers rated for Class B fires and how to use them. Never smoking, welding, cutting, grinding, using an open flame or unsafe electrical appliances or equipment, or otherwise creating heat that could ignite vapors near any Class B combustibles.

Electrical Fires

There are many combustible materials, including electrical equipment, oxidizing chemicals, fast-reacting or explosive compounds, and flammable metals, which present specialized fire safety and extinguishing problems. Refer to other appropriate chapters of this manual for safe handling advice. If in doubt, request advice from the responsible Safety Officer.

Portable Heaters

The use of these devices, whether privately or company owned, is allowed only where there is no chance of causing injury to personnel or of creating a fire hazard. This provision obviously requires common sense in safely locating such devices and ensuring that they do not operate when they are unattended. These devices may not be used in locations where: Flammable or explosive vapors or dusts may be present. Smoking, eating, or drinking is prohibited because toxic or radioactive materials may be present. The area has been designated as unsafe for such devices. The following practices should be carried out when operating portable heating appliances: Do not place the appliance on unstable or readily combustible materials. Maintain a clearance of at least 12 inches between the appliance and combustible materials. Ensure that either Underwriters Laboratories, Inc., or Factory Mutual Research Corporation approves the appliance. Connect the appliance directly to a proper electrical outlet using only the cord with which it was originally equipped. Do not use extension cords in lieu of permanent wiring. Do not operate appliances during off hours if they are unattended unless they are controlled by a timer installed by Rieck Services. The timer will automatically de-energize the appliance during off hours and energize it not more than 30 minutes before the arrival of personnel. If 24-hour operation is desirable, the proposed operation and arrangement must be reviewed by the local Fire Department and a permit obtained. This permit must be posted near the operating appliance for the information of off-shift personnel who may be checking the area.

Mechanical Equipment Rooms

Mechanical equipment rooms contain boilers, blowers, compressors, filters, electrical equipment, etc. Such rooms must be separated from other areas of a building by fire-resistant walls and doors. To maintain the integrity of these separations, the fire doors must never be left open. Fan rooms house ventilation equipment which often includes automatic shut down and dampers activated by interlocking with the building smoke and fire detectors. Fire dampers and other automatic shutdown provisions must not be disabled without Fire Department approval (as for temporary maintenance procedures). Mechanical equipment rooms and fan rooms must not be used for storage of any kind.

Construction Areas

Construction areas under control of either Rieck Services or outside contractors must be maintained in a fire-safe condition and accessible to emergency response forces.

Forklifts

Only trained personnel should be allowed to operate industrial trucks. Each industrial truck must have a warning horn, whistle, gong or other device which can be clearly heard above the normal noise in the area where operated. Before using a forklift, check that the brakes on each industrial truck are capable of bringing the vehicle to a complete and safe stop when fully loaded. The parking brake must effectively prevent the vehicle from moving when unattended. When motorized hand and hand/rider truck are operated, and when the operator releases the steering mechanism, make sure that both the brakes are applied and power to the motor shut off. Maintenance records are available so that a driver can check on the servicing of the truck in case of questions. A visual inspection of the unit must be performed prior to use daily as per the information provided during forklift training. When an industrial truck operates in areas where flammable gases, vapors, combustible dust, or ignitable fibers may be present in the atmosphere, the vehicle must be approved for such locations with a tag showing such approval posted on the vehicle itself. Industrial trucks with internal combustion engines, operated in buildings or enclosed areas, should be carefully checked to ensure that the operation of the vehicle does not cause harmful concentration of dangerous gases or fumes.

Gases

This chapter contains guidelines and requirements for the safe use of flammable and/or compressed gases. It covers the use of flammable-gas piping systems, high-pressure gas cylinders, cylinders with manifolds, and compressed air.

Hazards

All gases must be used in a manner that will not endanger personnel or property in routine shop use or experimental operations. Hazards associated with handling and use of flammable and/or high-pressure gases include the following: Injuries caused by flying objects accelerated by an explosion or pressure release; Almost certain death if a flammable mixture is inhaled and then ignited; Asphyxiation; Secondary accidents such as falls or electrical shocks; Fire caused by ignition of flammable gases;

Relief Valves Required

All systems, system components, and piping subject to over-pressures must be equipped with relief devices.

Operational Safety Procedures

Equipment containing highly toxic gases must comply with the requirements described in the chapters on chemical safety. If you are in doubt as to the hazards, toxicity, or safe operating practices for any gases, consult the responsible Safety Officer.

Fire Risk

Fire requires three elements: fuel, oxygen, and ignition. Any experiment or routine operation that places a flammable gas in the presence of an oxidant (air, oxygen) and an ignition source (spark, flame, high temperature) is extremely dangerous. To reduce the risk of fire, eliminate two of these three elements. Thus, when using flammable gases, (1) eliminate ignition sources and (2) prevent mixing of fuel with air or oxygen. Contain or vent fuel. Pyrophoric substances, which are materials that ignite spontaneously when exposed to air, require even more care. Minimize the use of oxygen in high concentration. Materials not normally considered combustible burn violently in high-oxygen atmospheres. Therefore, special precautions must be taken when working with high-oxygen concentrations.

Guidelines

All personnel authorized to work with flammable gases must be familiar with the hazards and emergency measures that might be required in the event of an accident. For safe operation the following safety guidelines must be observed: A piping (schematic) diagram of the apparatus and an operating procedure that includes safety considerations and emergency instructions must be developed, and the installed piping must be inspected to ensure that it is installed as shown on the piping diagram. Only personnel authorized to work on the experiment are allowed in the operations area. Appropriate warning devices and signs, such as "Danger-Hydrogen" and "No Smoking and Open Flames," must be posted on or near the work area and at the doors to the operating area. Flammable gas shutoff valves must be located outside flammable gas operating areas. Good housekeeping practices must be observed; unnecessary combustible material must be kept out of flammable gas operating areas. Only the flammable gas cylinders actually required for the experiment are allowed in the operating area. Extra cylinders must be stored in an approved area outside the building or work area. When two or more cylinders containing flammable gas are used inside a room or other confined area, and are connected to a common manifold, the regulators must be modified. The existing relief valves on the regulator must be replaced with two special relief valves connected to a metal vent line that terminates outside and above the building. Likewise, when the building occupancy is rated H7, as defined in the Uniform Building Code, all flammable gas regulators must have their relief valves vented to a vent line that terminates outside and above the building. All ignition sources, e.g., welding torches, lit cigarettes, electric arcs, electrostatic charges, and pilot lights, must be kept away from flammable gases at all times. Ventilation must be provided to prevent entrapment of flammable gases in closed areas. If the gas is lighter than air, overhead ventilation is required. Gases denser than air must be prevented from entering trenches and manholes where they can collect and form explosive mixtures with air. Cracking a hydrogen gas cylinder

Gas Guidelines - continued

valve before attaching the regulator is not recommended since the gas may be ignited by static charge or friction heating. Closing the valve stops the flame immediately. Never use a flame to detect flammable gas leaks. Use soapy water or use other approved methods. If a flammable gas cylinder is discovered with a small leak and the gas has not ignited, the cylinder must be moved carefully to a safe outside area. If the leak is serious or the gas has ignited, evacuate the area and call the Rieck Services security department and the local Fire Department immediately.

Hydrogen

Hydrogen is a colorless, odorless, non-toxic, and highly flammable gas. It is the lightest gas, being only 0.07 times the density of air and having a rate of diffusion 3.8 times faster than air, which allows it to fill a confined space rapidly. The danger hydrogen poses is evident from its wide range of flammable mixtures: 4% to 75% in air and 4% to 94% in oxygen. Hydrogen-air mixtures can be ignited by an extremely low energy input, 0.02 millijoules, which is only 10% of the energy required to ignite a gasoline-air mixture. High-pressure hydrogen leaks will usually ignite as a result of the static electricity generated by the escaping gas. The ignition temperature of hydrogen is 932 degrees F, its flame velocity is 270 cm/sec (almost 10 times the velocity of a natural-gas flame), and it burns with a virtually colorless (invisible) flame at 3713 degrees F. If ignited, unconfined hydrogen and air mixtures will burn or explode depending upon how close the mixture is to being stoichiometric. Confined mixtures may detonate (burn at sonic velocity) depending upon the mixture and the geometry of the confined space. Hydrogen is not toxic but can cause asphyxiation.

