



REX MOORE

ELECTRICAL CONTRACTORS

& ENGINEERS

SAFETY & HEALTH GUIDE

FIELD & WAREHOUSE

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INTRODUCTION TO THE REX MOORE ELECTRICAL CONTRACTORS & ENGINEERS' INJURY AND ILLNESS PREVENTION PROGRAM

This injury and illness prevention program has been designed to help prevent the existence of hazardous conditions that might occur on any of our projects and to provide our employees with the safest possible working conditions.

Our injury and illness prevention program includes the contents of this guide in addition to the company's safety training programs, inspection procedures, and disciplinary action procedures.

In the event an unsafe condition is observed on any of our projects, it is imperative that we be informed immediately so that corrective measures may be made. If the circumstances causing the unsafe condition are not addressed within this safety policy, good judgment and prudence must be used to avoid the hazard until it can be corrected.

The implementation of this program is the responsibility of Gregory Anderson, Human Resources Director and/or his designated delegate(s).

All employees acting in a supervisory capacity are directly responsible for the safe working conditions of each project at which they are working.

Our non-supervisory employees must also be aware of their working conditions and make every effort to ensure that they and their fellow employees are working safely and in a safe and healthy environment. If unsafe conditions exist or are created, our employees must take those steps necessary to ensure that they are not exposed to the unsafe condition.

This Safety & Health Guide must be maintained at each jobsite in addition to other requirements as outlined in the Rex Moore Electrical Contractors & Engineers' "Foreman Job Description".

Jobsite safety is a team effort and it takes everyone's commitment to get involved. This commitment will help to ensure that our projects and employees are kept safe and healthy.

Safe and accident free projects are our ultimate goal.

SAFETY PROGRAM MANUAL

OBJECTIVE:

The purpose of this manual is to furnish written guidelines for a complete safety program for the prevention of accidents, injuries and illnesses on our jobs; to comply fully with the requirements of the applicable laws and safety orders of the State of California, State of Nevada and the Federal Government; and to have all required reports and documentation made out correctly, on schedule and turned in as required.

SAFETY DOCUMENTS:

Every superintendent, foreman, and electrician shall be provided with a copy of the company Safety & Health Guide and shall have a working knowledge of its

contents. There are times when our company's safety requirements are more stringent than existing state safety orders and when this occurs, the more stringent requirement shall be followed.

IMPLEMENTATION:

The two key factors in our company's safety program are employee training and effective supervision. These are addressed in the following pages in addition to other requirements, programs and procedures needed for an effective overall program.

EMPLOYEE TRAINING

Employee training is an on-going process; it begins when an employee is first hired and continues throughout the employee's tenure with the company. Whenever new work practices, processes, methods or materials are introduced to the jobsite, each worker exposed to this new hazard will be trained with respect to any hazard that this new practice, process, method or material may present.

ALL EMPLOYEES MUST COMPLY WITH ALL COMPANY SAFETY RULES AND ACT PRUDENTLY AND WITH COMMON SENSE ON THE JOB SITE!

When a worker is first employed, s/he shall be given a copy of this Safety & Health Guide and instructed to read these documents. The new employee will then sign an acknowledgment that s/he has received, read and understands these requirements.

Upon hire, an effort will be made to assess the extent of the new employee's experience in the work for which s/he has been hired. All employees will be given instructions regarding the hazards and safety precautions applicable to the type of work in which s/he will be involved.

In the new employee orientation, each new employee will be trained on the company's Injury and Illness Prevention Program, Hazard Communication Program, Code of Safe Practices, the specific requirements for compliance with these programs as well as the incentive and disciplinary programs in place to insure compliance.

RECORD KEEPING

Throughout this manual, documentation and reports are mentioned, specific to the topic. These records and documents are required by law and will be kept, for at least the time period required, at the company headquarters. Please refer to each topic for specific information.

SAFETY MEETINGS

"Toolbox" or "tailgate" meetings are to be held weekly, at a minimum. Unless project conditions prohibit, meetings shall be held every Monday morning at the job site. The safety topics that will be discussed are included in the Rex Moore Electrical Contractors & Engineers' "Weekly Safety Meeting Report Book". The meeting should include and be focused on the current conditions of the job site. Attendance at these meetings shall be documented by employee signatures on the safety meeting report form and turned in to

the office on a weekly basis. A copy of the report is to remain on the job site. Our subcontractors shall be included in the meeting and sign the documentation affirming their attendance. The office copies are kept on file at the Sacramento Headquarters.

It is imperative that all employees understand the topics discussed at all safety meetings. Since there may be some employees who may not have a complete understanding of the English language, instruction and translation may be necessary. Employees shall be given an opportunity to ask questions at the end of each meeting.

SAFETY INSPECTIONS

The foreman, or an employee designated by the foreman, shall conduct weekly safety inspections of the job site. Unless project conditions prohibit, inspections shall be conducted each Friday. These inspections shall include all areas where our employees or subcontractors are performing work or will be performing work in the near future. In addition, all traffic areas, material storage areas and any other area that an employee may enter shall be included in the inspections. Work methods, processes, equipment, materials and substances as well as hand and power tools must also be included. Items discovered and determined to be unsafe or potentially hazardous must be corrected immediately and reported to the foreman and the Safety & Risk Manager. If the condition can not be corrected immediately, the foreman and Safety & Risk Manager are to be notified immediately and any employees exposed or likely to be exposed shall be removed from the hazard. The results of the safety inspection are to be included in the Monday morning safety meeting's agenda. The 3-part form, inspection book is to be used. One copy must be returned to the office, another given to the General Contractor, and one is to be kept on the jobsite. The office copies are kept on file at the Sacramento Headquarters.

Any subcontractors working under contract with Rex Moore Electrical Contractors & Engineers are to be included in both the safety inspections and safety meetings, and their attendance is to be documented.

CORRECTION OF HAZARDS

Any hazard that is identified, whether it is a dangerous condition, practice, material or otherwise, must be corrected immediately. Seemingly small hazards can mean big injuries or health problems. Because each situation is different, each must be evaluated as to the most appropriate action to take.

Regardless of the action, any hazard that poses an immediate danger to employees must either be immediately corrected, or those exposed employees must be removed from the hazardous location, process, environment, etc. until such corrective action is taken to remove the hazard.

DO NOT EXPOSE YOURSELF TO THE HAZARDOUS CONDITION!!

If the hazard is one that you have not had experience or have not received training on, immediately notify your immediate supervisor so that corrective action can be taken as quickly as possible and the proper governmental authorities notified, if required. After a hazard has been corrected the method of correction must be documented on the safety inspection checklist for that week.

SUPERVISION

Management representatives of our company are responsible for ensuring that all employees understand and comply with the safety rules of the company.

Employees assigned a task which may expose them to the possibility of a foreseeable hazard shall not be allowed to proceed without instruction and responsible supervision.

First line supervision must know the capability of subordinates and ensure that work assignments are given only to employees who have been instructed in the work situation being performed, including the hazards associated with that job.

All levels of management and supervision must understand and enforce company rules regarding safety and safe work practices.

Management representatives are responsible for enforcement of the company discipline program, as otherwise described herein. To ensure that we have safe work sites, we must have compliance of our safety requirements. If a violation of Cal/OSHA or a company safety rule occurs that could result in an injury or death, an investigation will be conducted to determine at least the following information:

1. If the responsible person or persons (foremen or superintendent) knew the safety regulations and proceeded with the work in violation of the regulations.
2. If the employee exposed to an unsafe or potentially unsafe condition knew of this fact and proceeded to work in violation of this fact and/or in violation of safety regulations, notwithstanding such knowledge.

If it is determined that the superintendent, foreman, and/or employee were unaware of the regulations but proceeded with the work in violation of those regulations, punitive action may be taken. If it is determined that a supervisor, foreman, and/or employee knowingly violated a rule or regulation, punitive action taken will be based upon the past safety record of the individual(s) and upon the severity of the violation.

Superintendents, foremen, and project managers may be legally liable for serious or fatal accidents when safety orders and accepted safe practices are not followed. Both criminal and civil liability is possible.

Other responsibilities of supervision include the duty to make frequent safety inspections of the job site and to be constantly on the alert to prevent or correct any unsafe or hazardous conditions within the project area.

When the superintendent and foreman make scheduled or unscheduled safety inspections of a project area they shall submit a written report of that inspection to the company Safety & Risk Manager.

This safety manual is not meant to replace Cal/OSHA's safety orders, which are also applicable, but is issued to emphasize sections of the safety orders that pertain to our type

of work and to stress our own safety requirements, some of which may be in addition to, or more stringent than, Cal/OSHA's requirements.

DISCIPLINARY ACTION PROCEDURES

The Company expects that you will perform to the best of your abilities at all times. There will be times however when an employee performs at an unsatisfactory level, violates a policy, or commits an act that is inappropriate. As previously noted, employment may be terminated at will by the employee or the Company at any time with or without cause and without following any system of discipline or warnings. Nevertheless, the Company may choose to exercise its discretion and utilize forms of discipline that are less severe than termination in certain situations. Discipline may include one or more of the following: verbal warning, written reprimand, suspension or discharge.

Your company wishes to emphasize its desire that all employees should be at liberty to talk freely and openly with any and all members of management. You should never hesitate to discuss a problem and you can be absolutely certain that your thoughts and comments will be appreciated. You will find too that most differences can be satisfactorily adjusted between you and your supervisor. But, if for any reason you are not satisfied with such adjustment, you should not hesitate to bring the matter to the attention of others in management. (See Company Rules and Policy)

INJURY REPORTING AND INVESTIGATION

The foreman is to be notified of any type of injury immediately. (this includes first aid or an injury that requires professional medical attention or hospitalization)

If the injury requires professional medical care or hospitalization, the foreman must call the office for authorization of treatment. The foreman is responsible for assuring a current clinic location is posted and that all crew members are aware of the location.

Another employee is to accompany the injured employee, when necessary, if professional medical care or hospitalization is required.

The foreman is to notify the Human Resources Administrator at the Sacramento headquarters of any type of injury on the same day as the occurrence. This also includes if an employee refuses medical treatment. The foreman is to investigate the circumstances surrounding the injury, i.e., how it happened, any witnesses, time of day and complete an Incident Investigation Report. This report is to be sent to the Human Resources Administrator within 24 hours of the incident.

The foreman is to fill out the Supervisor's Report of Injury in detail, noting the following:

- Date
- Time
- Location
- Foreman's name
- Name of injured

- Names of witnesses
- What phase of the job did the accident occur
- Nature of the injury
- How injury occurred

The foreman is also required to obtain a signed written statement of the accident from the injured party. The foreman is to turn in the original copies of the injury report and written statement to the Human Resources Administrator at the Sacramento office on the same day of the injury occurrence, if possible, but within 24 hours of the injury occurrence, and retain the second copy for the job file. A sample of the form to be used can be found in Appendix D in the back of this manual.

ACCIDENT REPORTING

Every employee who is involved in an accident or who witnesses an accident in which one or more of our employees is involved shall immediately report his/her observations to his/her immediate supervisor.

If unable, for any reason, to report the accident to his/her supervisor, the employee shall immediately notify the closest office of the company to report the accident.

It is imperative that ALL accidents be immediately reported no matter how insignificant the accident may seem to be at the time. This includes first aid, employees that refuse treatment, and all major accidents.

The Division of Occupational Safety and Health must be notified within 8 hours if an employee is seriously injured or killed on a job site. A serious injury is defined as an employee being hospitalized for more than 24 hours for other than observation.

MONTHLY SAFETY COMMITTEE REPORTING

The Project Manager and/or Field Supervisor must attend and report on all accidents that result in a injury on their assigned projects. The Project Manager will gather all details of the incidents and using the "A3" problem solving method determine root causes and create a plan of action to eliminate future occurrences.

ACCIDENT PREVENTION PROGRAM

The following provisions are not all-inclusive. All employees must use discretion and prudence at all times. Every employee is responsible for safety.

General:

Advance Planning for Construction Work

Each operation of a construction job should be planned in advance. Such planning is needed at all stages of the project. It should start prior to preparation of bids and continue throughout the job with the superintendent, project manager, foremen and all crewmembers doing their share.

Construction planning will eliminate some accidents automatically by creating a well-organized job, but expert planning, giving special attention to safety, is highly effective in making the operation safe and efficient.

The following items should be given consideration while doing your advance planning.

Safe Access and Movement Requires:

1. Location of Utilities and Services
 - a. Consider location of high-voltage lines. If at any time operations may come within the minimum distances established in the Electrical Safety Orders, arrange to have the line moved or de-energized, erect barriers, or set up special working procedures.

In all cases, the appropriate regional notification center such as Underground Service Alert North (USA North) must be contacted to determine the location of subsurface utility installations in the area BEFORE excavation.
 - b. Locate saws, tool shed, office, etc., in a safe and convenient place.
2. The following work area problems are to be considered and dealt with by the individual in charge at the particular project:
 - a. Adequate work area.
 - b. Adequate walkways and runways.
 - c. Adequate ladders, stairway, or elevators.
 - d. Work areas and passageways clear of rubbish, debris, nails, etc.
 - e. Protection for floor and roof openings.
 - f. Adequate illumination.
3. Schedule Work for Safety
 - a. Have safety materials on job and available when needed, i.e., hard hats, safety glasses, hearing protection, trench shoring or shields, fall protection, etc.
 - b. Plan work so that different trades are not accessing a small area at the same time.
 - c. Schedule work crews so the flow of equipment and manpower does not create a safety hazard.
4. Proper Lifting Techniques
 - a. When you lift be sure to:
 - Plant your feet firmly - get a stable base
 - Bend at your knees - not your waist
 - Tighten your abdominal muscles to support your spine
 - Get a good grip - use both hands

- Keep the load close to your body
- Use your leg muscles as you lift
- Keep your back upright, keep it in its natural posture
- Lift steadily and smoothly without jerking
- Breathe - If you must hold your breath to lift it, it is too heavy
- Get assistance for bulky or heavy loads

b. When you lift do not:

- Lift from the floor
- Twist and lift
- Lift with one hand (unbalanced)
- Lift loads across obstacles
- Lift while reaching or stretching
- Lift from an uncomfortable posture
- Don't fight to recover a dropped object
- Don't hold your breath while lifting - GET HELP

c. Working safely means being aware of the hazards in the workplace, monitoring ergonomic trends in the workplace, staying physically fit and making injury prevention a top priority.

5. Work Procedure

a. Material Handling

- 1) Plan for methods of elevating and handling materials (adequate space, proper auxiliary equipment, i.e., cranes, hoists, elevators, trucks, etc.).
- 2) Plan for methods of loading and unloading (adequate space, proper auxiliary equipment, i.e., loaders, cranes, rigging, forklifts, etc.).
- 3) Employee training in proper handling procedures.

b. Plan for the following steps pertaining to tools and equipment:

- 1) Inspection.
- 2) Repair, maintenance, and care.
- 3) Adequate supplies of the right tools for each part of the job.
- 4) Employee training in the safe use of such tools and equipment.