Oxygen

Oxygen supports combustion but is itself nonflammable. Oxygen lowers the ignition point (in air) of flammable substances and causes them to burn more vigorously. Materials such as oil and grease burn with nearly explosive violence in oxygen, even in minute quantities. Therefore, oxygen cylinders must not be handled with greasy or oily hands or gloves and must not be stored near highly combustible materials such as oil, grease, or reserve acetylene. Oxygen must never be used to purge lines, to operate pneumatic tools, or to dust clothing - cloth, plastics, etc., saturated with oxygen burn explosively. Accordingly, oxygen cylinders must never be used as hat racks, clothes hangers, etc., since leaky fittings can result in accumulations of gas in the covering material. Insects in oxygen "pigtailed" can ignite spontaneously and may cause sufficient heat and over-pressure to burst the pigtail, valve, or manifold: don't leave pigtailed disconnected for more than a few minutes. Do not use white lead, oil, grease, or any other non-approved joint compound for sealing oxygen-system fittings. Threaded connections in oxygen piping must be sealed with joint compounds or Teflon tape approved for oxygen service. Litharge and water is recommended for service pressures above 300 psig (2.0 MPa). Gaskets must be made of non-combustible materials. When high-pressure oxygen cylinders are stored inside a building, they must be separated from flammable gas cylinders by at least 20 feet or by a fire-resistive partition.

Acetylene

Acetylene is used principally with welding and cutting torches. Commercial acetylene gas is colorless and highly flammable with a distinctive garlic-like odor. Acetylene, in its free state under pressure, may decompose violently - the higher the pressure, the smaller the initial force required to cause an explosion. Therefore, acetylene is stored in acetone, which dissolves 300 times its volume of acetylene. Acetylene cylinders are filled with a porous filler material that holds the acetone. The combination of filler and acetone allows acetylene to be contained in cylinders at moderate pressures without danger of explosive decomposition. Full cylinder pressure is 250 psig at 70 degrees F. CAUTION: when acetylene is withdrawn from its cylinder too rapidly, the gas cannot come out of solution fast enough, the downstream pressure drops, and liquid acetone is thrown out of the cylinder and may limit the flow of the pressure-reducing regulator. The following precautions are recommended when working with acetylene: To prevent flashbacks check valves are required in welding gas lines and at the welding/cutting torch. If the acetylene pressure drops, the oxygen pressure at the torch can push oxygen back up the acetylene line, where it can mix with acetylene and cause a flashback. Copper must not be used in acetylene piping - copper forms an impact-sensitive copper acetylide. NEVER use free acetylene gas outside the cylinder at pressures over 15 psig (30 psia) -- it can decompose violently. Acetylene cylinders should be used or stored only in an upright position to avoid the possibility of acetone leaking from the cylinder. If an acetylene cylinder has been stored horizontally, the cylinder should be put upright and left in that position for about 30 minutes before being used. When cylinders are empty of acetylene, valves must be closed to prevent evaporation of the acetone. Only the supplier may fill acetylene cylinders.

Cylinders

Only cylinders meeting Department of Transportation (DOT) regulations may be used for transporting compressed gases. Each cylinder must bear the required DOT label for the compressed gas contained, except under certain specified conditions set forth in DOT regulations. It is illegal to remove or to change the prescribed numbers or other markings on cylinders - do not deface, cover, or remove any markings, labels, decals, or tags applied or attached to the cylinder by the supplier. Each cylinder in use at Rieck Services must carry a legible label or stencil identifying the contents. Do not repaint cylinders unless authorized by the owner. Compressed-gas containers must not contain gases capable of combining chemically, nor should the gas service be changed without approval by responsible Safety Officer. The cylinder-valve outlet connections on cylinders containing gas mixtures are provided by the gas supplier, based on the physical and chemical characteristics of the gases. Gas mixtures having a flammable component must have a cylinder-valve outlet connection with left-handed threads, even though the gas mixture is nonflammable, unless responsible Safety Officer has authorized otherwise. Regulators, gauges, hoses, and other appliances provided for use with a particular gas or group of gases must not be used on cylinders containing gases having different chemical properties unless information obtained from the supplier indicates that this is safe. Vendor-owned cylinders must not be used for any purpose other than as a source of vendor-supplied gas. Only the vendor may pressurize these cylinders. It is illegal to transport a leaking cylinder (charged or partially charged) by common or contract carrier.

Compressed Gases

Compressed gases (over 150 psig) are usually stored in steel cylinders manufactured according to DOT specifications. When the DOT was formed in 1969, it acquired responsibility for cylinder specifications, formerly issued by ICC. DOT regulations require the following markings on all cylinders: Type of cylinder and pressure rating Serial number Inspection date For example: DOT 3AA2065 973487 6/70 DOT 3AA indicates DOT specification 3AA, which is a seamless alloy-steel cylinder of definite prescribed steel, not over 1000-lb water capacity, with at least 150-psi service pressure; 2065 is the service pressure at 70 degrees F. and the maximum refill pressure; 973487 is the manufacturer's serial number; and 6/70 is the date of the initial qualifying test. Old cylinders (made before 1970) will have "ICC" in the markings, whereas cylinders manufactured after 1970 will be marked "DOT." The other identification markings are unchanged. The name of the gas painted on each cylinder should be used to identify the contents. Mixed-gas cylinders must be marked with an adhesive label placed on the shoulder of the cylinder. The label must contain a RED diamond for flammable gas or a GREEN diamond for nonflammable gas. The percentage of each gas component must be marked on the label and on a tag attached to the valve by the supplier. In addition, a white stripe must be painted around the circumference of the cylinder near the shoulder of the cylinder to indicate mixed gas.

Inspections

All compressed gas cylinders, hoses, tubing, and manifolds must be inspected frequently to ensure that they are free of defects that could cause a failure. Cylinders must be considered defective and rejected (or removed from service) if a valve is stiff, or a fitting leaks, or if they contain dents, cuts, gouges, digs over 3 inches long, leaks (of any size), fire damage, or valve damage. All defective cylinders (Rieck Services- or vendor-owned) must be sent back to the manufacturer or vendor for test and repair. Hoses and fittings that appear worn must be replaced before the equipment is put to further use. All standard size single compressed gas cylinders (200 scf) that are used only at Rieck Services such as in fixed tube banks, must be pressure tested to 5/3 (1.67) of their DOT service pressure every 6 years.

Cylinder Handling

Only experienced and properly instructed personnel should handle compressed gases. When in doubt about the proper handling of a compressed gas cylinder or its contents, consult responsible Safety Officer. Compressed gas cylinders are dangerous when handled incorrectly. Always assume that a cylinder is pressurized. Handle it carefully. Never throw, bang, tilt, drag, slide, roll, or drop a cylinder from a truck bed or other raised surface. If a cylinder must be lifted manually, at least two people must do the lifting. Because of their shape, smooth surface, and weight, gas cylinders are difficult to move by hand. A truck or an approved cylinder handcart must always be used to move a cylinder. Cylinders must be fastened in metal cradles or skid boxes before they are raised with cranes, forklifts, or hoists. Rope or chain lifting slings alone must not be used. Cylinders, even empty ones, must never be used as rollers for moving materials, as work supports, etc. If damaged, a cylinder can cause severe injuries, including lung damage from inhalation of toxic contents and physical trauma from explosion. A pressurized gas cylinder can become a dangerous projectile if its valve is broken off. When a cylinder is not connected to a pressure regulator or a manifold, or is otherwise not in use, it is extremely important that the cylinder valve is kept closed and the safety cap be kept in place -- the cap protects the cylinder valve (do not lift cylinders by their caps). Notify the responsible Safety Officer, giving details and cylinder serial number, if you believe that a foreign substance may have entered the cylinder or valve. Cylinders containing compressed gases should not be subjected to a temperature above 125 degrees F. Flames, sparks, molten metal, or slag must never come in contact with any part of a compressed gas cylinder, pressure apparatus, hoses, etc. Do not place cylinders where they might become part of an electric circuit. When cylinders are used in conjunction with electric welding, ensure that the cylinders cannot be accidentally grounded and burned by the electric welding arc. Cylinders must not be subjected to artificially low temperatures. Many ferrous metals become extremely brittle at low temperatures. The loss of ductility and thermal stress at low temperature may cause a steel cylinder to rupture. Never attempt to repair, alter, or tamper with cylinders, valves, or safety relief devices.