GENERAL SAFETY PRECAUTIONS

Every reasonable effort shall be taken to ensure the safety of workers in all situations, whether or not provided for in our company's rules and safety program.

No worker shall be required or knowingly permitted to work in an unsafe place unless for the purpose of making it safe and then only after proper precautions have been taken to protect the worker while doing such work.

ALL WORKERS HAVE THE RIGHT TO REFUSE TO WORK IN AN UNSAFE PLACE OR TO PERFORM AN UNSAFE JOB ACTIVITY

Prior to the start of work, the supervisor shall make a survey of the conditions of the site to determine the risks or hazards and the kind and extent of safeguards necessary to accomplish the work in a safe manner.

A training program shall be designed and shall be implemented during the project which will instruct workers in general safe work practices, as well as methods to avoid the unique hazards of the workers' specific job assignments. **See Cal/OSHA Construction Safety Orders, sections 1509, 1510, 1511**

Periodic inspections, as described previously, shall be conducted weekly to identify unsafe conditions and work practices. Any identifiable unsafe conditions and work practices shall be corrected immediately. **See Cal/OSHA Construction Safety Orders, sections 1511, 3203.**

All required safety and health posters, including "Cal/OSHA Safety and Health Protection on the Job" shall be posted on a company bulletin board at the job site or be otherwise available at the site.

Additionally the "Log and Summary of Occupational Injuries and Illnesses", (Log 300A) shall be posted during the required time period, on a company bulletin board at the job site or be otherwise available at the site. The Rex Moore Electrical Contractors & Engineers' "Monthly Safety Report" shall also be available on the job site for review by any employee.

NOTE: Permits are required for the construction of trenches and excavations 5 feet or deeper into which a person is required to descend and for the construction or demolition of a building, structure (including a tower crane), scaffolding, or false work more than 3 stories high. These permits are also required to be posted. **See Title 8, California Code of Regulations, section 341.** And the nearest district office of Cal/OSHA is to be notified prior to commencement of the work.

EMERGENCY ACTION AND FIRE PLAN

1. The general contractor will provide an emergency action and fire plan. Employees shall be informed of escape procedures and an emergency escape route, if necessary. The foreman and superintendent shall be responsible for accounting for all employees during any emergency and shall also be responsible for rescue and medical duties. All such procedures shall be changed as conditions warrant.
2. "Housekeeping" must be maintained in good condition.

3. A safe and unobstructed access to all available fire fighting equipment shall be maintained at all times.
4. All necessary fire fighting equipment shall be conspicuously located or the location conspicuously marked.
5. All fire fighting equipment shall be periodically inspected and maintained in operating condition. Defective equipment shall be immediately replaced.
6. A temporary or permanent water supply, of sufficient volume, duration, and pressure, required to properly operate the fire fighting equipment shall be made available as soon as combustible materials accumulate.
7. Where underground water supply lines are to be provided, they shall be installed, completed, and made available for use as soon as practicable.
8. A fire extinguisher, rated not less than 2A, shall be provided for each 3,000 square feet of the floor area, or fraction thereof. Where the floor area is less than 3,000 square feet at least one extinguisher shall be provided. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 75 feet.
9. At least one fire extinguisher rated not less than 2A, shall be provided on each floor. In multi-story buildings, at least one fire extinguisher shall be located adjacent to the stairway at each floor level.
10. A fire extinguisher, rated not less than 10B, shall be provided within *50 feet of* wherever more than 5 gallons of flammable or combustible liquids or 5 pounds of flammable gas are being used on the job site. This requirement does not apply to the integral fuel tanks of motor vehicles.
11. Carbon tetrachloride, chlorobromomethane, and methyl bromide fire extinguishers are prohibited.
12. Portable fire extinguishers shall be inspected monthly, or at more frequent intervals, and serviced at least annually by a person licensed or registered by the State Fire Marshal.
13. Hoses may be used as a substitute for fire extinguishers under certain circumstances. **See Construction Safety Orders, section 1923**

BLOOD BORNE PATHOGENS

On May 5, 1992, OSHA announced an exemption for the construction industry from the provisions of the blood borne pathogens standard, 29 CFR, 1910.1030. Although the construction industry was exempted from the blood borne pathogens standard shortly after it was passed, Rex Moore Electrical Contractors & Engineers acting in the interest of safety and health considerations for our employees are taking a proactive approach to this issue. Therefore RMEC&E has instituted the following information and procedures:

What is a blood borne pathogen?

A blood borne pathogen is potentially infectious materials carried and transmitted through contact with human blood, putting the exposed person at risk of a disease.

Awareness:

In the construction trade there is a slight risk of a blood borne pathogen. This risk would occur, if for example, a worker cut his finger and was bleeding, and you were to assist this worker. The chance of exposure to blood exists. Another example would be working on a project like an existing hospital lab. There may be a risk of an infectious disease present. **Being aware** of these potential risks is the first step in avoiding the risks.

Avoidance:

Being able to identify the risk of a blood borne pathogen is the first step in avoidance. After identifying the risk, take all of the necessary precautions to avoid any possible exposure, this includes but is not limited to rubber gloves, eye protection, etc.

Seek help:

In the event that a possible exposure exists, seek qualified help. Example, an individual certified in first-aid (Usually the foreman on the job)

Exposure:

If you or someone you are working with has been exposed to blood or any other potentially infectious disease, seek emergency medical advice immediately. Also make sure the job foreman and the Human Resources Administrator have been notified immediately of this incident. All incidents of exposure shall be followed up by our office.

Call 911 :

If necessary call 911 or the local emergency response number **for professional help** or advice.

EMERGENCY MEDICAL SERVICES

Emergency medical services shall include provisions for:

1. **First Aid Kits:** Every crew shall have a first aid kit at their job site. The first aid kit shall be kept in a sanitary and usable condition and the contents shall be inspected regularly to ensure that any expended items are promptly replaced. The “gang box” first aid kits are designed for a maximum of 15 crew members. The minimum first aid supplies available shall be determined by the table enclosed

within the kits. Larger kits are available if needed. **See Construction Safety Orders section 1512 for the contents of a first aid kit.**

2. **First Aid Training:** At least one employee on each project shall be trained in emergency first aid and shall possess a current certificate. Acceptable certificates are those from the Red Cross, the American Heart Association, Standard First Aid and Personal Safety, Advanced First Aid and Emergency Care courses, or a course from a person certified to instruct from the Mine Safety and Health Administration.
3. **Emergency Telephone Numbers:** The telephone number of the following emergency services shall be maintained at each project:
 - a. A physician and at least one alternate if available.
 - b. Hospitals.
 - c. Ambulance services.
 - d. Fire protection services.
 - e. Local law enforcement office.
4. **Emergency Medical Procedures:** Minor injuries shall have prompt first aid and the employee shall be taken to a physician if required. Injuries that are more serious in nature shall be handled in the following manner:
 - a. Emergency first aid shall be administered and a crew-member shall immediately make the emergency telephone calls.
 - b. If rescue is required, the first telephone call should be to "911" or to the local fire protection service.

CONFIRM WITH THE FIRE DEPARTMENT THAT IT WILL DISPATCH THE EMERGENCY RESCUE VEHICLE.

- c. **If rescue is NOT required,** then an ambulance service, physician, or hospital can be called.

IF A PHYSICIAN OR HOSPITAL IS CALLED, CONFIRM THAT THEY WILL DISPATCH THE EMERGENCY RESCUE VEHICLE.

- d. If the injuries occurred in a vehicular accident on a public road, then the appropriate law enforcement agency should be contacted in addition to obtaining medical help.
- e. At isolated job locations, provisions must be made **in advance** for prompt medical attention in case of serious injuries. This may be accomplished by on the job site facilities, proper equipment for prompt transportation of the injured person to a physician (both auto ambulance and air ambulance should be available if possible and/or feasible), telephone communication for contacting a doctor, or combinations of these provisions in order to avoid unnecessary delays in treatment.
- f. Suitable facilities for drenching the body or flushing the eyes with clean water shall be available where the eyes or body may be exposed to injurious or corrosive materials.

- g. For every building structure 5 or more floors or 48 feet above or below ground level, a two-way voice communication system shall be installed to notify emergency personnel and the man lift operator of any injury to an employee.

PERSONAL PROTECTIVE EQUIPMENT

Employees shall be provided with and shall use the appropriate personal protective equipment when necessary for safety as follows:

1. Eye Protection:

Safety glasses are to be worn at all times while working. There will be no exceptions to this requirement.

- a. Whenever using a power tool on material above shoulder level, Safety Goggles are to be worn. This includes but is not limited to drilling, roto-hammering, chipping, cutting, scraping, etc.
- b. Face shields shall be worn when flying particles are created by using a grinder, chipping gun, jack hammer, etc.
- c. A welder's helmet or goggles with the correct tint to protect from ultraviolet and infrared radiation shall be worn when welding or when doing a job that requires looking at the welding.

NOTE: The wearing of contact lenses is prohibited in working environments having harmful exposure to materials or where light flashes may exist, except when special precautionary procedures which are medically approved have been established for the protection of exposed employees.

2. Respirators

If a situation arises that may require respiratory protection, then our first choice is to avoid the area and schedule work around areas of concern. If it is not feasible to avoid, then the following will apply: Contact with the Safety & Risk Manager must be made **prior** to the use of any respirator.

In the event there is a need to use respirators, a written respirator program is required. The Safety & Risk Manager shall ensure that employees are trained in the use of the respirator. The type of respirator to be used will generally be determined by the substance to which employees may be exposed. Only NIOSH or MSHA approved equipment for the particular exposure shall be used. When in doubt, contact may be made with the company providing the respirators regarding the correct respirator to use under the circumstances. Determining the correct respirator and that all OSHA requirements have been met must be done **prior** to any employee being exposed to the substance in question. **See General Industry Safety Orders section 5144.**

3. Work Clothing:

- a. Clothing appropriate for the work being done shall be worn. Industry standards should be followed; durable pants and sleeved shirts shall be worn while working. Loose sleeves, tails, lapels, cuffs, or other loose clothing shall not be worn around tools, machinery, or equipment in which it might become entangled. Clothing saturated or impregnated with flammable liquids, corrosive substances, irritants, or oxidizing agents shall be promptly removed and shall not be worn until properly cleaned.
- b. **High Visibility vests or shirts shall be worn at all times. There will be no exceptions to this requirement.** Only High visibility Green or Orange company provided shirts will be allowed.

4. Head Protection:

Blue or yellow, company issued hard hats are to be worn at all times while working at the job site. Personal hard hats are not allowed.

Hard Hat Policy

Historic data and experience has indicated that during the first 90 days of employment our employees are at the greatest risk of being injured on the job. In the interest of creating and maintaining a safe and healthful workplace, Rex Moore Electrical Contractors & Engineers has created the following policy to identify employees who are new to the company so that longer term employees can help to ensure that they work safely and efficiently. This "New Hire Hard Hat Policy" is for identification of a risk on the job, it is not intended to single anyone out nor is it intended as a disciplinary measure. Injury and illness free jobsites are our goal.

New Hire Hard Hats

All new field employees will be issued a blue colored hard hat prior to starting work. These employees are required to wear this blue hard hat while on any jobsite throughout their first 90 days of employment. If the employee completes this period and has not been involved in a work related injury or illness, that employee will then be issued a yellow hard hat which is required to be worn at all times on the jobsite. If an employee is involved in any injury or illness during this 90 period they will not be issued a yellow hard hat until they have completed 90 consecutive calendar days of employment accident and injury free.

5. Hand Protection: Medium duty gloves must be worn at all times. Medium duty gloves are described as follows:
- Made of leather or durable Nylon
 - Padded knuckles
 - Maximum of three finger tips removed. No cut off style gloves will be allowed

Heavy Duty Hand protection may be required for employees whose work exposes their hands to hazardous substances, cuts, or burns. NOTE: Great care shall be exercised in the direction and supervision of employees in relation to the wearing of gloves when working around machinery. The wearing of gloves by a saw operator is not advisable and the wearing of gauntlet-type gloves around any moving machinery shall not be permitted.

6. Foot Protection:

- a. Industry standards should be followed, such as leather work boots, or rubber boots depending on the circumstances while working. Suitable work boots are required at all times while working. Tennis shoes, sandals, deck shoes, dress shoes or other footwear not designed for the use shall not be worn. Appropriate foot protection shall be worn by employees who are exposed to foot injuries from hot, corrosive, poisonous substances, falling objects, and crushing or penetrating actions, which may cause injury.
- b. Footwear, which is defective or inappropriate to the extent that its ordinary use creates the possibility of foot injuries, shall not be worn.

7. Ear Protection:

Ear protection shall be worn when required by the Noise Control Safety Orders and as the foreman or employee deems it necessary. **See General Industry Safety Order section 5096.**

8. Sanitation And Sterilization Of Personal Safety Devices:

Goggles, rubber gloves, respirators, and other protective devices shall not be shared among employees unless they have been cleaned.

Exception: Safety devices worn over shoes or outer clothing of which no part contacts the skin of the wearer, such as metal foot guards.

FALL PROTECTION

Whenever an employee is required to work in a location where that employee is subjected to a possible fall of 6 feet or more, a suitable means of fall protection is required.

Suitable fall protection methods are:

- Personal Fall Arrest System (see “Next Section”)
- Positioning Devices
- Guardrails
- Safety Nets
- Fences or Barricades
- Covers
- Controlled Access Zones
- Warning Line Systems
- Canopy Structures

- Warning Line plus Other System

Personal Fall Arrest Systems Shall:

- Limit maximum arresting forces to 1800 lbs. on an employee using a body harness. A full body harness is required, no body belts.
- Limit the free fall distance to 6' or less.
- Lanyards shall have locking type snap hooks.
- Limit maximum deceleration distance to 3.5 ft.
- Have sufficient strength to withstand twice the potential impact energy of an employee free falling 6', or the free fall distance permitted by the system, whichever is less.
- Harnesses shall be worn with the attachment point in the center of the back near shoulder level.
- Anchor points shall be rated for 5,000 lbs. per employee and be located above the employees head.
- Personal fall arrest systems and their components shall be used for employee protection and not to hoist materials.
- Personal fall arrest systems and their components subject to impact loading shall be immediately removed from service and not used again..
- The employer shall provide for prompt rescue in the event of a fall.
- Personal fall protection systems shall be inspected prior to each use and defective components shall be removed from service.
- Personal fall arrest systems shall not be attached to guardrail systems or hoist except as specified in other subparts of this part.
- When a fall restraint system is used in a hoist area, it shall be rigged to allow the movement only as far as the edge of the walking/working surface.