Working With Gases

Always identify the contents of a gas cylinder before using it. If a cylinder is not clearly labeled, return it to the responsible Safety Officer. Before using a cylinder, be sure it is properly supported with two metal chains or the equivalent to prevent it from falling. Contamination of compressed gas cylinders by feedback of process materials must always be prevented by installation of suitable traps or check valves. Suitable pressure-regulating devices and relief devices must always be used when gas is admitted to systems having pressure limitations lower than the cylinder pressure. Gas cylinder valves can be "cracked" (opened slightly) momentarily before regulators are attached to blow dirt off the valve seats, but the valve outlet should always be pointed away from people or equipment. (Cracking the valve is not recommended with hydrogen because it can be ignited by static charge or friction.) After the regulator is securely attached to the cylinder valve, fully release (turn counter-clockwise) the pressure-adjusting screw of the regulator before opening the cylinder valve. Open gas cylinder high-pressure valves slowly; this gives compression heat time to dissipate and prevents "bumping" the gauges. Never use a wrench on any cylinder-valve hand wheel. Keep removable keys or handles on valve spindles or stems while cylinders are in service. Never leave pressure in a system that is not being used. To shut down a system, close the cylinder valve and vent the pressure from the entire system. Equipment must not be disassembled while it is under pressure. Be aware that any valved-off portion of the system may still be under pressure; bleed the hose, line, or vessel before disassembly to ensure that there is not enough pressure energy stored in the trapped gas or in piping distortion to propel loose objects. Connections to piping, regulators, and other appliances should always be kept tight to prevent leakage. Where hose is used, it should be kept in good condition. Manifold pigtailed should not be left disconnected for more than a few minutes. Certain insects are attracted to pure gases and will quickly clog these lines. Never use compressed gas to dust off clothing; this may cause serious injury or create a fire hazard. About 30-psi gauge pressure (0.2 MPa) must be left in "empty" cylinders to prevent air from entering the cylinder and contaminating it; air contamination in a hydrogen cylinder is extremely dangerous. Before a regulator is removed from a cylinder, close the cylinder valve and release all pressure from the regulator. Before returning an empty cylinder, close the valve and replace the cylinder-valve protective cap and outlet cap or plug, if used.

Cylinder Storage

Cylinders not actively in use inside of buildings must be stored outside in areas approved by Responsible Safety Officer and must be fastened - with two metal chains or bars or in a fixture - to prevent them from falling if they are bumped or shaken, as during an earthquake. When gases of different types are stored at the same location, cylinders must be grouped by types of gas, and the groups must be arranged in accordance with the gases contained, e.g., flammable gases must not be stored near oxygen. Charged cylinders and empty cylinders should be stored separately in an arrangement that permits removal of "old stock" (cylinders in storage the longest) with minimum handling of other cylinders. Storage rooms or areas should be dry, cool, well ventilated, and, where practical, fire resistant; must have solid, level floors or storage surfaces; and must be away from traffic. Storage in sub-surface locations should be avoided. Cylinders must not be stored at temperatures above 125 degrees F. or near radiators or other sources of heat, near sparking devices, or near salt or other corrosive chemicals. If stored outside, cylinders must be protected from continuous direct sunlight, extreme weather, or moisture.

Supervisor Responsibilities

Supervisors must make periodic surveys of regulators in their areas. Damaged, unreliable, or otherwise defective regulators must be replaced immediately. All surplus regulators must be inspected, cleaned, adjusted, and repaired, as required. Immediately after its removal from a flammable, toxic, and/or radioactive system, the entire regulator must be safely vented and purged. If in doubt about the hazard call the Responsible Safety Officer. Use only regulators of the approved type and design for the specific gas-and-cylinder combination to be employed. Ensure that threads and nipples (e.g. round, flat, conical) on regulators correspond to those on the cylinder-valve outlet (never force connections). Regulators with green-face gauges must be used only with oxygen. Regulators designed for use on gas lines must not be used on gas cylinders; single-stage regulators are for use only up to 150 psig (1.0 MPa) and must be used only for in-line installation. Two-stage regulators for inert gases are equipped with two relief valves that protect the regulator diaphragms and gauges from excessive over-pressure. Relief valves on regulators for use with flammable, toxic, and/or radioactive gases must be vented to a safe location. The second stage of a two-stage regulator will normally be adjusted so that the low-pressure output cannot exceed 67% of the highest reading on the low-pressure output gauge; the low pressure output relief valve will be set to open at (or under) the highest reading on the low-pressure output gauge. Users are cautioned that additional pressure-relief valves may be required to protect downstream equipment. Single-stage cylinder regulators (except acetylene regulators) are equipped with a single relief device that is set to open at (or under) the highest reading on the output gauge. These regulators will be adjusted to limit the output pressure to 67% of the highest reading of the output gauge. If piping and associated apparatus connected to the regulator discharge are rated at a pressure lower than the lowest possible setting of the low-pressure output relief valve on the regulator and, therefore, a leak in the regulator valve seat could cause damage to the connected apparatus, a separate relief valve must be installed in the downstream equipment to protect it from damage caused by over-pressurization.

Diaphragm Failure

Diaphragm failure permits the cylinder gas to escape to the surrounding atmosphere through holes in the regulator body. To reduce the probability of diaphragm failure, high-pressure regulators are equipped with stainless steel diaphragms. Regulators for use with flammable and/or toxic gases can be obtained with a bonnet fitting which allows the regulator to be vented.

Regulators, Vacuum Service

If piping on the high-pressure side of a regulator is to be evacuated through the regulator, it must be modified for vacuum service to prevent damage to the diaphragms and pressure gauges. Regulators modified for vacuum service must be so labeled.

Compressed Air

Compressed air for general shop or laboratory use must be restricted to 30-psig (207-kPa) maximum pressure by restricting nozzles. Compressed air at pressures up to 100-psig (700-kPa) may be used to operate pneumatic tools; certain control instruments, and research equipment with properly designed over-pressure relief devices. The responsible Safety Officer must approve use of air-pressurized research equipment. Building compressed air (house air) may be used to dry parts and to help accomplish many other jobs in the shop or laboratory, but always ensure that no one is in line with the air stream and always wear goggles or a face shield. Compressed air must not be used for breathing unless it has been especially installed for this purpose and responsible Safety Officer has approved such use. Never apply air pressure to the body or use compressed air to clean clothing. Compressed air injected into the body openings can be fatal. Compressed air used to clean clothing drives particles into the fabric, where they can cause skin irritation and infections. Use a clothes brush. Compressed air must not be used to transfer liquids from containers of unknown safe working pressure. A pressurized commercial drum of unknown pressure rating is a hazardous device; for example, a 55-gal (200liter) drum pressurized to 14.5 psig (100 kPa) has a force on the drumhead of about 3 tons. To transfer liquids use a pump or a siphon with a bulk aspirator. The transfer pressure for commercial-type liquid nitrogen dewars must be less than 14.5 psig. For most laboratory-type liquid nitrogen systems, transfer pressures of less than 5 psig are adequate. Compressed air must never be used for transferring liquid hydrogen or liquid helium. When an automatic shut-off coupling is not used on air-operated tools, a short metal chain (or its equivalent) should be attached to the hose to prevent it from whipping in case it separates from the tool. When using an air-operated tool, shut off the compressed air and vent the hose before changing nozzles or fittings.

Hazard Communication

It is our responsibility to obtain material safety data sheets (MSDS) for all materials used in our operations. MSDS manuals are to be readily available to all employees for their reference.

This program has been established to comply with the Hazard Communication Standard of the US Department of Labor, OSHA. The purpose of this program and standard is to ensure that employees are made aware of the hazards of chemicals found in their work environment.

This company does not manufacture or import chemicals; therefore hazard determination is performed by the various suppliers. In instances where the validity of the information provided by the supplier is in question, or where MSDS are not provided, the Safety Director will be consulted.

This company obtains material Safety Data Sheets (MSDS) from manufacturers/suppliers for all chemicals prior to their use. Material Safety Data Sheets are maintained in the office of the Safety Director and on all job sites. The MSDS manuals are available for review during normal working hours.

Labeling

Containers of hazardous chemicals at this company are labeled, tagged or marked by the manufacturer/supplier, with the identity of the hazardous chemical, appropriate hazard warning and the name and address of the manufacturer, importer or other responsible party. All labels or other forms of warning are legible, in English, and prominently displayed on the container or readily available in the work area throughout each shift.

Employee Information and Training

All employees are provided training and information on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new hazardous chemical is introduced into their work area.

Employees are informed of:

- 1) The existence and requirement of the OSHA Hazard Communication Standard.
- 2) The components of the hazard communication program.
- 3) Operations in their work area where hazardous chemicals are present.
- 4) Location of the written hazard communication program, the list of hazards and Material Safety Data Sheets.
- 5) Hazards associated with non-routine tasks.

Employee training includes:

- 1) Methods to detect the presence of a hazardous chemical in their work area.
- 2) The physical and health hazards of chemicals in their work area.

How the hazard communication program is implemented in the work place, how to read and interpret information on labels and MSDS, how to obtain and use the available information.

- 3) Measures employees can take to protect themselves from hazards including specific procedures required to provide protection against hazards such as work practices, personal protective equipment, and emergency procedures.

All Rieck employees or associates using hazardous chemicals are responsible for disposing of these chemicals safely. Federal and State regulations mandate strict disposal procedures for chemicals. To comply with these regulations all persons must comply with the followings:

- In general, the disposal of hazardous chemicals to the sanitary sewer is not permitted.
- Contact the Safety Director for information regarding the proper disposal of any hazardous chemicals you are using if directions were not provided with the substance.

Job Site Survey/Inspection

The Safety Director will conduct Job site survey/inspections on a regular basis. Supervisors are expected to inspect job sites daily for hazards and unsafe practices. Good housekeeping practices must be observed at all times to eliminate unsafe conditions.

The Safety Director will complete a job site review form during each inspection. Any unsafe conditions or unsafe practices will be reviewed with the supervisor of the project. A copy of the inspection form will be given to the project manager and a file copy in the job file. A re-inspection will be conducted to confirm all conditions have been corrected. In a case of imminent danger when a condition or practice exists which could reasonably be expected to cause death or serious physical harm or extensive damage to property, it will be the policy of Rieck Services to cease that portion of the work affected until the hazardous conditions are corrected.

Employees who violate established rules and regulations will be disciplined as per our disciplinary policy. Serious violations such as use of or possession of intoxicants or illegal drugs, fighting, misconduct and refusal to follow safety and health rules will result in discipline up to and including immediate termination.

Ladders

Check ladders each and every time before you climb. Ladders should be maintained in good condition: joints between steps and side rails should be tight; hardware and fittings securely attached; and movable parts operating freely without binding or undue play. Non-slip safety feet are provided on each ladder. Ladder rungs and steps should be free of grease and oil. Employees are prohibited from using ladders that are broken, missing steps, rungs, or cleats, or that have broken side rails or other faulty equipment. It is prohibited to place a ladder in front of doors opening toward the ladder except when the door is blocked open, locked or guarded. It is prohibited to place ladders on boxes, barrels, or other unstable bases to obtain additional height. Face the ladder when ascending or descending. Be careful when you climb a ladder. Do not use the top step of ordinary stepladders as a step. When portable rung ladders are used to gain access to elevated platforms, roofs, etc., the ladder must always extend at least 3 feet above the elevated surface. It is required that when portable rung or cleat type ladders are used, the base must be so placed that slipping will not occur, unless it is lashed or otherwise held in place. Employees are prohibited from using ladders as guys, braces, skids, gin poles, or for other than their intended purposes. Only adjust extension ladders while standing at a base (not while standing on the ladder or from a position above the ladder). Metal ladders should be inspected for tears and signs of corrosion. Rungs of ladders should be uniformly spaced at 12 inches, center to center.

Lockout/Tagout Procedures

This procedure establishes a lockout/tagout practice for securing machinery and equipment during periods of repair, servicing and/or alteration, which could cause injury to personnel. All employers and employees shall comply with this procedure. All personnel involved in an operation that requires a lockout/tagout are responsible to see that this procedure is followed. Employees shall be instructed in the purpose, use and safety significance of the lockout/tagout procedure. All shutdowns must be coordinated with the Construction Manager a minimum of 24 hours in advance.

Procedure Sequence:

1. When necessary, shut equipment down by the normal stopping procedure, such as depressing stop button, open toggle switches, valves, etc.
2. Open disconnect switch, operate valve or other energy isolating device so that the energy source(s), electrical, mechanical, hydraulic, etc., are disconnected or isolated from the equipment. Special attention must be given to ensuring that stored energy such as that in capacitors, hydraulic, air, gas, steam, water pressure, etc., is released and/or dissipated.
3. Lockout/tagout the energy source(s) with the assigned individual's lock or other designated device.

Note: In situations involving more than one person, all employees are required to place their assigned lock or tag on the energy-isolating device. This includes supervisory personnel, management, vendors, etc.

After assuring no personnel are exposed, operate normal operating controls to ensure the energy sources have been properly disconnected. Extreme caution must be given to returning the operating controls to the neutral or off position after testing.
4. When lockout/tagout is not feasible in the case of required, repetitive adjustments or production operation, these shall be performed under the protection of one designated individual. Only qualified, authorized personnel shall be in the area.
5. When the job is complete and equipment is ready for testing or normal service, check the equipment to see that no one is exposed. Each individual must remove his or her own lock. Never cut off a lock of another owner. Supervisory personnel must ensure the individual who has not removed their lock has in fact left the work site ensuring they are not still working on the equipment in another area not readily visible.
6. When equipment is all clear, and all locks have been removed, the disconnect or energy isolating devices may be operated to restore energy to equipment.
7. In the case of required repetitive adjustments or production operations, the designated individual will return the equipment to service when it is clear.
8. All locks for lockout will be provided by Rieck Services Each key will be numbered with one key for the user to the lock. No master keys will be available. No personal locks may be used without prior authorization from management. This is to ensure easy identification of Rieck Services employee locks keeping in conformance with our color-coding and numbering system.
9. Standard tags must be used and issued by Rieck Services management.
10. Tag-out shall not be used in lieu of lockout unless a lockout cannot be performed and personal safety is not jeopardized. When lockout is not applicable, a qualified individual must approve tagout procedure.
11. A qualified individual is to whom the authority and responsibility to perform specific assignments has been given by upper management of Rieck Services.

1910.35

Safeguards for personnel protection

- (a) Use of protective equipment.
 - (1) Personal protective equipment.
 - (i) Employees working in area where there are potential electrical hazards shall be provided with, and shall use, electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed.
 - (ii) Protective equipment shall be maintained in a safe, reliable condition and shall be periodically inspected or tested, as required by 1910.137.
 - (iii) If the insulating capability of protective equipment may be subjected to damage during use, the insulating material shall be protected. (For example, an outer covering of leather is sometimes used for protection of rubber insulating material.)
 - (iv) Employees shall wear nonconductive head protection wherever there is a danger of head injury from electrical shock or burns due to contact with exposed energized parts.
 - (v) Employee shall wear protective equipment for the eyes or face wherever there is a danger of injury to the eyes or face from electric arcs or flashes or from flying objects resulting from electrical explosion.
 - (2) General protective equipment and tools.
 - (i) When working near exposed energized conductors or circuit parts, each employee shall use insulated tools or handling equipment if the tools or handling equipment might make contact with such conductors or parts. If the insulating capability of insulated tools or handling equipment is subject to damage, the insulating material shall be protected
 - (A) Fuse handling equipment, insulated for the circuit voltage, shall be used to remove or install fuses when the fuse terminals are energized.
 - (B) Ropes and hand lines used near exposed energized parts shall be Non-conductive.
 - (ii) Protective shields, protective barriers, or insulating materials shall be used to protect each employee from shock, burns, or other electrically related injuries while that employee is working near exposed energized parts which might be accidentally contacted or where dangerous electric heating or arcing might occur. When normally enclosed live parts are exposed for maintenance or repair, they shall be guarded to protect unqualified persons from contact with the live parts.

Material Handling

Rieck Services requires that safety planning and practices for commonplace tasks are as thorough as for operations with unusual hazards. Commonplace tasks make up the greater part of the daily activities of most employees and, not unexpectedly, offer more potential sources of accidents with injuries and property damage. Every operation or work assignment begins and ends with handling of materials. Whether the material is a sheet of paper (paper cuts are painful) or a cylinder of toxic gas, accident risks can be reduced with thorough planning. Identifying obvious and hidden hazards should be the first step in planning work methods and job practices. Thorough planning should include all the steps associated with good management from job conception through crew and equipment decommissioning. Most of the material presented in this chapter is related to the commonplace and obvious. Nevertheless, a majority of the incidents leading to injury, occupational illness, and property damage stem from failure to observe the principles associated with safe materials handling and storage. A less obvious hazard is potential failure of used or excessive motorized handling or lifting equipment. The responsible Safety Director must be notified whenever it is desired to acquire a crane, forklift truck, or other motorized handling or lifting equipment from accessed sources.

Lifting and Moving

Lifting and moving of objects must be done by mechanical devices rather than by manual effort whenever this is practical. The equipment used must be appropriate for the lifting or moving task. Only personnel trained and authorized to operate them must operate lifting and moving devices. Employees must not be required to lift heavy or bulky objects that overtax their physical condition or capability.

Rigging

Planning for safe rigging and lifting must begin at the design stage, and lifting procedures must be developed for assembly and installation. The lifting procedure should be developed and discussed with the rigging crew fore person. Responsibility for all rigging jobs is shared between the rigging crew and the customer. The customer is responsible for defining and requesting the move, for providing technical information on relevant characteristics of the apparatus, including special lifting fixtures when required, for providing suggestions on rigging and moving, and for assigning someone to represent them both in planning and while the job is being carried out. The riggers are responsible for final rigging and for carrying out whatever moves have been designated. Before any movement takes place, however, each representative must approve the rigging and other procedures associated with the intended move. Each must respect the responsibility and authority of the other to prevent or terminate any action he or she judges to be unsafe or otherwise improper. The supervisor must make certain that personnel know how to move objects safely by hand or with mechanical devices in the operations normal to the area and must permit only those employees who are formally qualified by training and certification to operate a fork truck, crane, or hoist. The supervisor must enforce the use of safe lifting techniques and maintain lifting equipment in good mechanical condition. Employees are required to observe all established safety regulations relating to safe lifting techniques. The responsible Safety Director provides training programs followed by certification for employees who have demonstrated the ability to operate fork trucks of up to 4-ton capacity and for incidental crane operations that require no special rigging.