Positioning Device Systems

- 1.) Positioning device systems shall be rigged to limit the free fall distance to **two feet or less**.
- 2.) Anchorage's must be capable of withstanding twice the potential impact load or 3000 lbs., whichever is greater.
- 3.) Positioning device systems shall be inspected prior to each use for wear, damage, and other deterioration and defective components shall be removed from service.

Personal Fall Restraint

- 1.) Body belts or harnesses may be used for personal fall restraint.
- 2.) Anchorage points used for fall restraint shall be capable of supporting four times the intended load.
- 3.) Restraint protection shall be rigged to allow the movement of employees only as far as the sides of the working level or working area.

If there is any question or doubt as to the protection requirements of a given situation, immediately notify your supervisor or contact the company Safety & Risk Manager before beginning the work.

CONSTRUCTION SAFETY AND HEALTH RULES

Housekeeping

All job sites and construction storage yards shall be maintained reasonably free of dangerous depressions, obstructions, and debris. Trucks and equipment shall be kept clean of debris and trash. Combustible scrap, rubbish, etc., shall not be allowed to accumulate and shall be removed regularly. Work areas, passageways, etc., shall be kept free of debris and scrap. Containers shall be provided for collection of trash and emptied regularly.

Alcoholic Beverages and Drugs

Being under the influence of, or using, alcoholic beverages and/or drugs during working hours, including the mid-shift meal period and overtime, is prohibited. The operation of company vehicles or equipment (owned or leased) while under the influence of alcohol or drugs is prohibited. **Being under the influence of, or using, alcohol or drugs during working hours is cause for dismissal. See the company's substance abuse policy in the Rex Moore Electrical Contractors & Engineers' "Guide to Company Rules & Policy".**

Smoking

Under California law, smoking is not permitted in any enclosed workplace where other employees are exposed to second-hand smoke. Once a building or structure is enclosed with walls and a roof, it is considered an enclosed workplace and smoking is not permitted. This rule also applies to any other enclosed area such as vaults and similar work areas.

Illumination

During operations, all construction areas shall be supplied with a minimum of 5 foot-candle lighting and 10 foot-candles in electrical and equipment rooms.

Asbestos

Contractors on multi-employer worksites working with asbestos are required to inform the other contractors of the nature of the work and to establish regulated areas where airborne concentrations can be expected to exceed permissible exposure levels. Access to regulated areas is limited to authorized persons. Employees authorized or required to enter the regulated area should be completely familiar with the requirements for such activity, especially regarding the use of respirators, protective clothing, and hygienic facilities and practices.

Drinking Water

An adequate supply of potable water shall be provided in containers labeled "Drinking Water" and equipped with taps and tight fitting covers. Single service cups should be

provided with a sanitary dispenser and a receptacle for disposing of used cups. Water shall not be dipped from the containers.

(See Heat Illness Program for more information)

Hand Washing

An adequate supply of potable water, soap, or other suitable cleansing agent and single use towels for hand washing shall be available on all jobsites. The required number of hand wash stations is one wash station per 20 employees or fraction thereof.

Toilets

Toilets shall be provided according to the following:

- 20 or fewer persons = one facility
- 20 or more persons = one toilet seat and one urinal per 40 persons
- 200 or more persons = one toilet seat and one urinal per 50 persons

This requirement does not apply to mobile crews having transportation readily available to nearby toilet facilities.

A minimum of one separate toilet facility shall be provided for each 20 employees or fraction thereof of each sex.

Removal of Safeguards or Safety Devices

Safeguards, safety devices, or safety appliances shall not be made ineffective or removed, except for the purpose of making repairs or adjustments, in which case adequate substitute precautions shall be followed until they are back in service.

Guards shall not be prevented from operating automatically by pins, wedges, or other devices that hold them back in an inoperative position.

Proper Use of Tools

Employees will not use tools that are in an unsafe condition. All electric tools will be properly grounded or otherwise properly protected.

Welding

Employees shall be trained in the safe use of welding equipment. Proper precautions (isolating welding and cutting, removing fire hazards from the vicinity, providing a fire watch, etc.) for fire prevention shall be taken in areas where welding or other "hot work" is being done. No welding, cutting, or heating shall be done where the application of flammable paints, the presence of other flammable compounds, or heavy dust concentrations create a fire hazard.

Arc Welding: Arc welding and cutting operations shall be shielded by non-combustible or flameproof shields to protect employees from direct arc rays. When electrode holders are to be left unattended, the electrodes shall be removed and the holders shall be placed or protected so that they cannot make electrical contact with employees or conductive objects. All arc welding and cutting cables shall be completely insulated. There shall be

no repairs or splices within 10 feet of the electrode holder, except where splices are insulated equal to that of the cable. Defective cable shall be repaired or replaced.

Gas Welding: Fuel gas and oxygen hoses shall be easily distinguishable and shall not be interchangeable. Hoses shall be inspected at the beginning of each shift and shall be repaired or replaced if defective. When not in use, manifold and header hose connections shall be capped. Gas cylinders shall be stored and used with the valve end up. Cylinders containing oxygen, acetylene or fuel-gases shall not be taken into confined spaces. Gas cylinders in portable service shall be conveyed by suitable hand trucks to which they are securely fastened and placed where they will not fall or be knocked over. For more detailed requirements see **Construction Safety Orders section 1740.**

Storage and Use of Oxygen, Acetylene and Fuel Gas Cylinders

Compressed gas cylinders in portable service shall be conveyed by suitable hand trucks to which they are securely fastened, or safely carried where job conditions require. All gas cylinders in service shall be securely held in substantial fixed or portable racks, or placed so they will not fall or be knocked over.

Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible material (especially oil or grease) a minimum distance of 20 feet or by a non combustible barrier at least 5 feet high having a fire-resistance rating of at least one-half hour. Cylinders shall be kept far enough away from the actual welding or cutting operation so that sparks, hot slag, or flame will not reach them. When this is impractical, fire resistant shields shall be provided.

Ventilation: Mechanical ventilation or air line respirators shall be provided when welding, cutting or heating zinc, cadmium, mercury, or beryllium bearing, bases or coated materials in enclosed spaces. Ventilation or air line respirators shall also be provided when welding with tungsten inert gas equipment (TIG), in confined spaces, or where an unusual condition can cause an unsafe accumulation of contaminants. Proper eye protective equipment to prevent exposure of personnel shall be provided.

Floor and Wall Openings

Floor and wall openings are to be protected, either by a suitable covering or by guardrails and toe boards. See **Construction Safety Orders section 1632.**

The edges of all floors 6 feet or more above the surface below must be protected by proper guard railing and toe boards (or by the use of safety nets or personal fall arrest systems). See Construction Safety Orders section 1620 & 1621(a) for proper construction of railings & toe boards.

Also, be sure that any rebar or other impalement hazard at a job site is protected in an approved manner.

Stairways

Generally, stairways are to be installed and used in all buildings or structures two or more stories in heights. The timing of the installation depends upon the type of structure.

Before permitting foot traffic, stairways on which treads and/or landings are to be filled in later with concrete or other material shall be temporarily fitted with secured wooden pieces long and wide enough to cover the entire tread and/or landing area . Ladders are acceptable under certain circumstances. **See Construction Safety Orders section 1626 and 1629.** Until permanently enclosed, open sides of stairways shall be guarded with stair railings.

MATERIAL & PERSONNEL LIFTS

A construction passenger elevator for hoisting workers is required and must be operating when a building or structure reaches 60 feet or more in height above, or 48 feet in depth below, ground level. **See Construction Safety Orders section 1630.**

Scissor and Boom type lifts

Prior to the operation of any scissor or boom type lift, the employee must complete proper training. Consult with the company Safety & Risk Manager for training.

The training will consist of: A review of equipment operating procedures, hands-on evaluation, and documentation of the training.

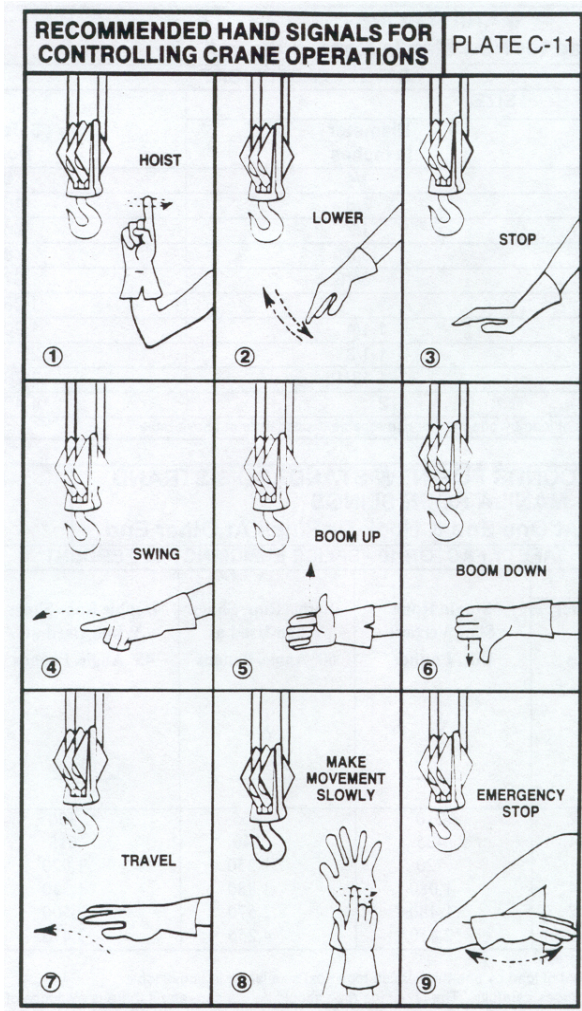
Fall protection rules must also be adhered to. The use of a boom type lift requires a full harness and lanyard to be worn by all personnel using the equipment, and it must be attached to an approved point on the lift. A scissor lift requires that a harness and lanyard be worn, only if the rails are less than 39” high and/or you are elevated above the deck level of the lift. (i.e. standing on the rails) All operating procedures and safety precautions must be followed at all times. Only qualified employees shall be permitted to operate scissor and boom type lifts. **See General Industry Safety Orders section 3642.**

Cranes and Hoists

Proper operating rules and signals shall be posted and shall be followed when hoisting equipment is used. Employees shall keep clear of suspended loads, traffic areas, etc. See General Industry Safety Orders Article 93.

Manufacturer's specifications and limitations applicable to each crane or hoist shall be followed and no modification or additions shall be made affecting capacity of safe operation without the manufacturer's written approval. All machinery and equipment shall be visually inspected by a competent person prior to and during each shift. A person shall be designated to observe clearance of equipment and give warnings where it is difficult for the operator to see desired clearance.

All overhead wires shall be considered energized unless authorities indicate otherwise and they have been visually grounded. Ten feet of clearance shall be maintained from any electrical line rated 50kv or less, for lines rated over 50kv, minimum clearance shall be 10 feet plus 0.4 inch for each 1kv over 50 kv or twice the length of the line insulator (but never less than ten feet). In transit (no load and boom lowered) clearance shall be 4 feet for less than 50kv, 10 from 50kv to 345kv, and 16 feet for voltages up to 750kv. The following are diagrams for hand signals to crane operators.



Ladders

Ladders shall not be loaded in excess of the safe capacity for which they were constructed. Long ladders shall be braced to prevent undue deflection. Ladders shall be inspected prior to each use and should not be loaned out to other trades.

1. Ladders that are broken, weak, or with missing rungs shall not be used. If such ladders are not repaired promptly and properly, they shall be removed from the job.
2. Unless suitable handholds are provided, the side rails of all ladders used to access a platform shall extend at least 3 feet above the upper landing.
3. Ladders, other than stepladders, shall be secured against displacement.
4. Ladders that will remain at one location for several hours or more, to be used as a means of access at that location by various workers, shall have upper and lower landings with a width of 20 inches or more and an area of at least 4 square feet.
5. Ladders constructed on the job may be used as long as they are constructed in accordance with the appropriate requirements. **See Construction Safety Orders section 1676.**
6. Portable ladders (extension ladders) shall be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is about one-quarter of the working length of the ladder.

7. *No employee shall be permitted to stand and work on the top three rungs of a extension ladder unless there are members of the structure that provide a firm handhold or the employee is protected by other suitable fall protection means. This doesn't apply to stepladders, see below.*
8. **Stepladders.** Employees shall not stand on the topcap or the step below the topcap of a stepladder.

Scaffolds

Proper scaffold erection begins from the "bottom up" and includes the use of appropriate base plates. The working platform must be completely planked, with a maximum 10-inch space open under the back railing. There must be both a top rail and mid rail. Ties to an adjacent structure are required with doubled No. 12 iron wire or equivalent. **See Construction Safety Orders section 1640.** All planking shall be Scaffold Grade as recognized by grading rules for the species of wood used. See Appendix B for more specific safety practices regarding the set-up, use and tear-down of scaffolding.

Wheels or casters of rolling scaffolds shall be provided with an effective locking device, and kept locked when workers are climbing or working on the scaffold.

Excavations

1. The company maintains an annual, statewide excavation permit. **A copy of this permit must be posted on the job site whenever we will be digging 5' or deeper** and employees will be required to enter the excavation. Additionally an Activity Notification form must be filled out and sent to the nearest Cal/OSHA District office. Contact the Safety & Risk Manager if you do not have a copy of this form prior to any digging. All excavations to which the permit applies shall be under constant, competent supervision.
2. Excavations of 5 feet or more in depth into which an employee must descend, must be either shored or sloped according to State of California, Cal/OSHA requirements. Depending on the soil type, excavations less than 5' in depth may require shoring. These requirements include soil classifications by a competent person to determine the correct type and installation of shoring or the required sloping ratio. A trench shield may be used in lieu of shoring or sloping. Compliance with all of the requirements **of Construction Safety Orders sections 1540 and 1541** is imperative. Copies of sections 1540 and 1541 are available at the main office.
3. Hard hats shall be worn at the excavation at all times.
4. A suitable means of egress(a means to get out of the excavation) shall be located no more than 25 feet from all employees in any excavation that is 4' or deeper.
5. Spoil shall be removed at least two feet from the edge of the excavation.
6. All excavations must be properly guarded. Use barricades, caution tape, and/or fencing when necessary.
7. All alternate shoring or sloping plans or any shoring or sloping plan for an excavation deeper than 20 feet shall be designed and approved by a California Registered Engineer.
8. If work involves a live sewer line or manhole or any other source of flammable or toxic gases or any possibility of oxygen deficiency, tests shall be made and

recorded for these hazards before entering the excavation. If a hazard is discovered, suitable means shall be used to mitigate the hazard as required by the Construction Safety Orders.