Manual Lifting Rules

Manual lifting and handling of material must be done by methods that ensure the safety of both the employee and the material. It is Rieck Services policy that employees whose work assignments require heavy lifting be properly trained and physically qualified, by medical examination if deemed necessary. The following are rules for manual lifting: Inspect the load to be lifted for sharp edges, splinters, and wet or greasy spots. Wear gloves when lifting or handling objects with sharp or splintered edges. These gloves must be free of oil, grease, or other agents that may cause a poor grip. Inspect the route over which the load is to be carried. It should be in plain view and free of obstructions or spillage that could cause tripping or slipping. Consider the distance the load is to be carried. Recognize the fact your gripping power may weaken over long distances. Size up the load and make a preliminary "heft" to be sure the load is easily within your lifting capacity. If it is not, get help. If team lifting is required, personnel should be similar in size and physique. One person should act as leader and give the commands to lift, lower, etc. Two persons carrying a long piece of pipe or lumber should carry it on the same shoulder and walk in step. Shoulder pads should be used to prevent cutting shoulders and help reduce fatigue. To lift an object off the ground, the following are manual lifting steps:

Make sure of good footing and set your feet about 10 to 15 inches apart. It may help to set one foot forward of the other. Assume a knee-bend or squatting position, keeping your back straight and upright. Get a firm grip and lift the object by straightening your knees - not your back. Carry the load close to your body (not on extended arms). To turn or change your position, shift your feet - don't twist your back. The steps for setting an object on the ground are the same as above, but in reverse.

Mechanical Lifting

Employees must use mechanical devices for lifting and moving objects that are too heavy or bulky for safe manual handling. Employees who have not been trained must not operate power-driven mechanical devices to lift or move objects of any weight. Heavy objects that require special handling or rigging must be moved only by riggers or under the guidance of employees specifically trained and certified to move heavy objects.

Inspections

Each mechanical lifting or moving device must be inspected periodically. Each lifting device must also be inspected before lifting a load near its rated capacity. Defective equipment must be repaired before it is used. The rated load capacity of lifting equipment must not be exceeded. Material moving equipment must be driven forward going up a ramp and driven backward going down a ramp. Traffic must not be allowed to pass under a raised load. The floor-loading limit must be checked before mobile lifting equipment enters an area. Passengers must not be carried on lifting equipment unless it is specifically equipped to carry passengers.

Load Path Safety

Loads moved with any material handling equipment must not pass over any personnel. The load path must be selected and controlled to eliminate the possibility of injury to employees should the material handling equipment fail. Equipment worked on while supported by material handling equipment must have a redundant supporting system capable of supporting all loads that could be imposed by failure of the mechanical handling equipment. A suspended load must never be left unattended but must be lowered to the working surface and the material handling equipment secured before leaving the load unattended.

Truck Loading

All objects loaded on trucks must be secured to the truck to prevent any shifting of the load in transit. The wheels of trucks being loaded or unloaded at a loading dock must be chocked to prevent movement.

Clean Work Areas

All areas controlled by Rieck Services must be kept in orderly and clean condition and used only for activities or operations for which they have been approved. The following specific rules must also be followed: Keep stairs, corridors, and aisles clear. Traffic lanes and loading areas must be kept clear and marked appropriately. Store materials in workrooms or designated storage areas only. Do not use hallways, fan lofts, or boiler and equipment rooms as storage areas. Do not allow exits, passageways, or access to equipment to become obstructed by either stored materials or materials and equipment that is being used. Arrange stored materials safely to prevent tipping, falling, collapsing, rolling, or spreading - that is, any undesired and unsafe motion. Do not exceed the rated floor capacity of stored material for the area. The load limit and the maximum height to which material may be stacked must be posted. Place materials such as cartons, boxes, drums, lumber, pipe, and bar stock in racks or in stable piles as appropriate for the type of material. Store materials that are radioactive, fissile, flammable, explosive, oxidizing, corrosive, or pyrophoric only under conditions approved for the specific use by the responsible Safety Director. Segregate and store incompatible materials in separate locations. Remove items that will not be required for extended periods from work areas and put them in warehouse storage. Call for assistance. Temporary equipment required for special projects or support activities must be installed so that it will not constitute a hazard. A minimum clearance of 36 inches must be maintained around electrical power panels. Wiring and cables must be installed in a safe and orderly manner, preferably in cable trays. Machinery and possible contact points with electrical power must have appropriate guarding. The controls for temporary equipment must be located to prevent inadvertent actuation or awkward manipulation. When heat-producing equipment must be installed, avoid accidental ignition of combustible materials or touching of surfaces above 60 degrees C (140 F). Every work location must be provided with illumination that meets OSHA requirements. The responsible Safety Director makes evaluation of illumination quality and requirements, but the supervisor of an area is responsible for obtaining and maintaining suitable illumination. Areas without natural lighting and areas where hazardous operations are conducted must be provided with enough automatically activated emergency lighting to permit exit or entry of personnel if the primary lighting fails.

OSHA Standards for Forklifts

Forklift users must familiarize themselves with and comply with OSHA Standard 29 CFR 1910.178 and ANSI B56.1. The customer or user without manufacturer's prior authorization or qualified engineering analysis must not perform modifications and additions. Where such authorization is granted, capacity, operation and maintenance instruction plates, tags, or decals must be changed accordingly. If the forklift truck is equipped with front end attachments other than factory installed attachments, the user must ensure that the truck is marked with a card or plate that identifies the current attachments, shows the approximate weight of the truck with current attachments and shows the lifting capacity of the truck with current attachments at maximum lift elevation with load laterally centered. The user must see that all nameplates and caution and instruction markings are in place and legible. The user must consider that changes in load dimension may affect truck capacities.

Because forklift trucks may become hazardous if maintenance is neglected or incomplete, procedures for maintenance must comply with ANSI B56.1 Section 7 and OSHA Standard 29 CFR 1919.178 g.

Crane Loads

When equipment is designed to be crane lifted at a single point with a single-bolt pickup device, the vertical lifting load through the screw thread of the bolt must be in line with the axis of the bolt so that the load will remain level when it is lifted. With this bolt alignment the lift will be through the center of gravity and will be safer since the load will not tilt or kick out when it is lifted. A single-bolt pickup device, such as a Safety Hoist Ring or equivalent carefully designed and maintained in-house device must be used. When a load is to be crane-lifted by slings from a crane hook through 2, 3, or 4 single-load pickup points located at the corners of the load, and without the use of a spreader bar, the forces at the lift points will be non-vertical. In this case a single bolt pickup device, such as a safety hoist ring or equivalent carefully designed and maintained in-house device, must be used at each pickup point. The use of eye bolts with shoulders is permitted for lifting light incidental loads after receiving approval from the crane certified operator or supervisor and when the following conditions are met: The load is in

line with the axis of the eye bolt and side loads are minimal (a spreader bar may be required). The average stress at the root area of the thread does not exceed 5000 psi. The thread engagement is at least two bolt diameters.

Power Tools

1. All power tools must be used with a ground fault circuit interrupter.
2. Do not lock the operating mechanism of any power tool unless the tool has been designed by the manufacturer to be locked in the on position. This practice is not recommended for any hand-held power tools.
3. Follow all manufacturers' instructions regarding the safe, storage, operation and maintenance of power tools.
4. Do not use a power tool unless you have been trained to use it properly and safely.
5. All guards must be in place before operating the tool. Removing guards is cause for disciplinary action.
6. Appropriate eye protection must be worn when operating or working near power tools.
7. Do not wear loose-fitting clothing or jewelry when using power tools.
8. Disconnect the tool before changing blades, bits, etc.
9. Remove chuck key, etc., before using a power tool.
10. Disconnect power tools from the power source by pulling out the plug. Do not remove by pulling on the cord.
11. Make sure that tools are either double insulated or that they have three prong plugs with grounded extension cords and receptacles.
12. Keep your fingers off the trigger and make sure the switch is in the 'off' position before plugging in a tool.
13. Do not use electric tools that have worn or damaged cords or plugs.
14. Secure small pieces of work with a clamp or vise.
15. When using power tools, keep the work area free of any trip hazards or slippery conditions.
16. Never use compressed air to blow off equipment or clothing, use a brush.
17. All power tools shall be used for their designed intended use only.

Saws

1. Do not jam or force saws into the work.
2. Portable saws shall have a spring-loaded operating switch.
3. Stay out of the saw's cutting line.
4. Start and stop the saw outside of the work piece.
5. Wear appropriate eye and hearing protection.

Circular Saw

1. Do not retract the lower guard while the blade is moving.
2. Use the retracting handle or safety lift lever to move the lower guard.
3. Do not clamp or tie the guard open. Altering safety guards is cause for disciplinary action.
4. Do not operate the saw if the guard is not working properly. Tag for repair.
5. Keep your hands away from the blade at all times.
6. Keep power cord out of the line of saw cut.