9. The local “Underground Service Alert” (USA Dig or Dig alert) must be contacted 48-hours prior to any digging and a USA ticket must be opened by the project team. Digging permits are not valid unless a USA number is attached.
10. When known underground utilities are encountered, additional steps must be taken:
 - A “Job Hazard Analysis” must be completed by the field supervisor and submitted to the project manager and safety and risk manager prior to digging.
 - All plans and specifications must be reviewed prior to digging to determine types, depths and locations of all utilities.
 - When digging adjacent to existing utility conduits or piping. Hand excavate within 24” of outside diameter.
 - Always use a spotter to guide equipment operators when digging near buried utilities or piping.
 - When digging near horizontality bored lines contact the safety and risk manager prior to beginning excavations.
 - After a utility conduit or piping is exposed it must be protected and marked in a way that makes them conspicuous to all employees and other trades. (i.e.... signs or marking paint)

Abrasive Grinders

Safety guards shall be provided so that exposure shall not begin more than 65° above the horizontal plane of the spindle with the angular exposure not exceeding 125°. Work rests shall be provided and kept within 1/8 inch of grinding wheels.

Powder-Actuated Tools

1. ***The foreman shall ensure that only qualified persons who carry valid operator's cards for the tools to be used are permitted to operate powder-actuated tools.***
2. Powder-actuated tools and powder loads shall be locked in separate containers and stored in a safe place when not in use and shall be accessible only to authorized personnel.
3. Eye or face protection shall be worn by operators and assistants when the tools are in use.
4. Ear protection shall be used when powder actuated tools are in use.
5. A sign indicating that powder actuated tools are in use must be posted within 50' of the area of use.
6. When a powder-actuated tool is used with a pole extension assembly, the following requirements shall apply:
 - a. The maximum extension of the pole tool assembly shall not exceed 6 feet in length measured from the heel of the powder-actuated tool to the trigger mechanism on the pole.
 - b. The powder-actuated tool, to which the pole tool assembly is attached, shall only be of the low velocity type.
 - c. The extension assembly shall be of such structural integrity as to withstand the forces involved in the use of the tool.

- d. The powder-actuated tool shall be of a type whereby either fasteners or loads must be loaded individually.
- e. The trigger mechanism shall be attached to the assembly.
- f. Pole tool assemblies shall either be constructed of a dielectric (insulating) material, or those portions of the trigger mechanism and pole normally held by the operator while using the tool in the upright position shall be covered with a dielectric material sufficient to preclude the possibility of electric shock or burn caused by contact between the tool or attachments and energized wiring.

Temporary Power

Unless double insulated, all electrical equipment and tools must be grounded. Ground-fault circuit interrupters must be installed unless an assured equipment grounding conductor program is utilized. See California Code of Regulations, **Title 8 Low Voltage Electrical Safety Orders Section 2405.4**. Flexible cords and cables shall be protected from accidental damage.

The minimum size of temporary poles shall be 6"x 6" and overhead lines must be at least 12 feet above walkways and 18 feet above the surface where equipment is used. **See Low Voltage Electrical Safety Orders section 2405.3.**

Vehicle Operation

Vehicles shall be operated only by authorized and trained drivers. Please refer to our Guide to Company Rules & Policy for more specifics on vehicle operation. While driving a vehicle, use seat belts, obey all traffic laws, and be courteous.

Drivers of forklift and other industrial trucks shall follow the operating rules and meet the training requirements per current OSHA regulations. A vehicle which hauls 2-1/2 cubic yards or more of construction material shall be equipped with a warning device that operates automatically while the vehicle is backing. **See Construction Safety Orders section 1592**. All other vehicles operating at a construction site which would, while backing, constitute a hazard to employees working in the area on foot must also have an effective device or method to warn employees. See General Industry Safety Orders section 3706.

Confined Space Operations

Definition: Tank, vessel, silo, vault, pit, pipeline, duct, sewer, tunnel and / or has one or more of the following characteristics:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work;
2. Has limited or restricted means for entry or exit.
3. Is not designed for continuous employee occupancy;
4. Poor ventilation.
5. Restricts entry for rescue purposes.

Due to the specific nature of each confined space circumstance it will be required to assess each case to ensure employee safety and compliance with OSHA regulations. Whenever employees will be working in an area that is **limited or confined**, it may be necessary to implement confined space procedures. Before entry of any individual into a

confined space, as described above, the Safety & Risk Manager must be notified of the intended entry and such entry shall be made only after confined space rules and regulations have been complied with. **See General Industry Safety Orders section 5156, 5157.**

Hazardous Substances and the "Right to Know"

Occasionally, some of the materials we use or encounter contain hazardous substances. Identifying such substances and knowing how to safely use such substances can be difficult. All employees have a right to know of the presence of such substances and to be trained in the safe use of these substances. Our company's Hazard Communication Program is contained within this guide and must be understood and utilized whenever there is any possibility of use or exposure to hazardous substances. **See General Industry Safety Orders, section 5194.**

RADIO FREQUENCY AND MICROWAVE RADIATION:

All projects involved with communication systems or any systems emitting Radio Frequency signals will be required to conduct a pre-construction meeting discussing the possible hazards of the equipment. All warning signs and precautions shall be in place prior to construction. All employees working on the project will be made aware of all dangers. **See General Industry Safety Orders Article 104 section 5085).**

Lasers (Nonionizing Radiation)

When lasers are used on a project, all necessary safety precautions shall be taken. Laser warning signs and labels shall be posted in areas where lasers are used. Beam shutters or caps shall be utilized, or the laser turned off, when laser transmission is not actually required. When the laser is left unattended for a substantial period of time, such as during lunch hour, overnight, or at change of shifts, the laser shall be turned off. The laser beam shall not be directed at employees. **See Construction Safety Orders section 1801 for more detail.**

**CODE OF SAFE PRACTICES
OF
REX MOORE ELECTRICAL CONTRACTORS & ENGINEERS**

THIS CODE OF SAFE PRACTICES SHALL BE POSTED AT A CONSPICUOUS LOCATION AT EACH JOB SITE OFFICE OR BE PROVIDED TO EACH SUPERVISORY EMPLOYEE WHO SHALL HAVE IT READILY AVAILABLE.

1. All persons shall follow these safe practices rules, render every possible aid to safe operations, and report all unsafe conditions or practices to the foreman, superintendent, project manager or safety director.
2. Foremen shall insist on employees observing and obeying every rule, regulation, and order as is necessary to ensure the safe conduct of the work, and shall take such actions as is necessary to obtain compliance.
3. All employees shall be given frequent accident prevention instructions. Instructions shall be given at least every 10 working days.
4. A copy of the company's annual excavation permit shall be obtained when necessary and posted on the jobsite.
5. The local District office of Cal/OSHA shall be notified prior to beginning the excavation(s) covered by the permit.
6. Underground Service Alert North (USA) shall be contacted and all utilities located prior to excavating.
7. All excavations five feet or deeper in which employees must work, shall be shored or sloped according to State of California, Cal/OSHA requirements. Excavations less than five feet, depending on the soil type, may also require shoring or sloping.
8. All excavations to which the permit applies shall be under supervision by a designated "competent person".
9. Soil type shall be classified by the designated "competent person" and the proper protection system utilized.
10. The "competent person" shall inspect the excavation daily before each shift and as necessary throughout the day.
11. Hard hats shall be worn in the excavation at all times.
12. A suitable means of egress shall be located no more than 25 feet from all employees in the excavation.

13. All alternate shoring or sloping plans not covered by specific regulations or any shoring or sloping plan for an excavation deeper than 20 feet shall be designed and approved by a California Registered Engineer.
14. If work involves a live sewer line or manhole or any other source of flammable or toxic gases or any possibility of oxygen deficiency, tests shall be made and recorded for these hazards before entering the excavation. If a hazard is discovered, suitable means shall be used to mitigate the hazard as required by the Construction Safety Orders.
15. Spoil shall be removed at least two feet from the edge of the excavation.
16. Horseplay, scuffling, and other acts which tend to have an adverse influence on the safety or well-being of the employees is prohibited.
17. Work shall be well-planned and supervised to prevent injuries in the handling of materials and in working together with equipment
18. No one shall knowingly be permitted or required to work while the employee's ability or alertness is so impaired by fatigue, illness, or other causes that might expose the employee or others to injury.
19. Employees shall not enter manholes, underground vaults, chambers, tanks, silos, or other confined spaces that receive little ventilation, unless it has been determined, through testing procedures, that it is safe to enter and the required permits and processes are in place.
20. Employees shall be instructed to ensure that all guards and other protective devices are in proper places and adjusted, and shall report deficiencies promptly to the foreman.
21. Crowding or pushing when boarding or leaving any vehicle or other conveyance is prohibited.
22. Workers shall not handle or tamper with any electrical equipment, machinery, air or water lines in a manner not within the scope of their duties, unless they have received instructions from their foreman.
23. All injuries shall be reported promptly to the foreman so that arrangements can be made for medical or first aid treatment.
24. When lifting heavy objects, use the large muscles of the leg instead of the smaller muscles of the back. Please refer to Proper Lifting Techniques in the Accident Prevention section of this manual.
25. Footwear with thin or badly worn soles shall not be worn.
26. Materials, tools, or other objects shall not be thrown from buildings or structures until proper precautions are taken to protect others from the falling objects.

27. Employees shall cleanse thoroughly after handling hazardous substances, and follow special instructions from authorized sources.
28. Work performed from ladders shall be so arranged that employees are able to face the ladder and use both hands while climbing.
29. Gasoline shall not be used for cleaning purposes.
30. No burning, welding, or other source of ignition shall be applied to any enclosed tank or vessel, even if there are some openings, until it has first been determined that no possibility of explosion exists, and authority for the work is obtained from the foreman or superintendent
31. Any damage to scaffolds, false work, or other supporting structures shall be immediately reported to the foreman and repaired before use.
32. Manhole or un-vented vaults:
Appropriate warning signs and barriers shall be placed promptly when covers of manholes, hand holes or vaults are removed. When work is to be performed in a manhole or un-vented vault, no entry shall be permitted until forced ventilation has been applied for the appropriate amount of time for the size of the vault..

An adequate continuous supply of fresh air must be applied while working in manholes or vaults. While work is being performed in manholes, a second employee shall be available in the immediate vicinity to render emergency assistance as may be required. **See Confined Space section of this manual.**

Use of Tools and Equipment:

33. All tools and equipment shall be maintained in good condition.
34. Damaged tools or equipment shall be removed from service and tagged "DEFECTIVE."
35. Pipe or Stillson wrenches shall not be used as a substitute for other wrenches.
36. Only appropriate tools shall be used for the job.
37. Wrenches shall not be altered by the addition of handle-extensions or "cheaters."
38. Files shall be equipped with handles and not used to punch or pry.
39. A screwdriver shall not be used as a chisel.
40. Wheelbarrows shall not be pushed with handles in an upright position.
41. Portable electric tools shall not be lifted or lowered by means of the power cord. Ropes shall be used.
42. Electric cords shall not be exposed to damage from vehicles driving over them.

43. In locations where the use of a portable power tool is difficult, the tool shall be supported by means of a rope or similar support of adequate strength. Pipe handles shall be used on all drill motors, roto-hammers and other rotating tools where the tool has provisions for such a handle.

Machinery and Vehicles

44. Only authorized persons shall operate machinery or equipment.
45. Loose or frayed clothing, long hair, dangling ties, finger rings, etc., shall not be worn around moving machinery or other sources of entanglement.
46. Machinery shall not be serviced, repaired or adjusted while in operation nor shall oiling of moving parts be attempted, except on equipment that is designed or fitted with safeguards to protect the person performing the work.
47. Where appropriate, lock-out/tag out procedures shall be used.
48. Employees shall not work under vehicles supported by jacks or chain hoists, without protective blocking that will prevent injury if jacks or hoists should fail.
49. Air hoses shall not be disconnected at compressors until hose line has been bled.
50. All excavations shall be visually inspected before backfilling to ensure that it is safe to backfill.
51. Excavating equipment, forklifts or other vehicles shall not be operated near tops of cuts, banks, and cliffs if employees are working below.
52. Tractors, trenchers, bulldozers, scrapers and carryalls shall not operate where there is possibility of overturning in dangerous areas like edges of deep fills, cut banks, and steep slopes.

Electrical Safety

53. Before work is begun, the foreman shall ascertain by inquiry, direct observation or by instruments, whether any part of an energized electrical circuit, exposed or concealed, is so located that the performance of the work may bring any person, tool or machine into physical or electrical contact with the circuit.
54. The foreman shall post and maintain proper warning signs where an energized circuit exists and shall advise the employees on the jobsite of the location of such lines, the hazards involved, and protective measures to be taken.
55. Sufficient space shall be provided and maintained in the area of electrical equipment to permit ready and safe maintenance and operation of such equipment.

56. Suitable barriers or other means of guarding shall be provided to ensure that workspace for electrical equipment will not be used as a passageway during periods when energized parts of electrical equipment are exposed.
 57. Working spaces, walkways, and similar locations shall be kept clear of cords so as not to create a hazard to employees.
 58. In existing installations, no changes in circuit protection shall be made to increase the load in excess of the load rating of the circuit wiring.
 59. If the electrical installation is made in accordance with the current edition of the National Electrical Code, exclusive of Formal Interpretations and Tentative Interim Amendments, it will be deemed to be in compliance with OSHA requirements except for the following rules covering ground-fault protection, temporary lighting and extension cords which OSHA has determined to be substantially different from the NEC. However, all other NEC requirements pertaining to these listed also apply.
 60. Either ground-fault circuit interrupters or assured equipment grounding conductor program shall be used to protect employees on construction sites. These requirements are in addition to any other requirements for equipment grounding conductors.
 61. All 120-volt, single-phase 15-and 20-ampere receptacle outlets on construction sites, which are not a part of the permanent wiring of the building or structure and which are in use by employees, shall have approved ground-fault circuit interrupters for personnel protection. Receptacles on a two-wire, single phase portable or vehicle mounted generator rated not more than 5kW, where the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces, need not be protected with ground-fault circuit interrupters.
 62. All lamps for general illumination shall be protected from accidental contact or breakage. Metal-case sockets shall be grounded. Temporary lights shall not be suspended by their electric cords unless cords and lights are designed for this means of suspension. Portable electrical lighting used in wet and/or other conductive locations (for example, drums, tanks, and vessels), shall be operated at 12 volts or less. However, 120-volt lighting may be used if protected by a ground-fault circuit interrupter.
 63. Extension cord sets used with portable electric tools and appliances shall be of the three-wire type and shall be designed for hard or extra-hard usage. Flexible cords used with temporary and portable lights shall be designed for hard or extra-hard usage. Extension cords shall not be fastened with staples, hung from nails, or suspended by wire. Worn or frayed electric cords or cables shall not be used.
- Note: OSHA recognizes hard service cord (types S, ST, SO, STO) and junior hard service cord (types SJ, SJO, SJT, SJTO) as suitable for extra-hard and hard usage.

The following are some general electrical safety rules to follow:

64. If working on an electrical circuit or equipment that could accidentally become energized, lock out and tag main switch. **See Lockout-Tagout section of this manual.**
65. Working on energized equipment is allowed only in special circumstances. Training for this type of work is required prior to the work being performed. Permits are required for energized work. Locks and lock out tags can only be removed by the person who placed them.
66. After installing outlets, check with a tester for correct wiring before turning it over to the customer.
67. Do not walk or stand on bus duct or light fixtures.
68. Mark all disconnects, bus switches, and circuits after installation.
69. Never attempt to operate any equipment unless you are both qualified and authorized.
70. Always give fellow employees the benefit of your experience. Do not become complacent or set an example that may encourage less experienced employees to take hazardous short cuts.
71. Portable electric tools must be of the grounded type or approved double insulated type.
72. Inspect rubber goods and hot sticks before you use them.
73. Ascertain that the electrical system (temporary power) is safe, regardless of who installed it.
74. Do not leave portable electric tools where cars or trucks will run over them.
75. Whenever you are required to work **ANYTHING "HOT"** - adequate training, personal protection equipment ,permits, and any other safety device you may require to ensure your safety must be in place prior to any work being performed.
76. If you are in **DOUBT** whether the circuit or circuits you are about to work on are de-energized, test them with the appropriate voltage tester.
77. Contact the office immediately upon discovering unsafe working conditions.
78. Every night lock up all Rex Moore Electrical Contractors & Engineers' equipment and take your tools home, the next day you may be transferred to another job.
79. Shipments exceeding 75 pounds or your physical ability to handle them shall not be moved manually. **FOR ANY AND ALL LIFTING, LIFT WITH THE**

LARGER MUSCLES OF YOUR LEGS, NOT THE SMALLER MUSCLES OF YOUR LOWER BACK. Do not lift anything you are unable to physically handle; contact your supervisor for assistance with these types of loads. Refer to Proper Lifting Techniques in the Accident Prevention section of this manual.

80. If, for some reason, a piece of equipment, ladder or scaffold is delivered to the job and found to be faulty, **DO NOT USE IT**. Call the office and we will see that the unsafe conditions are corrected.
81. Do not work in or around energized equipment unless you are authorized to do so. Make sure before you start work that you and your working partner are familiar with how to turn off the energized equipment in case of an emergency.
82. In all cases where there is even a remote possibility of energized equipment in the vicinity of the performance of work, all employees subject to the possible exposure shall be trained by a competent person in the safe working practices necessary to insure the safe completion of the work.

LOCKOUT/TAGOUT

How to Lock Out/Tag-out

Below are the guidelines for lockout/tagout by authorized employees. These are the basic step-by-step rules that should be followed to prevent the unexpected energization, start-up, or release of stored energy that could cause injury to anyone working on electrical systems, equipment, or machinery.

1) Turn Off The Equipment And Disconnect The Energy Source.

IMPORTANT: Notify all affected employees that a lockout procedure is beginning and why.

Locate and identify all switched, valves, and other devices that will have to be locked and/or tagged. More than one energy source may be involved. Shut the electrical system or equipment down by the normal procedure. Pull the plug, flip the power switch, break the circuit, pull the fuse, close a valve, or otherwise neutralize stored energy - do whatever is necessary to turn "off" the equipment and disconnect the energy source. Then test the "on" switch and turn it back to "off".

While working on live (energized) circuits where the breaker controlling the circuit is in a large panel board and there is not a way to physically lock the breaker/switch, to be certain the circuit will not be energized, remove the conductors from the breaker/switch.

If you are not authorized to turn off main power controls, find out who is. Record this persons name and phone number.

KNOW THE SYSTEM AND THEIR POWER SOURCES - SOME MAY HAVE MORE THAN ONE SOURCE OF POWER. BE SURE TO DISCONNECT ALL SOURCES OF POWER BEFORE YOU CONTINUE.

2) Lockout Energy Sources

Use a lock to prevent the flow of energy from being restored. Snap a lock on the control lever or on the multiple-lock adapter. Test the disconnect to be sure it cannot be moved to the "on" position. In other words, make it impossible for the flow of energy to be re-established without your knowledge. **PULLING A FUSE OR FLIPPING A CIRCUIT BREAKER IS NO SUBSTITUTE FOR LOCKING OUT.**

If more than one person is going to be working on the equipment, use a multiple lockout device.

If you come across a closed valve or a switch that has been turned off but does not have a lock, assume that someone has turned it off for a reason. Find out why the source of energy has been turned off before you restore power.

3) Tag At The Disconnect Point

Even though you're using a lock, you must place a tag at the disconnect point. A tag provides information and extra protection. It tells everyone who you are and what you're doing, as well as instructing them not to restore energy. When it's physically impossible to use as lock, a tag is absolutely essential.

4) What Information Is Required On The Tag

EMPLOYEE NAME
TIME AND DATE WORK BEGAN
TYPE OF WORK BEING DONE
DANGER-DO NOT START
DANGER-DO NOT OPEN
DANGER-DO NOT ENERGIZE

IMPORTANT: Always use a company lock. Never barrow someone elses personal lock to establish a Lockout/Tagout System.

5) Release Residual Energy

Do you know what "Zero Mechanical State" is and how to achieve it on every machine and piece of equipment?

ZERO MECHANICAL STATE MEANS THE MACHINE HAS BEEN PUT IN A STATE IN WHICH THE POSSIBILITY OF AN UNEXPECTED MECHANICAL MOVEMENT HAS BEEN REDUCED TO A MINIMUM.

REMEMBER: Some equipment does not run by electricity alone. Hydraulic and pneumatic devices may also be involved. Air under pressure in a hose, and

unsecured machine parts are also examples of potentially dangerous energy that is often stored in machines or equipment. That is why releasing residual energy by discharging capacitors, grounding circuits, or releasing built-up pressure is a step that cannot be overlooked.

6) Test Equipment

It is necessary to test equipment before working on it to make sure it is not energize. A disconnect switch could be defective, or the wrong switch thrown, leaving the circuit energized. After completing the first four steps, turn the switch to the “on” position or push the start button to make sure you have successfully blocked out all energy sources. Then return it to the "off" position.

Be aware of hidden energy sources. For example, if there is more than one energy source, make sure you lockout and tag the other sources following the steps above.

7) Restore Energy Safely

When you have finished working, check to make sure all tools and grounding protection have been removed, all lines have been reconnected or unblocked, all guards have been replaced, and other workers are safely out of the way before removing lock and tag. Be sure you are not exposing another person to danger by removing your lock.

BEWARE OF MULTIPLE-LOCKOUT SITUATIONS: If the lock placed is the last one remaining on the lockout device, check and notify your supervisor before restoring energy. Make it safe!

WORKPLACE SECURITY PROGRAM

A. Workplace Violence in California

The circumstances associated with workplace violence in California can be divided into three major types. However, it is important to keep in mind that a particular occupation or workplace may be subject to more than one type. Type I workplace violence involves a violent act by an assailant with no legitimate relationship to the workplace who enters the workplace to commit a robbery or other criminal act. Type II involves a violent act or threat of violence by a recipient of a service provided by an establishment, such as a client, patient, customer, passenger or a criminal suspect or prisoner. Type III involves a violent act or threat of violence by a current or former employee, supervisor or manager, or another person who has some employment related involvement with the establishment, such as an employee’s spouse or lover, an employee’s relative or friend, or another person who has a dispute with an employee.

B. Company Policy

Although violence in the workplace has not been a significant hazard to the employees of Rex Moore Electrical Contractors & Engineers, it is the policy of this company to take a pro-active stance to prevent hazards or incidents from affecting the employees of this

company. The two types of events described above that would be most likely to take place are the Type I and Type III events. The Type I event could occur when employees are working late on a jobsite where there are tools, equipment and materials that attract thieves or while performing service work in an establishment that is open for business. The Type III event could occur between co-workers, friends, relatives, spouses and other acquaintances of our employees. To ensure that workplace violence does not become a hazard the following rules and guidelines are to be followed at all times:

1. Inspect and evaluate the workplace for its attractiveness to robbers.
2. Assess the need for security surveillance measures, such as security guards, cameras or other means appropriate for the specific work location.
3. When deemed necessary, develop procedures for employee response during a robbery or other criminal act.
4. Report all suspicious persons or activities.
5. Post emergency telephone numbers for law enforcement, fire and medical services where employees have access to a telephone.
6. Limit the amount of valuables (tools, materials, equipment, etc.) that is readily visible or available.
7. Assess the access and freedom of movement within the workplace.
8. Take all threats of violence or hostility seriously and report them immediately.
9. When deemed necessary, have two employees at the worksite.
10. Assess the availability of employee escape routes.

Any employee who makes verbal or physical threats of violence, or who commits a violent act such as destruction of property or who is physically aggressive toward another person will be subject to disciplinary action up to and including discharge.

C. Workplace Violence Training

If an occasion arises where workplace violence is a possible threat, a training program will be designed for the specific potential hazard for each instance. All employees who will be exposed to the potential threat will receive this training and an on-going evaluation of the workplace and the effectiveness of the training in eliminating or substantially reducing the danger will be performed.

HAZARD COMMUNICATION PROGRAM

A. Company Policy

To protect the health and safety of our employees, we have developed this Hazard Communication Program:

1. As a company, we intend to provide information about hazardous chemical substances used in construction through a comprehensive hazard communication program.
2. This written Hazard Communication Program applies to all operations which **MAY** expose employees to hazardous chemicals as a result of normal work conditions or as the result of a reasonable foreseeable emergency.
3. This written Hazard Communication Program is available, upon request, to employees, their designated representative (collective bargaining agent), and the Chief of the Division of Occupational Safety and Health.
4. Unless notified otherwise the foreman of each job site is designated as the person responsible for implementing this written program. Our Human Resources Director, Greg Anderson, or the Safety & Risk Manager will coordinate this effort, train, and assist the foreman as necessary.

B. Identification Of Hazardous Chemicals Used In The Workplace

1. "Hazardous chemicals" are materials or mixtures which pose physical or health hazards.
2. "Exposure" is any situation arising from work conditions where an employee **MAY** ingest, inhale, absorb, or otherwise come in contact with a hazardous chemical.
3. Each foreman shall maintain on each job site a list of all of the hazardous chemicals to which employees may be exposed at the job site, using the same chemical name referenced on the appropriate **Material Safety Data Sheet (MSDS)** for those substances.
4. A master list of all the hazardous chemicals on the project used by Rex Moore employees shall be maintained at the main office by the Safety & Risk Manager with the assistance of the purchasing department. It is the foreman's responsibility to provide the office with the initial list of hazardous chemicals at his/her job site and any changes, additions, or deletions which occur.

C. Labels

1. When hazardous chemicals are received, the foreman shall examine the containers to determine if the labels provide the following information;
 - a. The identity of the hazardous chemicals they contain; and,
 - b. Appropriate warnings of the physical and health hazards associated with those chemicals.

2. When hazardous chemicals are transferred into portable containers, the foreman shall ensure that the portable containers are labeled with the following information:
 - a. The identity of the hazardous chemicals they contain; and,
 - b. Appropriate warnings of the physical and health hazards associated with those chemicals.

Portable containers may be labeled with an extra copy of the manufacturer's label or with a printed label which includes (a) and (b) above.

EXCEPTION: When an employee transfers a hazardous chemical into a portable container for his/her own immediate use, the portable container need not be labeled.

3. Each foreman shall ensure that the labels on containers of hazardous chemicals are not removed or defaced, unless the containers are immediately re-labeled with the following information:
 - a. The identity of the hazardous chemicals they contain.
 - b. Appropriate warnings of the physical and health hazards associated with those chemicals.
4. Containers without complete labels or with defaced labels will not be used on the job.

D. Material Safety Data Sheets

1. **Material Safety Data Sheets (MSDS's)** are documents which supply information about a particular hazardous chemical or mixture. Manufacturers are required to provide MSDS's when the hazardous chemical is sold to distributors or end users.
2. The Safety & Risk Manager, with the assistance of the purchasing department, will be responsible for obtaining the master sets of MSDS's and other information on all hazardous chemicals used.
3. Each foreman shall maintain at each job site a completed MSDS for each hazardous chemical used or a statement from the manufacturer that the chemical is not hazardous. These can be found in the job trailer. A hazardous chemical shall not be used when an MSDS for the chemical is not "In Hand", unless there is a statement from the manufacturer that the chemical is not hazardous.
4. The foreman shall provide an MSDS to an employee, upon request, during his/her work shift. An MSDS shall also be available, upon request, to an employee's designated representative, physician and to a representative of OSHA or NIOSH.
5. The foreman shall be alert to other employers (such as subcontractors) whose work on the job site may expose our employees to additional hazardous

chemicals. When it appears such exposure will occur, MSDS's for the chemical must be obtained by the foreman and employees must be trained as required in Section E.

6. When doing renovation or remodeling work, the foreman shall be alert to the dangers which might exist for our employees who work under or near unlabeled pipes which contain hazardous chemicals, and shall take proper precautions.

E. Information and Training

1. When employees are exposed, or could be exposed, to hazardous chemicals in their work area, they shall be provided information and training by the foreman based on the data contained in the MSDS's for those hazardous chemicals.
2. Training shall be provided before employees are assigned duties which may cause exposure to hazardous chemicals. Training shall also be given when new hazardous chemicals are introduced into the work area or when an MSDS is changed.
3. Information and training shall be conducted and documented as Hazard Communication Training Record (see Sample A), and shall provide at least the following:
 - a. Content of the Hazard Communication Standard, 29 CFR 1926.59 or CCR 5194.
 - b. Identification of the hazardous chemicals to which employees are exposed.
 - c. The availability and location of this written Hazard Communication Program (including list of chemicals) and MSDS's.
 - d. The methods and observations that can be used to detect the presence of a hazardous chemical in the work place (odor, visual appearance or monitoring).
 - e. Any physical or health hazards associated with the use of a hazardous chemical or mixture being used in the work area.
 - f. Proper precautions for handling, including specific procedures the company has implemented to protect workers from exposure such as personal protective equipment, work practices and emergency procedures.
 - g. Details of the Hazard Communication Program, including how to read a MSDS and labeling system.
 - h. Emergency procedures for spills, fires, disposal and first aid.
 - i. The right of employees, their physicians or their collective bargaining agents, OSHA and NIOSH, to receive information on hazardous chemicals to which they may be exposed.

NOTE: It is critically important that employees understand the training. If you have any additional questions, contact the Safety & Risk Manager.

F. Non-Routine Task Training

When employees are assigned to a non-routine task that may expose them to hazardous chemicals for which they have not been trained, they shall be trained before beginning the task.

G. Access To Information By Other Employers

When employees of another employer (as an example, a subcontractor) may be exposed to hazardous chemicals while working on one of our job sites, the employer shall be provided with a list of the hazardous chemicals we are using at that job site by the foreman. The foreman shall also give the employer access to our collection of MSDS's as well as suggestions for appropriate protective measures needed for exposure to such chemicals. Names and addresses of suppliers or manufacturers of the hazardous chemicals we use shall also be provided so that the employer may obtain MSDS's and other information.