Reciprocating Saws

1. Do not lock the operating mechanism of any power tools unless the tools have been designed by the manufacturer to be locked in the on position.
2. Do not use the saw unless the insulating boot is in place.
3. Be careful to keep hands away from the blade when using this tool.

Drills

1. Wear appropriate eye protection.
2. Do not use dull or chipped bits.
3. Let the bit cool down before changing or adjusting it.
4. Do not force the drill into the work.
5. Use light oil to keep the bit lubricated and cool during use.

Grinders

1. Wear appropriate eye protection.
2. Grinding wheels must be covered with a safety guard. Removing safety guard is cause for disciplinary action.
3. Tool rests of bench grinders must be well supported and be no more than 1/8 inch from the wheel. Never adjust tool rest while wheel is in motion.
4. Do not grind on the side of the wheel unless it is designed to be used as a side grinder.
5. Never leave a running grinder unattended.
6. Make sure the work area around the grinder is clear before starting the grinder. Stand off to one side of the grinder when starting it.
7. Bench grinders shall be set up in non-traffic area.

Portable Band Saw

1. Return dull or damaged blades to your supervisor. Do not leave blades in work area as they may create serious trip hazards.

Radial Arm Saws

1. The radial arm shall be self-retracting.
2. Do not remove any manufacturers' guards. Removal of guards is cause for disciplinary action.
3. Only approved employees are to use a radial arm saw.

Portable Grinders

1. Always wear a full-face shield over safety glasses.
2. Always tuck shirt in when using grinders.
3. Do not operate grinders without proper guards.
4. Do not use a portable side grinder as a replacement for a bench grinder.
5. Never operate a portable grinder without the wheel guard installed.

In Summary...

These procedures provide guidelines for the safe use of power tools. Follow manufacturer instructions regarding the proper use of the tool. Never use a tool you are not familiar with. All guards must be in place while using power tools. Any tools with missing guard must be tagged out for repair. Using a tool with safety features altered or missing is cause for disciplinary action up to and including termination. Appropriate personal protective equipment must be worn at all times.

Pneumatic Tools

1. Wear appropriate eye and hearing protection.
2. Pneumatic power tools must be securely attached to the compressed air hose.
3. Do not make adjustments to pneumatic tools until you are sure that no air pressure is being supplied to the hose or tool.
4. Do not hoist, lower or carry the tool by the hose.
5. Pneumatic impact tools must have safety clips or retainers to retain tool bits.
6. Follow manufacturers' guidelines for safe operating pressures.
7. Locate all air hoses so that they do not present a tripping hazard.
8. A safety device shall be at the source of supply to reduce pressure in case of hose failure for all hoses exceeding ½ inch inside diameter.
9. Air hose section connections shall be secured against separation. "Chicago" couplings shall be wired together

Powder Actuated Tools

All manufacturers' recommendations and local laws governing the proper use, inspection and maintenance of powder-actuated tools shall be followed.

Only authorized certified employees will be permitted to use powder-actuated tools

The following general precautions are applicable to all types of powder-actuated tools:

- Explosive powder-actuated tools and ammunition must be kept in a locked box at all times (other than when being used) to prevent unauthorized use.
- Storage of tools, ammunition, and studs shall be controlled so that only authorized and trained personnel can withdraw them for use.
- Tool manufacturers' representatives or qualified independent trainer shall train, qualify and certify site employees in the use and maintenance of stud guns.
- A current certification card for the powder-actuated tool being used must be in the operator's possession.

The powder-actuated tool shall not be used where the stud is to be driven into surface-hardened steel, cast iron, glazed brick or tile, marble, granite, live rock, or similar brittle materials.

Tools must not be used in any location where explosives, flammable gases, vapors or dusts are present.

The tool operator and any nearby workers must wear face shields and goggles when the tool is being used. Ear protection shall be used 100 percent of the time this tool is used. Other workers in the near vicinity shall wear ear protection.

The utmost care must be exercised to ensure that ammunition, studs, nails, etc., are of the proper specification.

At all times, the tool must be equipped with the proper ricochet or spall guard.

Signs and warnings that powder-actuated tools are in use shall be posted.

Spent and misfired cartridges shall be disposed of by placing them in a bucket of water as soon as possible and then removing them from the work area.

In Summary...

This procedure establishes practices for the safe use of powder-actuated tools.

- ✓ All manufacturers' recommendations and local laws governing the proper use, inspection and maintenance of powder-actuated tools shall be followed.
- ✓ Only authorized, certified employees will be allowed to use powder-actuated tools.
- ✓ Tools must not be used in any location where explosives, flammable gases, vapors or dusts are present.
- ✓ The tool operator and nearby workers must wear face shields, goggles and ear protection at all times while this tool is being used.

Highly visible signs must be posted warning that powder-actuated tools are in use and only authorized personnel are to be in the vicinity of the area in which they are being used.

Respirators

The use of respirators is in an effort to avoid those occupational diseases caused by breathing air contaminated with harmful dusts, fumes, mists, sprays, fogs, smokes, vapors or gasses. Our primary objective is to prevent atmospheric contamination as far as is feasible by accepted engineering control measures such as enclosure or confinement of the operation, general and local ventilation and substitution when possible of less toxic materials. When effective engineering controls are not feasible, or while being instituted or evaluated, appropriate respirators shall be used according to the following requirements.

Employer Responsibility:

- 1) The employer shall provide respirators when such equipment is necessary to protect the health of the employee.
- 2) The employer shall provide respirators, which are applicable and suitable for the purpose intended.
- 3) The employer shall be responsible for the establishment and maintenance of a respiratory protection program.

Employee Responsibility:

- 1) The employee shall use the provided respiratory protection in accordance with instructions and training received.
- 2) The employee shall guard against damage to the respirator.
- 3) The employee shall report any malfunction of the respirator to a responsible person designated by the standard operating procedure.

Respirator Program:

The Safety Director will administer the program. A qualified physician as outlined by OSHA standards will certify fitness for use of a respirator. Only NIOSH and/or OSHA approved respirators shall be used.

The selection of the proper type of respirator shall be based upon:

- The nature of the hazardous operation or process
- The type of respiratory hazard including physical properties, physiological effects on the body, concentration of toxic material, and established immediately dangerous to life or health (IDLH) concentration for toxic materials.
- The location of the hazardous area in relation to the nearest area having respirable air.
- The period of time for which respiratory protection must be provided.
- The activity of the workers in the hazardous area.
- The physical characteristics and functional capabilities and limitations of the various types of respirators.
- Respirator protection factors.

Each respirator wearer shall be given instructions that include explanation of the respiratory hazard and what happens if the respirator is not used properly, why the type of respirator that is being used was selected, the function and capabilities and limitations of the selected respirator, proper wearing and checking fit and operation of the respirator issued including proper maintenance.

Respirator Fit

Each respirator wearer shall be provided with a respirator fitted in accordance with approved fit-test protocols. Each respirator wearer shall be required to check the seal of the respirator by appropriate means prior to entering a harmful atmosphere.

Facial Hair, Contact Lenses and Eye and Face Protection Devices

A respirator equipped with a face piece shall not be worn if facial hair comes between the sealing periphery of the face piece and face, or if facial hair interferes with the valve function. The wearer of a respirator equipped with a full face-piece helmet, hood or suit shall not be allowed to wear contact lenses. If spectacles, goggles, face shield or welding helmet must be worn with a face-piece. They shall be worn so as not to adversely affect the seal of the face-piece to the face.

The proper type of respirator for each respiratory hazard shall be issued. Only persons trained to ensure that proper respirators are issued shall be permitted to issue respirators to persons needing them.

The wearer prior to its use to ensure that it is in proper working condition shall inspect the respirator. Each person issued a respirator will be given filters applicable to the task at hand. It is the wearer's responsibility to ensure that filter life is not exceeded while being used. Filters will be replaced immediately upon request.

Respirator maintenance must be performed regularly and is the wearer's responsibility. Maintenance shall include:

- Washing, sanitizing, rinsing and drying.
- Inspection for defects.
- Replacement of worn or deteriorated parts.
- Return for replacement of unit when deemed necessary.
- Storage to protect against dust, sunlight, excessive heat, extreme cold, excessive moisture, damaging chemicals and physical damage.

At any time the wearer questions the reliability of a respirator that has been previously used, a new one will be issued to ensure the quality of the respirator's protection to the wearer. Respirators that have been fitted for a specific wearer are not to be passed from one user to another without proper inspection and fit testing being performed.

Rigging

To prevent accidents due to rigging failure, all lifts are to be pre-planned so all personnel involved with the lift are aware of lifting sequences of the lifting equipment to be used, and the hazards associated with lifting.

The person in charge will be a company supervisor or lead person appointed to be responsible for the safe handling and rigging of all loads, and shall be a qualified rigging specialist as deemed by the company based on previous experience and training.

A lift plan should cover the entire operation for each individual lift. Items to be included in a lifting plan should be as follows:

- ✓ Identification of each piece of operating equipment to be used by type, rated capacity and identification number (i.e. serial number)
- ✓ Identification of slings, lifting bars, and other lift accessories/assemblies by serial number
- ✓ List of all rigging accessories/material without serial numbers identified by type and capacity, which are required in the lift.
- ✓ Identification and description of item to be lifted with weight, dimensions, center of gravity and total hook load.
- ✓ Rigging sketches showing all lifting points, load vectors, sling angles, accessories, methods of attachment, boom angles, crane orientations, notation of limitations to be applied on any equipment or rigging accessories, and any other factors affecting the capacity of equipment and accessories to be used in the lift.
- ✓ Approximate and maximum hoist and winching speeds
- ✓ Instructions to be given to equipment operators which will include, but not limited to, the following:
 - Boom and swing angles at each step of the lift
 - Sequence of equipment moves
 - Coordination with movement of other equipment at each step of the lift
 - Speed, direction, distance, load weight and all other applicable load lift data
 - Weight of load(s).
- ✓ Identification of persons who will have field responsibility for supervising and monitoring the lift
- ✓ Requirements of specific tests to be made before, during and after the lift

Rigging - continued

- ✓ Surveillance procedure, checkpoints, instruments and indicators that will be used to ensure that the lift proceeds according to plan and the capacity of the equipment has not been exceeded.
- ✓ Provisions for verification by the person in charge of satisfactory completion of each step of the procedure as it occurs.
- ✓ Inspection and test certification period of the equipment to be used for the lift.
- ✓ Presence of hazardous materials.
- ✓ Presence of any electrical lines or pressurized pipelines in the lift area, both underground and aboveground.
- ✓ Hold a meeting for review of the lifting plan with all associated employees and outside associates.
- ✓ Confirm that all equipment operators and riggers involved with the lift are fully qualified and capable of performing the tasks they are assigned.
- ✓ Immediately before the lift, review the plan to ensure all components are in place.
- ✓ Person in charge initiates, monitors and completes the load lift as per the finalized lifting plan.
- ✓ Forward all documentation to the Safety Director to be filed in the job file and lift record file.

Scaffolding Safety

1. All scaffolding must be erected, dismantled and used under the supervision of a competent person.
2. Any elevated work creates a potential fall hazard making it essential that precautionary measures are thorough.
3. All work platforms must be capable of sustaining a minimum-working load of 75 psf on 5-foot spans or have a safety factor of 4 to 1 for the intended load.
4. Posts must be plumb, platforms must be level; footing must be level and secure.
5. Height must not exceed 4 times the smallest base without additional stabilization.
6. Fall protection must be worn when there are no handrails or there are gaps in excess of 12 inches.
7. A competent person prior to use must conduct daily inspections each day. Any scaffolds found to be defective must be tagged "Do Not Use" and repaired prior to use.
8. Scaffold handrails shall be at or close to 42 inches above the platform. The minimum distance between handrails and the platform is 38 inches. The 38 inches allows for overlap of the scaffold planks.

Fixed Scaffold Requirement / Tubular Welded Frame Scaffolds

1. Scaffolds of 6 feet or more in height shall include diagonal braces, handrails, midrails, toe boards and 2 x 10 inch or 2 x 12 inch scaffold planks or manufactured scaffold decking to provide a complete working deck without gaps or openings. Corner posts shall have the metal feet in place. On soft ground, wooden sills of at least 2 x 10 inch lumber or equivalent shall be provided.
2. When scaffold sections are erected, only scaffold pins are to be used for the corner-post connections. Tie wire or welding rods is prohibited!
3. When casters are used for rolling scaffold, they shall be locked except when the scaffold is being moved. No one shall be permitted on a scaffold while it is being moved. Casters must be designed to carry the intended load of the scaffold.
4. Scaffold screw jacks shall be extended in accordance with the manufacturers' instructions. In no case shall they be extended in excess of 12 inches. Whenever screw jacks and caster wheels are not used, metal base plate must be used for adequate base support. All supports are to be panned and secured.
5. Scaffolds must have solid footing and shall be erected so that vertical members are always plumb and the platform is horizontal as practical. Scaffold planks are to be cleated, wired down or otherwise secured against accidental displacement.
6. Wedge shims are not to be used.
7. Safety harnesses must be worn if handrails are missing or if any fall hazards exist.
8. Horizontal braces of 2 x 4 lumber or equivalent shall be secured across corner posts when it is necessary to remove the diagonal braces. Diagonal braces shall not be removed from more than one section in a series of sections unless there are four braced sections between them.

Fixed Scaffold Requirement / Tubular Welded Frame Scaffolds - continued

9. Ladders shall be used if access to the scaffold platform is blocked or if the scaffold climbing devices are more than 16 inches apart.
10. Before use, every scaffold higher than 50 feet must be inspected and approved by a licensed professional engineer and the environmental, safety and health professional. This inspection shall be documented and filed on site and with the Safety Director.
11. Toe boards shall be secured in a firm manner by interlocking at the corner posts with notches, wiring, mailing, U-clamping to the bearing member, or by use of approved commercial toe-board systems.
12. Employees gaining access to scaffolds shall have both hands free at all times and shall use the hand over hand method of climbing the rungs. Employees shall not use toe boards as handholds or footholds to gain access to the platform.

Scaffold Erection and Dismantling Requirements

Scaffolds that are being erected or dismantled may present a hazardous situation leading to a serious accident. All individuals working on scaffolds at these times shall comply with the following safety rules and regulations:

- ✓ Pockets, pouches and tool belts shall be used to carry the necessary tools for the work.
- ✓ Scaffold members shall be hoisted or lowered with a hand line or passed from hand to hand. Throwing items up to coworkers or dropping them is not permitted.
- ✓ Constant fall prevention measures must be maintained. Provisions shall be established for using a safety harness and working on firm scaffold decks when this can be done safely.
- ✓ Scaffold feet shall be established on a firm and level base of support.
- ✓ When scaffolds are to be secured to fixed structures or outriggers are to be used, they shall be installed as soon as possible. When dismantling a scaffold, these should be left on as long as practical.

Mounting and Dismounting Scaffolds Requirements

Mounting and dismounting scaffolds is typically associated with scaffold accidents when they occur. Therefore, all individuals mounting and dismounting scaffolds shall comply with the following safety rules and regulations:

- ✓ Do not carry objects in hands keeping both hands empty for climbing handholds.
- ✓ Step only on secured ladder or access rungs.
- ✓ Give full attention to stability while getting on and off the working platform. Do not use the toe board as a handhold or foothold.
- ✓ Pay attention to each step and handhold.

Scaffold Tagging

General scaffold tagging requirements will be as follows:

- This scaffold tagging procedure is designed to ensure the safe use of all jobsite scaffolds.
- A scaffold, which is ready for use, shall be tagged with either a green or a yellow tag.
- A green tag designates a complete scaffold as defined by the manufacturer and/or OSHA.
- A yellow tag designates a scaffold which is not complete but which is altered to suit a specific job and may be used safely. A yellow scaffold tag shall detail the reason or reasons the scaffold is incomplete and safety measures needed.
- If a scaffold is in the process of being erected, changed or dismantled, it shall have a red tag. A scaffold, which contains a red tag, shall be considered unsafe and shall not be used.
- If a scaffold has been damaged or is defective, a red tag must be attached.



Substance Use and Abuse Policy

Rieck Services is committed to providing its employees with a safe workplace. Rieck employees should not be subject to any safety threats from fellow workers. You are expected to be in suitable mental and physical condition while at work, allowing you to perform your job effectively and safely.

Whenever use and abuse of any mood altering substance such as alcohol or illegal drugs interferes with a safe workplace, appropriate action must be taken. On or off the job involvement with any mood altering substances can have an impact on our workplace and the ability to achieve our objectives of safety and security. Therefore, you are expected to report to the workplace with no mood altering substances in your body. Rieck Services will not accept the risk in the workplace, which substance use or abuse creates. The possession, sale or use of mood altering substances at the workplace, or coming to work under the influence of such substances shall be a violation of safe work practices and will be subject to disciplinary action up to and including termination.

Employees will not be permitted to work while under the influence of drugs or alcohol. Individuals who appear to be unfit for duty may be subject to a medical evaluation, including a drug and alcohol testing. Refusal to comply with a fitness for duty evaluation may result in disciplinary action up to and including termination.

The use of illegal drug while off work could adversely affect the employee's job performance or could jeopardize the safety of other employees, the public, Rieck facilities, or such usage could jeopardize the security of Rieck finances or business records. All employees who are referred to a job where the owner or his agent requires drug screening must have a current drug free card or submit to a drug screening appointment arranged by Rieck Services before reporting to the job site.

Refusal to cooperate with any requested drug and/or alcohol screening will be considered insubordination and may subject the employee to disciplinary action up to and including termination.