When another employer uses hazardous chemicals while working on one of our job sites, that employer shall provide Rex Moore Electrical Contractors & Engineers with a copy of the employer's written Hazard Communication Program and a list of the chemicals to which our employees may be exposed, as well as a copy of the MSDS's for those chemicals.

H. Potentially Hazardous Chemicals Commonly Found on Construction Projects

Acetone	Acetylene gas
Adhesives	Aluminum etching agent
Ammonia	Anti-freeze
Arsenic compounds	Asbestos
Asphalt (petroleum) fumes	Benzene (and derivatives)
Bleaching agents	Carbon Black
Carbon monoxide (in cylinders)	Caulking, sealant agents
Caustic soda (sodium hydroxide)	Chomate salts
Chromium	Cleaners
Cleaning agents	Coal tar pitch
Coatings	Cobalt
Concrete curing compounds	Creosol
Cutting oil (oil mist)	De-emulsifier for oil
Diesel gas, diesel oil	Drywall
Dusts (brick, cement block)	Enamel
Etching agents	Ethyl alcohol
Fiberglass, mineral wool	Foam insulation
Freon 20, R20 (and others)	Gasoline (petrol, ethyl)
Glues	Graphite
Greases	Helium (in cylinders)
Hydraulic break fluid	Hydrochloric acid
Hydrogen (in cylinders)	Inks
Insulations	Iron
Kerosene	Lead
Lime (calcium oxide)	Limestone
Lubricating oils	Lye (sodium hydroxide, potassium hydroxide)
Magnesium	Metals (aluminum, nickel, copper, zinc, cadmium, etc.)
Methanol (methyl alcohol)	Methyl ethyl ketone (2-butanone)
Muriatic acid (hydrochloric acid)	Motor oil
Nitroglycerin	Naphtha (coal tar)
Ozone	Oxalic acid
Paint stripper	Paint remover
Particle board	Paints/lacquers
Photographic developers and fixers	Pentachlorophenol
Plastics	Photogravure ink (copy machine)
Propanol	Polishes for metal floors
Resins, epoxy/synthetics	Putty
Shellac	Sealers
Solder, soft (lead, tin)	Solder, flux (zinc chloride, fluorides, etc.)
Foam insulation	Fiberglass, mineral wool
Gasoline (petrol, ethyl)	Freon 20,R20 (and others)
	Glues

Graphite
Helium (in cylinders)
Hydrochloric acid
Inks
Solvents
Thinner, paint/lacquer
Transite
Varnishes
Waxes
Wood preservative
Zinc

Greases
Hydraulic brake fluid
Hydrogen (in cylinders)
Insulations
Sulfuric acid
Tin
Turpentine, gum spirit, oil of turpentine
Waterproofing agents
Wood alcohol (methanol)
Xylene

Chemicals Known to Cause Cancer or Reproductive Toxicity

Acetaldehyde
Acrylonitrile
Af-2; [2-(2-furyl)-3-5(5-nitro-2-furyl)] acrylamide
Alcoholic beverages, when associated with alcohol abuse
ortho-Aminoazotoluene
2Amino-5(5-nitro-2-furyl)-1,3,4-thiadiazole
ortho-Anisidine and ortho-Anisidine hydrochloride
Aramite
Asbestos
Azaserine
Benz[a]anthracene
Benzidine [and its salts]
Benzo[j]fluoranthene
Banzo[a]pyrene
Benzyl violet 4B
Bis(2-chloroethyl)ether

Bischloroethyl nitrosourea (BCNU)
1,3-Butadiene
beta-Butyrolactone
Carbon tetrachloride
Chlorambucil
Chlordecone (Kepone)
Chloroform
4-Chloro-ortho-phenylenediamine
Coke oven emissions
para-Cresidine
Cycasin
Dacarbazine
DDT(1,1,1-Trichloro-2,2-bis(p-chlorophenyl)ethane)
2,4-Diaminoanisole sulfate
2,4'Diaminotoluene
Dibenz[a,j]acridine
7H-Dibenzo[c,g]carbazole

2-Acetylaminofluorene
Adriamycin
Aflatoxins
Aldrin

4-Aminodiphenyl
Amitrol
Analgesic mixtures containing phenacetin
Arsenic (inorganic arsenic compounds)
Auramine
Azathioprine
Benzene
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzotrichloride
Beryllium and beryllium compounds
N,N-Bis(2-chloroethyl)-2-naphthylamine
(Chlornapazine)
Bis(chloromethyl)ether
1,4-Butanediol dimethanesulfonate (Mylex)
Cadmium and cadmium compounds
Certain combined chemotherapy for lymphoma
Chlordane
1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea
Chloromethyl methyl ether (technical grade)
Chromium (hexavalent compounds)
Conjugated estrogens
Cupferron
Cyclophosphamide
Daunomycin
Degraded Carrageenan (not food grade carrageenan)
4,4'-Diaminodiphenyl ether
Dibenz[a,h]acridine
Dibenz[a,h]anthracene
Dibenzo[a,e]pyrene

Dibenzo[a,h]pyrene
 Dibenzo[a,l]pyrene
 3-3'-Dichlorobenzidine
 Dichloromethane (Methylene chloride)
 Diepoxybutane
 1,2-Diethylhydrazine
 Diethylstilbestrol
 3-3'-Dimethoxybenzidine (ortho-Dianiasidine)
 trans-2-[(Dimethylamino)methylimino]-5[2-5-nitro-2-
 3,3'Dimethylbenzidine (ortho-Tolidien)
 1,2 Dimethylhydrazine
 2,4-Dinitrotoluene
 Diphenylhydrazine
 Direct Blue 6 (technical grade)
 Estradiol 17B
 Ethinylestradiol
 1,2-Dichloroethane (Ethylene dichloride)
 Ethylene oxide
 Ethyl methanesulfonate
 Formylhydrazino-4-(5-nitro-2-furyl)thiazole
 Gyromitrin (acetaldehyde methylformylhydrazone)
 Heptachlor epoxide
 Hexachlorocyclohexane (technical grade)
 Hexamethylphosphoramide
 Hydrazobenzene
 Iron dextran complex
 Lead acetate
 Melphalan
 Mestranol
 5-Methylchrysene
 Methylazoxymethanol
 4,4'-Methylene bis(2-methylaniline)
 4,4'Methylenedianiline and its dihydrochloride
 Methyl methanesulfonate
 N-Methyl-N'-Nitro-N-nitrosoguanidine
 Michler's ketone
 Mitomycin C
 5-(Morpholinomethyl)-3-[(5-nitro-furfurylidine)-
 amino]-
 Mustard Gas
 2-Naphthylamine
 Nickel carbonyl
 Niridazole
 4-Nitrobiphenyl
 Nitrofen (technical grade)
 N-[4-(5-Nitro-2furyl)-2-thiazoly]acetamide
 Nitrogen mustard hydrochloride
 2-Nitropropane
 N-Nitrosodiethanolamine
 N-nitrosodiemethylamine

Dibenzo[a,i]pyrene
 1,2-Dibromo-3-chloropropane (DBCP)
 3,3'-Dichloro-4,4'-diaminodiphenyl ether
 Dieldrin
 Di(2-ethylhexyl)phthalate
 Diethyl sulfate
 Dihydrosafrole
 4-Dimethylaminoazobenzene
 furyl)vinyl]-1,2,4-oxadiazole
 Dimethylcarbonyl chloride
 Dimethyl sulfate
 1,4-Dioxane
 Direct Black 38 (technical grade)
 Epichlorohydrin
 Estrone
 Ethylene dibromide
 Ethyleneimine
 Ethylene thiourea
 Formaldehyde (gas)
 Glycialdehyde
 Heptachlor
 Hexachlorobenzene
 Hexachlorodibenzodioxin
 Hydrazine and hydrazine sulfate
 Indeno [1,2,3-cd]pyrene
 Lasiocarpine
 Lead phosphate
 Merphalan
 Methoxsalen with ultraviolet A therapy (M)
 2-Methylaziridine (propyleneimine)
 Methylazoxymethanol acetate
 4,4'Methylene bix(2-chloraniline)
 Methyl iodide
 2-Methyl-1-nitroanthraquinone (of uncertain
 Metronidazole
 Mirex
 Monocrotaline
 2-oxalolidinone

 Nafenoprin
 Nickel refinery dust from the pyrometallurgy
 Nickel subsulfide
 Nitrioltriacetic acid
 5-Nitroacenaphthene
 1-[(5-Nitrofurfurylidine)-amino]-2-imidazole
 Nitrogen mustard
 Nitrogen mustard N-oxide and its hydrochloride
 N-Nitrosodi-n-butylamine
 N-nitrosodiethylamine
 p-Nitrosodiphenylamine

N-Nitrosodi-n-propylamine
 N-nitroso-N-ethylurea
 N-Nitroso-N-methylurethane
 N-Nitrosomorpholine
 N-Nitrosopiperidine
 N-Nitrososarcosine
 Oxymetholone
 Phenazopyridine and its hydrochloride
 Phenytoin and sodium salt of phenytoin
 Polychlorinated biphenyls (containing 60 or more percent Chlorine by molecular weight)
 Ponceau 3R
 Progesterone
 beta-Propiolactone
 Sodium saccharin
 Soots tars and lubricant base oils and derived products; specifically vacuum distillates, acid treated oils, aromatic oils, mildly solvent-refined oils, mildly hydrotreated oils, used engine oils, and mineral oils, when used in occupations such as mulespinning, metal machinery, and jute processing.
 Streptozotocin
 Testosterone and its esters
 Tetrachloroethylene (Perchloroethylene)
 4,4'-Thiodianiline
 Thorium dioxide
 Tobacco smoke
 Toxaphene (polychlorinated camphenes)
 2,4,6-Trichlorophenol
 Tris(1-aziridinyl)phosphine sulfide (thiotepa)
 Trp-P-1(Tryptophan-P-1)
 Unleaded gasoline (wholly vaporized)
 Urethane (Ethyl carbamate)
 Warfarin

N-nitroso-diphenylamine
 N-nitroso-N-methylurea
 N-Nitrosomethylvinylamine
 N-Nitrosornicotine
 N-Nitrosopyrrolidine
 Orange Oil SS
 Panfuran S
 Phenoxybenzamine and its hydrochloride
 Polybrominated biphenyls
 Ponceau MX

 Procarbazine and its hydrochloride
 1,3-Propane sultone
 Propylthiouracil
 Safole
 Sterigmatocystin

 Sulfallate
 2,3,7,8-Tetrachlorodibenzo-para-dioxin (
 Thioacetamide
 Thiourea
 Tobacco, oral use of smokeless products
 ortho-Toluidine and its hydrochloride
 Tresosulfan
 Trichloroethylene
 Tris(2,3-dibromopropyl)phosphate
 Trp-P-2(Tryptophan-P-2)
 Uracil mustard
 Vinyl chloride

Chemicals Known to the State to Cause Reproductive Toxicity

Aminopterin
 1,2-Dibromo-3-chloropropane (DBCP)
 Diphenylhydantoin
 Ethylene oxide
 Isotretinoin
 Methyl mercury
 Tobacco smoke (not environmental tobacco smoke)
 Warfarin

Chlorcyclizine hydrochloride
 Diethylstilbestrol (DES)
 Ethyl alcohol in alcoholic beverages
 Etretinate
 Lead
 Thalidomide
 Valproate

(SAMPLE A)

HAZARD COMMUNICATION TRAINING RECORD

Employee: _____

Job Site: _____

Foreman: _____

Date/Time: _____

Topics/Substances/Procedures Discussed:

*Employee's Signature Acknowledging
Training:*

Date: _____

(SAMPLE B)

MSDS REQUEST LETTER

(Date)

(General Contractor)

(Address)

Attention: (Job Superintendent)/(Project Manager)

Re: (Project Name & Location)

(Rex Moore Electrical Contractors & Engineers' Job Number)

Gentlemen:

Employees of our company will be working on the above referenced project at the same time as your company and subcontractors to your company. Our employees may be in close proximity to hazardous substances your company or subcontractors may produce, store or use on the job site. In order to protect the safety and health of our employees, and to comply with the OSHA Hazard Communication Standard, all contractors who could cause hazard exposures to another company's employees are required to furnish information about the hazardous chemicals used on site.

Please advise our office where your M.S.D.S's (Material Safety Data Sheets) are kept and give us any information regarding precautionary measures needed to protect our employees, any foreseeable emergency situations and your labeling system being used.

M.S.D.S's for hazardous substances our company will have on site will be located in (our gang box/our job trailer/or in the possession of our job foreman [name]).

Thank you for your prompt response to this request. If you have any questions regarding this matter, please contact me at your earliest convenience.

Very truly yours,

REX MOORE ELECTRICAL CONTRACTORS & ENGINEERS

(Project Manager)

cc: Job Site

APPENDIX A

CODE OF SAFE PRACTICES - SCAFFOLDS

CODE OF SAFE PRACTICES
FOR
FRAME SCAFFOLDS, SYSTEM SCAFFOLDS,
TUBE AND CLAMP SCAFFOLDS & ROLLING SCAFFOLDS
DEVELOPED FOR INDUSTRY BY
SCAFFOLD INDUSTRY ASSOCIATION, INC.

It shall be the responsibility of all users to read and comply with the following guidelines which are designed to promote safety in the erecting, dismantling and use of Scaffolds. These guidelines do not purport to be all-inclusive not to supplant or replace other additional safety and precautionary measures to cover usual or unusual conditions. If these guidelines in any way conflict with any state, local, federal or other government statute or regulation, said statute or regulation should supersede these guidelines and it shall be the responsibility of each user to comply therewith.

I. GENERAL GUIDELINES

- A. **POST THESE SCAFFOLDING SAFETY GUIDELINES** in a conspicuous place and be sure that all persons who erect, dismantle or use scaffolding are aware of them.
- B. **FOLLOW ALL STATE, LOCAL, AND FEDERAL CODES, ORDINANCES AND REGULATIONS** pertaining to scaffolding.
- C. **SURVEY THE JOB SITE.** A survey shall be made of the job site for hazards, such as untamped earth fills, ditches, debris, high tension wires, unguarded openings, and other hazardous conditions created by other trades. These conditions should be avoided as noted in the following sections.
- D. **INSPECT ALL EQUIPMENT BEFORE USING.** Never use any equipment that is damaged or defective in any way. Remove it from the job site.
- E. **SCAFFOLDS MUST BE ERECTED IN ACCORDANCE WITH DESIGN AND/OR MANUFACTURERS' RECOMMENDATIONS.**
- F. **DO NOT ERECT, DISMANTLE OR ALTER A SCAFFOLD** unless under the supervision of a qualified person.
- G. **DO NOT ABUSE OR MISUSE THE SCAFFOLD EQUIPMENT.**
- H. **ERECTED SCAFFOLDS SHOULD BE CONTINUALLY INSPECTED** by users to be sure that they are maintained in safe condition. Report any unsafe condition to your supervisor.