Any employee who tests positive using sample "A" has the right to a re-test using sample "B" at their expense. If the test is negative, the employee will be reimbursed for the cost of the test, paid lost wages and reinstated to their position, if it is still available.

Rieck Group, LLC dba Rieck Services

Temporary Power

All construction distribution panels shall have no exposed openings into the energized buss bar. This includes exposed openings for breakers, conduits, or any other openings. A qualified electrician must install all temporary construction power. All breakers, control switches, knife switches, or pull boxes shall be labeled to indicate what they energize and their voltage rating.

A three-foot clearance is required for accessibility of all disconnects.

Tool Maintenance

Faulty or improperly used hand tools are a safety hazard. All employees shall be responsible for ensuring that tools and equipment (both company and employee-owned) used by them or other employees at their workplace are in good condition. Hand tools such as chisels, punches, etc., which develop mushroom heads during use, must be reconditioned or replaced as necessary. Broken or fractured handles on hammers, axes and similar equipment must be replaced promptly. Worn or bent wrenches should be replaced regularly. Appropriate handles must be used on files and similar tools.

Appropriate safety glasses, face shields, etc., must be worn while using hand tools or equipment which might produce flying materials or be subject to breakage. Eye and face protection must be worn when driving in tempered spuds or nails. Check your tools often for wear or defect. Jacks must be checked periodically to assure they are in good operating condition. Tool handles must be wedged tightly into the heads of tools. Tool cutting edges should be kept sharp enough so the tool will move smoothly without binding or skipping. When not in use, tools should be stored in a dry, secure location

Trailers

A qualified electrician must wire all job trailers. Current OSHA and NEC codes for wiring temporary trailers or structures must be followed.

All trailers shall have their frames grounded back through the service and locally grounded using ground rods and connections applicable to local conditions.

Live parts of 50 volts or more must be guarded against accidental contact except by a qualified authorized person.

In Summary:

- ✓ This procedure is intended to eliminate unsafe conditions involving electrical work.
- ✓ Care must be given to prevent electrical hazards on all projects.
- ✓ Two methods of protecting workers from ground fault are use of ground fault circuit interrupters (GFCI) and assured equipment grounding conductor program.
- ✓ A qualified electrician must install all temporary construction power.
- ✓ All extension cords must be marked for construction use as outlined by OSHA 29 CFR 1926.
- ✓ Care must be given to protect extension cords from damage in all situations.
- ✓ Extension cords must be inspected prior to use and put out of service if found to be damaged either by tagging the cord out or severing it completely.
- ✓ A qualified electrician must wire all trailers or similar facilities as per OSHA and NEC codes.

Welding, Cutting & Brazing

Only authorized and trained personnel are permitted to use welding, cutting or brazing equipment. Compressed gas cylinders should be regularly examined for obvious signs of defects, deep rusting, or leakage. Use care in handling and storing cylinders, safety valves, relief valves and the like, to prevent damage. Precaution must be taken to prevent mixture of air or oxygen with flammable gases, except at a burner or in a standard torch. Only approved apparatus (torches, regulators, pressure-reducing valves, acetylene generators, manifolds) may be used. Cylinders must be kept away from sources of heat. It is prohibited to use cylinders as rollers or supports. Empty cylinders must be appropriately marked, their valves closed and valve-protection caps on. Signs reading: DANGER-NO SMOKING, MATCHES, OR OPEN LIGHTS, or equivalent must be posted. Cylinders, cylinder valves, couplings, regulators, hoses and apparatus must be kept free of oily or greasy substances. Care must be taken not to drop or strike cylinders. Unless secured on special trucks, all regulators must be removed and valve-protection caps put in place before moving cylinders. All cylinders without fixed hand wheels must have keys, handles, or non-adjustable wrenches on stem valves when in service. Liquefied gases must be stored and shipped valve-end up with valve covers in place. Before a regulator is removed, the valve must be closed and gas released from the regulator. All employees are instructed never to crack a fuel-gas cylinder valve near sources of ignition. Red is used to identify the acetylene (and other fuel-gas) hose, green for oxygen hose, and black for inert gas and air hose. All pressure-reducing regulators must be used only for the gas and pressures for which they are intended. The open circuit (No Load) voltage of arc welding and cutting machines must be as low as possible and not in excess of the recommended limits. Under wet conditions, automatic controls for reducing no-load voltage must be used. Grounding of the machine frame and safety ground connections of portable machines must be checked periodically. Electrodes must be removed from the holders when not in use. All electric power to the welder must be shut off when no one is in attendance. Suitable fire extinguishing equipment must be available for immediate use before starting to ignite the welding torch. The welder is strictly forbidden to coil or loop welding electrode cable around his/her body. All wet welding machines must be thoroughly dried and tested before being used. All work and electrode lead cables must be frequently inspected for wear and damage, and replaced when needed. All connecting cable lengths must have adequate insulation. When the object to be welded cannot be moved and fire hazards cannot be removed, shields must be used to confine heat, sparks and slag. Firewatchers will be assigned when welding or cutting is performed in locations where a serious fire might develop. All combustible floors must be kept wet, covered by damp sand, or protected by fire-resistant shields. When floors are wet down, personnel should be protected from possible electrical shock. When welding is done on metal walls, precautions must be taken to protect combustibles on the other side. Before hot work is begun, used drums, barrels, tanks and other containers must be thoroughly checked for substance remaining that could explode, ignite or produce toxic vapors. They should be moved from the immediate area or thoroughly cleaned. It is required that eye protection helmets, hand shields and goggles meet appropriate standards. Employees exposed to the hazards created by welding, cutting or brazing operations must be protected with personal protective equipment and clothing. Check for adequate ventilation where welding or cutting is performed. When working in confined spaces, the Confined Space procedure must be followed.



Rieck Services

Earning your trust since 1892

RIECK SERVICES SAFETY DISCIPLINARY ACTION FORM

Employee Name:	Title:
Supervisor Name:	Date:

INCIDENT INFORMATION (attach documentation, if any)

Date/Time of Incident:	Location:
Description of Incident:	
Witnesses:	
Policy Violation:	

DISCIPLINARY ACTION (attach documentation, if any)

Disciplinary action to be taken:
Consequence(s) for future violation:
If the employee has offered an explanation of his/her conduct, detail explanation:

I have read and understand all of the above.

Signature of Employee

Date

Signature of Supervisor

Date

RIECK SERVICES

PROGRESSIVE DISCIPLINE POLICY

First Occurrence – A verbal warning documented by a written summary of the incident, with a copy to employee and copy to employee’s personnel file.

Second Occurrence – A formal letter of notice stating the next incidence may result in discharge from employment, with a copy to employee, and copy to employee’s personnel file.

Third Occurrence – Discharge from employment with a formal letter of notice to employee’s personnel file, and notification to the local hall if applicable.

Certain behaviors including, but not limited to theft, threatening or endangering others by acts or word, violation of safety policies, or violation of the Rieck Services Drug Free Workplace Policy, may result in disciplinary action up to and including discharge from employment.

Employee Signature Date: _____

Supervisor Signature Date: _____

Employee Print Name

Supervisor Print Name

RIECK SERVICES

COMPANY VEHICLE OPERATING POLICY

- Only authorized personnel shall operate company vehicles, including special purpose vehicles and trucks.
- When operating a company vehicle you must have in your possession a valid State of Ohio operator's license of the proper class or certification for that vehicle.
- Those operating a special purpose vehicle must demonstrate competency in that vehicle and shall thoroughly understand the manufacturer's operating instructions, vehicle limitations, emergency procedures, and be able to pass an operators checkout test to the satisfaction of the Safety Director or designee.
- Any lose, suspension, or revocations of operator's license shall be reported to the Safety Director on the same day as such action was taken.
- All personnel shall wear seat belts when driving/traveling in company vehicle.
- Rieck Services personnel shall observe safe-operating practices at all times.
- Vehicles shall be inspected for defects, damage and proper equipment. If found to be unsafe, it is be taken out of service.

Company Owned Vehicles are Consider a Privilege

The following specific statements are from the Rieck Policy Handbook as a reminder concerning Company-Owned Vehicles:

Misuse of Company vehicles will be cause for disciplinary action up to and including discharge

Vehicles will be driven only as needed for jobs during working hours

Seat belts must be worn at all times by the driver & all passengers when the vehicle is being driven

Personal uses of Company Vehicles are for commuting to Rieck Services and to job sites only

With today's escalating fuel prices & vehicle maintenance costs- this reminder to all employees:

Company vehicles are for company use only

If **n**ecessary, warnings will be given prior to revocation of vehicle privileges & possibly effect employment

Acknowledgement of Receipt

I, _____, hereby acknowledge receipt of the Rieck Services Health & Safety Policy dated March 2008. I understand that it is my responsibility to become familiar with its contents and use the practices and adhere to the policies herein during my daily work processes.

Signature Date

Witnessed By Date