- I. NEVER TAKE CHANCES! IF IN DOUBT REGARDING THE SAFETY OR USE OF THE SCAFFOLD, CONSULT YOUR SCAFFOLD SUPPLIER.
- J. NEVER USE EQUIPMENT FOR A PURPOSES OR IN WAYS FOR WHICH IT WAS NOT INTENDED.
- K. DO NOT WORK ON SCAFFOLDS if your physical condition is such that you feel dizzy or unsteady in any way.

II. GUIDELINES FOR ERECTION AND USE OF SCAFFOLD

- A. SCAFFOLD BASE MUST BE SET ON AN ADEQUATE SILL OR PAD to prevent slipping or sinking and fixed thereto where required. Any part of a building structure used to support the scaffold shall be capable of supporting the maximum intended load to be applied.
- B. USE ADJUSTING SCREWS or other approved methods instead of blocking to adjust to uneven grade conditions.
- C. BRACING, LEVELING, & PLUMING OF FRAME SCAFFOLDS—
 - 0. Plumb and level all scaffolds as the erection proceeds. Do not force frames or braces to fit – level the scaffold until proper fit can easily be made.
 - 1. Each frame or panel shall be braced by horizontal bracing, cross bracing, diagonal bracing or any combination thereof for securing vertical members together laterally. All brace connections shall be made secure, in accordance with the manufacturer’s recommended procedures.
- D. BRACING, LEVELING, & PLUMING OF TUBE & CLAMP AND SYSTEM SCAFFOLDS
 - 0. POST SHALL BE ERECTED PLUMB in all directions, with the first level of runners and bearers positioned as close to the base as feasible. The distance between bearers and runners shall not exceed manufacturer’s recommended procedures.
 - 1. PLUMB, LEVEL AND TIE all scaffolds as erection proceeds.
 - 2. FASTEN ALL COUPLERS AND/OR CONNECTIONS securely before assemble of next level.
 - 3. VERTICAL AND/OR HORIZONTAL DIAGONAL BRACING MUST BE INSTALLED according to manufacturer’s recommendations.
- E. TIE CONTINUOUS (RUNNING) SCAFFOLDS TO THE WALL OR STRUCTURE at each end and at least every 30 feet of length when scaffold height exceeds the maximum allowable free standing dimension.

Begin ties or stabilizers when the scaffold height exceeds that dimension, and repeat at vertical intervals not greater than 26 feet. The top anchor shall be placed no lower than four (4) times the base dimension from the top of the completed scaffold. Anchors must prevent scaffold from tipping into or away from wall or structure. Stabilize circular or irregular scaffolds in such a manner that completed scaffold is secure and restrained from tipping.

When scaffolds are partially or fully enclosed or subjected to overturning loads, specific precautions shall be taken to insure the frequency and accuracy of ties to the wall and structure. Due to increased loads resulting from wind or overturning loads the scaffolding component to which ties are subjected shall be checked for additional loads.

- F. WHEN FREE STANDING SCAFFOLD TOWERS exceed four (4) times their minimum base dimension vertically, they must be restrained from tipping. (CAL/OSHA and some government agencies require stricter ratio of 3 to 1)
- G. DO NOT ERECT SCAFFOLDS NEAR ELECTRICAL POWER LINES UNLESS PROPER PRECAUTIONS ARE TAKEN. Consult the power service company for advice.
- H. A MEANS OF ACCESS TO ALL PLATFORMS SHALL BE PROVIDED.
- I. DO NOT USE ladders or makeshift devices on top of scaffolds to increase the height.
- J. PROVIDE GUARDRAILS AND MID-RAILS AT EACH WORKING PLATFORM LEVEL where open sides and ends exist, and toeboards where required by code.
- K. BRACKETS AND CANTILEVERED PLATFORMS –
 - 0. Brackets for SYSTEM SCAFFOLDS shall be installed and used in accordance with manufacturer's recommendations.
 - 1. Brackets for FRAME SCAFFOLDS shall be seated correctly with side bracket parallel to the frames and end brackets at 90 degrees to the frames. Brackets shall not be bent or twisted from normal position. Brackets (except mobile brackets designed to carry materials) are to be used as work platforms only and shall not be used for storage of material or equipment.
 - 2. Cantilevered platforms shall be designed, installed and used in accordance with manufacturer's recommendations.
- L. ALL SCAFFOLDING COMPONENTS shall be installed and used in accordance with the manufacturer's recommended procedure. Components shall not be altered in the field. Scaffold frames and their components manufactured by different companies shall not be

intermixed, unless the component parts readily fit together and the resulting scaffold's structural integrity is maintained by the user.

M. PLANKING –

0. Working platforms shall cover scaffold bearer as completely as possible. Only scaffold grade wood planking, or fabricated planking and decking meeting scaffold use requirements shall be used
1. Check each plank prior to use to be sure plank is not warped, damaged, or otherwise unsafe.
2. Planking shall have at least 12" overlap and extend 6" beyond center of support, or be cleated or restrained at both ends to prevent sliding off supports.
3. Solid sawn lumber, LVL (laminated veneer lumber) or fabricated scaffold planks and platforms (unless cleated or restrained) shall extend over their end supports not less than 6" nor more than 18". This overhang should not be used as a work platform.

N. FOR "PUTLOGS" AND "TRUSSES" THE FOLLOWING ADDITIONAL GUIDELINES APPLY:

0. Do not cantilever or extend putlogs/trusses as side brackets without thorough consideration for loads to be applied.
1. Putlogs/trusses should be extended at least 6" beyond point of support.
2. Place recommended bracing between putlogs/trusses when the span of putlog/truss is more than 12 feet.

O. FOR ROLLING SCAFFOLDS THE FOLLOWING ADDITIONAL GUIDELINES APPLY:

0. RIDING A ROLLING SCAFFOLD IS VERY HAZARDOUS. The Scaffold Industry Association does not recommend nor encourage this practice. However, if you choose to do so, be sure to follow all state, federal or other governmental guidelines.
1. Casters with plain stems shall be attached to the panel or adjustments screw by pins or other suitable means.
2. No more than 12 inches of the screw jack shall extend between the bottom of the adjusting nut and the top of the caster.
3. Wheels or casters shall be provided with a locking means to prevent caster rotation and scaffold movement and kept locked.
4. Joints shall be restrained from separation.

5. Use horizontal diagonal bracing near the bottom and at 20 foot intervals measured from the rolling surface.
6. Do not use brackets or other platform extensions without compensating for the overturning effect.
7. The platform height of a Rolling Scaffold must not exceed four (4) times the smallest base dimension (CAL/OSHA and some Government agencies require a stricter ratio of 3 to 1).
8. Cleat or secure all planks.
9. Secure or remove all materials and equipment from platform before moving.
10. Do not attempt to move a rolling scaffold without sufficient help – watch out for holes in floor and overhead obstructions – stabilize against tipping.

P. SAFE USE OF SCAFFOLD –

0. Prior to use, inspect scaffold to insure it has not been altered and is in safe working condition.
 1. Erected scaffolds and platforms should be inspected continuously by those using them.
 2. Exercise caution when entering or leaving a work platform.
 3. Do not overload scaffold. Follow manufacturer's safe working load recommendations.
 4. Do not jump onto planks or platforms.
 5. Do not use ladders or makeshift devices on top of working platforms to increase height or provide access from above.
 6. Climb in access areas only and USE BOTH HANDS

III. WHEN DISMANTLING SCAFFOLDING THE FOLLOWING ADDITIONAL GUIDELINES APPLY:

- A. Check to assure scaffolding has not been structurally altered in a way which would make it unsafe and, if it has, reconstruct where necessary before commencing with dismantling procedures. This includes all scaffold ties.
- B. Visually inspect plank prior to dismantling to be sure they are safe.
- C. Consideration must be given as to the effect removal of a component will have on the rest of the scaffold prior to that component's removal.

- D. Do not accumulate excess components or equipment on the level being dismantled.
- E. Do not remove ties until scaffold above has been removed (dismantled).
- F. Lower dismantled components in an orderly manner. Do not throw off of scaffold.
- G. Dismantled equipment should be stockpiled in an orderly manner.
- H. FOLLOW ERECTION PROCEDURES AND USE MANUALS.

These safety guidelines (Code of Safe Practice) set forth procedures for safely erecting, dismantling and using scaffolding equipment. However, equipment and scaffolding systems differ, and accordingly, reference must always be made to the instructions and procedures of the supplier and/or manufacturer of the equipment.

Since field conditions vary and are beyond the control of the Scaffold Industry Association, safe and proper use of scaffolding is the sole responsibility of the user.

APPENDIX B

FORKLIFT RULES

OPERATING RULES FOR INDUSTRIAL TRUCKS

Operating rules for industrial trucks contained on this poster are current through Register 2002, No. 22 California Code of Regulations (operative 6-27-2002). Other rules may also apply.

General Industry Safety Order 3664
Operating Rules (Part (a)) .

(a) Every employer using industrial trucks or industrial tow tractors shall post and enforce a set of operating rules including the appropriate rules listed in Section 3650(s).

General Industry Safety Order 3650
Industrial Trucks. General (Part(s)) .

(s) Industrial trucks and tow tractors shall be operated in a safe manner in accordance with the following operating rules:

(1) Only drivers authorized by the employer and trained in the safe operations of industrial trucks or industrial tow tractors pursuant to Section 3668 shall be permitted to operate such vehicles.

(2) Stunt driving and horseplay are prohibited.

(3) No riders shall be permitted on vehicles unless provided with adequate riding facilities.

(4) Employees shall not ride on the forks of lift trucks.

(5) Employees shall not place any part of their bodies outside the running lines of an industrial truck or between mast uprights or other parts of the truck where shear or crushing hazards exist.

(6) Employees shall not be allowed to stand, pass, or work under the elevated portion of any industrial truck, loaded or empty, unless it is effectively blocked to prevent it from falling.

(7) Drivers shall check the vehicle at the beginning of each shift, and if it is found to be unsafe, the matter shall be reported immediately to a foreman or mechanic, and the vehicle shall not be put in service again until it has been made safe. Attention shall be given to the proper functioning of tires,

horn, lights, battery, controller, brakes, steering mechanism, cooling system, and the lift system for fork lifts (forks, chains, cable, and limit switches).

(8) No truck shall be operated with a leak in the fuel system.

(9) Vehicles shall not exceed the authorized or safe speed, always maintaining a safe distance from other vehicles, keeping the truck under positive control at all times and all established traffic regulations shall be observed. For trucks traveling in the same direction, a safe distance may be considered to be approximately 3 truck lengths or preferably a time lapse--3 seconds--passing the same point.

(10) Trucks traveling in the same direction shall not be passed at intersections, blind spots, or dangerous locations.

(11) The driver shall slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall

be required to travel with the load trailing.

(12) Operators shall look in the direction of travel and shall not move a vehicle until certain that all persons are in the clear.

(13) Trucks shall not be driven up to anyone standing in front of a bench or other fixed object of such size that the person could be caught between the truck and object.

(14) Grades shall be ascended or descended slowly.

(A) When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load up grade.

(B) On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.

(C) Motorized hand and hand/rider trucks shall be operated on all grades with the load-engaging means down grade.

(15) The forks shall always be carried as low as possible, consistent with safe operations.

(16) When leaving a vehicle unattended (the operator is over 25 feet (7.6 meters) from or out of sight of the industrial truck), the brakes are set, the mast is brought to the vertical position, and forks are left in the down position, either:

(A) The power shall be shut off and, when left on an incline, the wheels shall be blocked; or

(B) The power may remain on provided the wheels are blocked, front and rear.

(17) When the operator of an industrial truck is dismounted and within 25 feet (7.6 meters) of the truck which remains in the operator's view, the load engaging means shall be fully lowered, controls placed in neutral, and the brakes set to prevent movement. Exception: Forks on fork-equipped industrial trucks may be in the raised position for loading and unloading if the forks are raised no more than 42 inches above the level where the operator/loaders are standing, and the power is shut off, controls placed in neutral and the brakes set. If on an incline, the wheels shall be blocked.

(18) Vehicles shall not be run onto any elevator unless the driver is specifically

authorized to do so.

Before entering an elevator, the driver shall determine that the capacity of the elevator will not be exceeded. Once on an elevator, the industrial truck's power shall be shut off and the brakes set.

(19) Motorized hand trucks shall enter elevators or other confined areas with the load end forward.

(20) Vehicles shall not be operated on floors, sidewalk doors, or platforms that will not safely support the loaded vehicle.

(21) Prior to driving onto trucks, trailers and railroad cars, their flooring shall be checked for breaks and other structural weaknesses.

(22) Vehicles shall not be driven in and out of highway trucks and trailers at loading docks until such trucks or trailers are securely blocked or restrained and the brakes set.

(23) To prevent railroad cars from moving during loading or unloading operations, the car brakes shall be set, wheel chocks or other recognized positive stops used, and blue flags or lights displayed in

accordance with applicable regulations promulgated by the Public Utilities Commission.

(24) The width of one tire on the powered industrial truck shall be the minimum distance maintained from the edge by the truck while it is on any elevated dock, platform, freight car or truck.

(25) Railroad tracks shall be crossed diagonally, wherever possible. Parking closer than 8 1/2 feet from the centerline of railroad tracks is prohibited.

(26) Trucks shall not be loaded in excess of their rated capacity.

(27) A loaded vehicle shall not be moved until the load is safe and secure.

(28) Extreme care shall be taken when tilting loads. Tilting forward with the load engaging means elevated shall be prohibited except when picking up a load. Elevated loads shall not be tilted forward except when the load is being deposited onto a storage rack or equivalent. When stacking or tiering, backward tilt shall be limited to that necessary to stabilize the load.

(29) The load engaging device shall be placed in such a manner that the load will be securely held or supported.

(30) Special precautions shall be taken in the securing and handling of loads by trucks equipped with attachments, and during the operation of these trucks after the loads have been removed.

(31) When powered industrial trucks are used to open and close doors, the following provisions shall be complied with:

(A) A device specifically designed for opening or closing doors shall be attached to the truck.

(B) The force applied by the device to the door shall be applied parallel to the direction of travel of the door.

(C) The entire door opening operation shall be in full view of the operator.

(D) The truck operator and other employees shall be clear of the area where the door might fall while being opened.

(32) If loads are lifted by two or more trucks working in unison, the total weight of the load shall not exceed the combined rated lifting capacity of all trucks involved.

S-503-01/03

APPENDIX C

***EMPLOYEE SAFETY GRIEVANCE
ALERT NOTIFICATION***

EMPLOYEE SAFETY GRIEVANCE/ALERT NOTIFICATION
Report of Unsafe Condition

NAME (optional):

DATE:

JOB NAME:

JOB #:

Please list below, the specific unsafe condition(s) and their exact location(s):

Unsafe or Hazardous Condition	Location on Job Site
_____	_____
_____	_____
_____	_____

NOTE: Any hazardous condition likely to cause death or serious harm to the safety and/or health of any employee must be corrected and reported to your supervisor immediately!!

Please list below, the corrective action(s) that you feel are needed to eliminate the hazard(s):

Please mail completed form to: Rex Moore Electrical Contractors & Engineers
6001 Outfall Circle
Sacramento, CA 95828
Attn: Human Resources Director

Or drop it off at: 6001 Outfall Circle
Sacramento, CA 95828

APPENDIX D

Accident Investigation Form

***INSERT INCIDENT/INJURY
INVESTIGATION REPORT HERE***

APPENDIX E

Heat Illness Prevention Program

Appendix E

Rex Moore Electrical Contractors & Engineers

Heat Illness Prevention Program

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I. Overview and Objectives

Employees who work in outdoor places of employment or on job tasks in other areas at those times when the environmental risk factors for heat illness are present are at risk for developing heat illness if they do not protect themselves appropriately. The objective of this program is employee awareness regarding heat illness symptoms, ways to prevent illness, and what to do if symptoms occur.

This written program is based on the California Code of Regulations Proposed Standard, Title 8, Chapter 4, Section 3395.

II. Scope

The Rex Moore Electrical Contractors Engineers' Heat Illness Prevention Program applies to the control of risk of occurrence of heat illness and applies to all outdoor places of employment at those times when the environmental risk factors for heat illness are present.

III. Policy

It is the policy of Rex Moore Electrical Contractor's and Engineers that any employee participating in job tasks where environmental risk factors for heat illness are present will comply with the procedures in this document and other related procedures contained in the Company's Injury and Illness Prevention Program.

IV. Purpose

To ensure that all employees working for Rex Moore Electrical Contractors and Engineers are protected from heat illness while working on job tasks where environmental risk factors for heat illness are present and to establish the minimum requirements for working in that environment.

V. Definitions

The term "acclimatization" means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for about two hours per day in the heat.

"Environmental risk factors for heat illness" means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personnel protective equipment worn by employees.

The term "heat illness" means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope, and heat stroke.

"Personal risk factors for heat illness" means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

“Preventative recovery period” means a period of time to recover from the heat in order to prevent heat illness.

The term “shade” means blockage of direct sunlight. Canopies, umbrellas, and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning.

VI. Responsibilities

A. The Rex Moore Electrical Contractors & Engineers Safety and Risk Management Coordinator is responsible for:

1. Assuring that field operations are adequately equipped and are in compliance with the Company’s written program for Heat Illness Prevention.
2. Assisting managers with training for all potentially impacted employees and their supervisors on the risks and prevention of heat illness, including how to recognize symptoms and respond when those symptoms appear.

B. Project Managers and Foremen are responsible for:

1. Identifying all employees who are required to work outdoors where potential heat illness could occur and identifying the supervisor of the employees.
2. Assuring that adequate water and shade are available at a job site when the environmental risk factors for heat illness are present.
3. Ensuring that all affected employees have received proper training on heat illness prevention.
4. Ensuring that the requirements in this document are followed.

C. Affected employees are responsible for:

1. Complying with the provisions of the Heat Illness Prevention Program, as described in this document and in the training sessions they attend.
2. Ensuring they have drinking water available at all times when the environmental risk factors for heat illness are present.
3. Ensuring they have access to a shaded area to prevent or recover from heat related symptoms.
4. Reporting the lack of water, shade, or symptoms of heat related illness to their supervisor.

VII. Basic Requirements

The following basic requirements apply to all employees while working where environmental risk factors for heat illness are present.

1. Training shall be provided for all potentially impacted employees working where environmental risk factors for heat illness are present and their supervisors. Training information shall include but not be limited to the topics listed in the training section of this written program. All potentially impacted employees and supervisors who supervise these employees must be trained on the risks and prevention of heat illness, including how to recognize symptoms and respond when they appear.
2. Drinking water in the quantity of 1 quart per hour shall be available at all times for employees who work outdoors in the heat.
3. Employees must have access to a shaded area to prevent or recover from heat illness symptoms.
4. All employees must be identified who are required to work where environmental factors for heat illness are present.

VIII. High Heat Procedures

Whenever the temperature in the work environment equals or exceeds 95 degrees Fahrenheit, the following procedures shall be implemented:

1. An effective communication process shall be created and maintained using voice, observation or electronic means. A cell phone or text messaging device may be used for this purpose if reception in the area of the work is consistent and reliable.
2. Supervisors shall regularly observe employee behavior to ensure alertness and identify potential heat illness symptoms.
3. Supervisors shall regularly remind employees to drink plenty of water throughout the work shift.
4. New employees initially assigned to a high heat environment shall be closely supervised for the first 14 days of the employee's employment.

IX. Training

A. Levels of Training

Training shall be provided for employees working on job tasks where environmental risk factors for heat illness are present, and training for their respective supervisors.

B. Employees

All employees working on job tasks where environmental risk factors for heat illness are present shall receive instruction before being assigned to work tasks. Training topics shall include the following:

1. Environmental and personal risk factors for heat illness.
2. Procedures for identifying, evaluating, and controlling exposures to the environmental and personal risk factors for heat illness.

3. Importance of frequent consumption of small quantities of water, up to 4 cups per hour under extreme conditions of work and heat.
4. Importance of acclimatization.
5. Different types, signs, and symptoms of heat illness.
6. The importance of immediately reporting symptoms or signs of heat illness in themselves or in co-workers to their supervisor.
7. Procedures for responding to symptoms of possible heat illness, including how emergency medical services will be contacted and provided, should they become necessary.
8. Procedures for contacting emergency medical services, and if necessary, transporting employees to a point where they can be reached by an emergency medical services provider.
9. How to provide clear and precise directions to the work site.

C. Supervisors of Affected Employees

Supervisors, or their designees, are required to receive documented training on the following topics:

1. Information as detailed above in employee training requirements.
2. Procedures the supervisor shall follow to implement the provisions of this program.
3. Procedures the supervisor shall follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.
4. Procedures to implement High Heat Procedures including how to monitor weather reports and advisories using their smartphones or through their project team's access to this information in situations where the smartphone is not an option.

X. Program Audits

A. Responsibility

Audits of the Heat Illness Prevention Program shall be performed by the Rex Moore Electrical Contractors and Engineers' Safety and Risk Management Coordinator.

B. Frequency

Audits of the Heat Illness Prevention Program shall be performed weekly during months where there is employee exposure.

C. Contents

1. The audit shall review job site compliance with the Company's heat illness prevention procedures and shall include, but not necessarily be limited to, an inspection of water supplies, determining the availability of shade, review of employee training records, and access to emergency medical services.
2. The audit process and findings shall be documented.

XI. Records

All training, audit, and other records prepared in association with the Heat Illness Prevention Program shall be managed in accordance with the requirements of the Rex Moore Electrical Contractors & Engineers Injury and Illness Prevention Program.

APPENDIX F

Electrical Safety and Arc-Flash Prevention Program

***Rex Moore Electrical Contractors &
Engineers***

***Electrical Safety and
Arc-Flash Prevention
Program***

***Based on “NFPA-70 E” & OSHA
“Electrical Safety in the Work Place”***

Prepared By:

***Brian Stone
Rex Moore Electrical Contractors &
Engineers***

Updated 2010

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I. Overview and Objectives

Electrical safety equipment (PPE) is a vital part of any energized work task. This equipment protects our workers from serious injury from electrical shock and/or skin burns from arc-flash.

Shock and arc-flash protection kits are available for use on any project that requires this equipment. They will be ordered through the area tool supervisor and all policies regarding the notification of risk managers must be completed prior to delivery to job site.

The PPE equipment is very expensive and requires extra care by all parties to keep in good operating condition. It must be maintained and monitored consistently to provide proper protection of our employees.

These kits should remain on a project throughout the commissioning/trouble shooting processes. The number of kits needed during this process will be determined by how many “qualified” employees will be in the flash/shock boundary area at any one time.

The most common energized work task is the visual inspection or voltage/amperage testing during the power commissioning or trouble-shooting process.

II. Scope

The Rex Moore Electrical Contractors Engineers’ Electrical Safety Program applies to the control of risk in the presence of shock and arc-flash hazards and applies to all places of employment at those times when these risk factors are present.

III. Policy

It is the policy of Rex Moore Electrical Contractor’s and Engineers that any employee participating in job tasks where environmental risk factors for shock and arc-flash are present will comply with the procedures in this document and other related procedures contained in the Company’s Health and Safety Guide and Injury and Illness Prevention Program.

IV. Purpose

To ensure that all employees working for Rex Moore Electrical Contractors and Engineers are protected from shock and arc-flash hazards while working on job tasks where environmental risk factors are present and to establish the minimum requirements for working in that environment.

V. Definitions

The term “Approach Boundary” generally is a distance limitation of an area surrounding or encompassing electrical equipment with exposed energized parts.

The term “Arc rating” as related to protective clothing, is the maximum incident energy resistance demonstrated by a material prior to break open or at the onset of second-degree skin burns. Generally expressed in: “cal/cm²sd.” or “ATPV”.

The term “Electrically safe work condition” A state at which the conductor or circuit part to be worked on is disconnected from energized parts, locked and tagged out in accordance with established standards

The term “Energized”, electrically connected or having source of voltage.

The term “Exposed” (As applied to live parts). Capable of being inadvertently touched or approached nearer than a safe distance by a person. It is applied to parts that are not suitably guarded, isolated or insulated.

The term “Flash hazard Analysis” a study investigating a workers potential exposure to arc-flash energy, conducted for the purpose of injury prevention and determination of safe work practices.

The term “Flame Resistance” (FR) The property of the material whereby combustion is prevented, terminated or inhibited following the application of a flaming or non-flaming source of ignition.

The term “Qualified Person” one who has skills and knowledge related to the construction and operation of the electrical equipment and installations and has received safety training on the hazards involved.

“PPE” Personal protective equipment.

VI. Responsibilities

A. The Rex Moore Electrical Contractors & Engineers Safety and Risk Management Manager(s) is responsible for:

1. Assuring that field operations are adequately equipped and are in compliance with the Company’s written program for electrical safety and arc-flash prevention.
2. Assisting managers with training for all potentially impacted employees and their supervisors on the risks and prevention of shock and arc-flash hazards, including how to recognize a hazard by performing a “Hazard Risk Analysis” and preparing a “Live Work Authorization”.

3. Monitoring of 3rd party testing and facilitating cleaning of PPE clothing and equipment.
4. Auditing of inspection and testing records.

B. Project Managers and Foremen are responsible for:

1. Identifying all employees who are required to work on or near energized parts, and identifying the supervisor/team leader of the employees.
2. Assuring that PPE is available at a job site when the environmental risk factors for shock or arc-flash are present.
3. Ensuring that all affected employees have received proper training on use of PPE and are capable of performing a hazard risk analysis.
4. Ensuring that the requirements in this document are followed.
5. Ensuring PPE is inspected properly before each work shift or once monthly if idle.

C. Affected employees are responsible for:

1. Complying with the provisions of the electrical safety and arc-flash program, as described in this document and in the training sessions they attend.
2. Ensuring they have proper PPE available at all times when the environmental risk factors for shock and arc-flash are present.
3. Ensuring they have performed a hazard risk analysis, prepared a thorough work plan, and ensured safe working boundaries.
4. Reporting the lack of proper PPE or other safety related materials required to perform a task safely to their supervisor.
5. Ensuring PPE is inspected properly before each work shift or once monthly if idle.

VI. Responsibilities

D. Area tool supervisors are responsible for:

1. Notifying Safety and Risk Manager(s) prior to delivery of PPE to job site. .

VII. Basic Requirements

The following basic requirements apply to all employees while working where environmental risk factors for shock and arc-flash are present.

- i. Training shall be provided for all potentially impacted employees and supervisors working where environmental risk factors for shock or arc-flash hazards are present. Training information shall include but not be limited to the topics listed in the training section of this written program.
2. PPE selection will be performed by using: “Electrical safety in the work place”, NFPA-70E, table 130.7 (C) (9) (A).

From this table, the qualified employee will use the knowledge of their project and the table to determine the following:

“Hazard Category” and what insulated tools or gloves are required for a specific task.

This PPE selection chart/table can be found in the “Energization Binder” or in the Rex Moore server, drive G: / QA Public folder.

3. Qualified field employees can call their area tool supervisor for availability and check out an “Arc-flash protection kit” to their project.

The tool supervisor will be responsible for inspecting these kits for contents, conditions prior to delivery and return to inventory.

The area tool person will be responsible for notifying the Safety and Risk Manager(s) prior to issuing this equipment. This will be done to ensure employees that check equipment out will be “Qualified” and have thoroughly planned their task.

VIII. Training

A. Levels of Training

Training shall be provided for employees working on job tasks where environmental risk factors for electrical shock and arc-flash are present, and training for their respective supervisors.

B. Employees

All employees working on job tasks where environmental risk factors for electrical shock and arc-flash are present shall receive instruction before being assigned to work tasks.

Training topics shall include the following:

1. Skills and abilities that a “Qualified” person possesses.
2. Procedures for identifying, evaluating, and controlling exposures to the environmental and personal risk factors for electrical safety and arc-flash.
3. Demonstrate familiarity with equipment and systems being worked on or near.
4. Proper use of PPE and establishing safe working boundaries.

C. Supervisors of Affected Employees

Supervisors, or their designees, are required to receive documented training on the following topics:

1. Information as detailed above in employee training requirements.
2. Procedures the supervisor shall follow to implement the provisions of this program.

D. Area tool supervisors

1. Proper cleaning, inspection and storage techniques.
2. Following policies regarding “check out” procedures.

IX. Program Audits

A. Responsibility

The Rex Moore Electrical Contractors and Engineers’ Safety and Risk Management Coordinator shall perform audits of the Electrical Safety and Arc-Flash Prevention Program.

B. Frequency

Audits of the Electrical Safety and Arc-Flash Prevention Program shall be performed monthly, all months of the year where there is employee exposure.

C. Contents

1. The audit shall review job site compliance with the Company’s Electrical Safety and arc-flash procedures and shall include, but

not necessarily be limited too, an inspection of PPE, energized equipment areas, review of employee training records, and access to emergency medical services.

2. The audit process and findings shall be documented.

X. Records

All training, audit, and other records prepared in association with the Electrical Safety and Arc-Flash Prevention Program shall be managed in accordance with the requirements of the Rex Moore Electrical Contractors & Engineers Injury and Illness Prevention Program.

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 Advance Planning for Construction Work, 8
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