Revision #6 (03/01/2023)

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CAS STEEL ERECTORS, LLC

SAFETY POLICY

CERTIFIED ERECTOR

CAS Steel Erectors, LLC

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SAFETY POLICY

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CAS STEEL ERECTORS, LLC

SAFETY POLICY AND PROCEDURES

MANAGEMENT POLICY STATEMENT ON SAFETY

CAS Steel Erectors, LLC (henceforth referenced as CAS) recognizes that our employees are the most important asset of this company. With that principle in mind, we pledge to provide the safest and most practical working conditions possible for the employees of CAS by means of a joint management/employee effort.

Management personnel will be responsible and accountable for maintaining safe working conditions on the job. The Owners and top management personnel of this Company will provide for training on a regular basis to ensure that all employees possess the knowledge and skill required to perform their work in a safe and efficient manner. Management personnel will be accountable for maintaining consistent enforcement of this policy as representatives of this Company.

Likewise, employees will be responsible and accountable for following the guidelines outlined in this safety policy. Teamwork is essential at CAS. Every employee, management, and field personnel alike, will be required to deliver 100% effort each day toward the common goal of maintaining a safe and positive work environment.

The safety of our employees is the highest priority of Company business. We hope you feel the same way.

Chris Smith *03/1/23*

Chris Smith, President Date

SCOPE

The owners and management personnel of CAS fully intend to provide the safest possible working conditions on all job sites for their employees, suppliers, and other authorized representatives who have occasion to visit the job site for business reasons.

This written safety policy applies to all employees of CAS as it pertains to safe conduct and work practices on the job including travel in Company vehicles to and from the job.
All visitors to any CAS job site will be required to follow these guidelines while visiting the job site.

All subcontractors must abide by the policies set forth in this document. If the subcontractor's safety policy is different in any area, the more stringent of the two will apply. All safety policies must, as a minimum, meet OSHA requirements. Any violation of these policies will be considered a breach of contract terms.

This written safety policy is not intended to be all inclusive with respect to local state and federal compliance standards. We do not imply or suggest that full compliance with the guidelines set forth in this program will guarantee protection from OSHA citations. Compliance with this safety policy does not guarantee that there will be no injuries on the job site. Accident and injury prevention on the job depends on a full time, conscious effort on the part of every employee to avoid unnecessary hazards.

The purpose of this policy is to clearly define the rules and guidelines developed by the company to ensure compliance with local, state, and federal laws and to provide employees with a useful reference book that clearly describes the most practical, efficient, and safe methods to perform their duties. Employees are not expected to memorize this manual, rather, employees are expected to use this manual for help when questions arise regarding safe work practices or procedures on the job site.

The authors of this safety policy included language and information consistent with Federal OSHA standards and interpretations as they were understood at the time this policy was written. Keeping in mind that OSHA standards and interpretations change frequently, this policy will be updated to reflect those changes at least annually.

This policy has been updated to conform to OSHA’s Subpart R, Steel Erection Standard as published in the Federal Register in January 2019

GENERAL

Line Management Responsibilities

For this safety program to be both effective and efficient within the most positive atmosphere possible, the responsibility for safety must be shared equally by all members of the work force. Apprentice ironworkers spending their first day on the job will be just as responsible for job-site safety as will members of top management.

We depend on all employees for input and feedback regarding the overall safety program's performance. Workers in the field know how easy or difficult these rules are to follow. This policy is not the final word by any means and will be subject to review and change as deemed necessary.

Any and all practical and constructive ideas regarding improvements in working conditions, employee comfort and safety will be welcomed. All input and criticism will be reviewed by the Management and will be regarded as confidential information at the employee's request.

All new hires will receive orientation training as well as on the job training in accordance with federal and local laws, as well as CAS Safety Policy.

OSHA standards require that "the employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury".

Any questions or concerns regarding safe work practices or the laws governing them should be brought to the attention of Management. If an employee ever feels that he/she is being asked to expose themselves to a dangerous situation, he/she has a right to refuse to do so without fear of reprisal. Further, it is a condition of employment to refuse to do so.

LINE MANAGEMENT STRUCTURE

Top Management Personnel

Top management personnel are usually owners, chief executive officers, directors of operations, or any other personnel in the management structure that control and make decisions regarding corporate structure, program funding, and overall company philosophy regarding safety. Long range safety program goals and cultural development of the company's safety program must be realized by the example set by top management officials.

These persons are required to initiate programs to protect employees from injury and illness in the workplace. They must plan for budgetary considerations regarding funding of the safety program. They must require that adequate time and resources are devoted to projects to allow for the proper execution of the safety program in the workplace. They must ensure that adequate funds are allocated for proper equipment and maintenance of that equipment in order to work safely on the job.

Top management personnel are responsible and accountable for the proper execution of these programs. They will be held accountable by OSHA representatives, Worker's Compensation Insurance Carriers, each employee working for the company, and their families.

Company Safety Representative

CAS President currently fills the position of Company Safety Representative. It is the company safety representative's responsibility to implement safety programs and to monitor the program's progress in the workplace. This monitoring must include observation of work practices through inspections of the workplace for compliance with the company's safety policies, site specific rules initiated by general contractors, and OSHA standards. Monitoring duties also include oversight of management personnel's compliance with training requirements including safety meetings, enforcement, and other paperwork requirements required by this policy and directives of top management.

It is the company safety representative's responsibility to stay current with the latest developments in rules and regulations concerning safe work practices. The company safety representative will regularly update information on new safety techniques and equipment as technology advances. The company safety representative will distribute a Toolbox Talk Book for each project.
The company safety representative must conduct accident/injury investigations on all "serious" incidents. Serious incidents are defined as injuries to workers that require emergency medical care, equipment damage such as crane/forklift failure or overturning, damage to materials on the site, and damage or injury to other company's personnel or the public.

Superintendent

Superintendent must work closely with the management during project planning stages so that he will have a good working knowledge of specific safety requirements prior to the start-up of the job. It will be the Superintendent's responsibility to hold weekly safety meetings. They must ensure that all employees under their direct supervision are familiar with safety procedures and enforcement procedures.

The Superintendent must evaluate the members of his crew each morning to see that they are in good condition for work and have the proper equipment needed to perform their job safely. If a member of the crew does not have the proper equipment and cannot obtain it on the site, he/she must leave the site until they can prepare themselves to work safely.

It is the Superintendent's duty to see that the members of his crew work safely. Any unsafe act observed must be corrected immediately before work progresses. Corrective action must include discussion regarding the unsafe act and disciplinary action when appropriate.

Project Superintendent is the Company Competent Person on the project.

All accident/injuries reported to the Superintendent must be relayed to the office immediately.

Ironworkers

Ironworkers are required to follow the instructions of their direct supervisors and this policy in matters of safety and health on the job. All employees, including supervision, will be held accountable for compliance with safety policies as a condition of employment consistent with established disciplinary policies.

Naturally, most of the safety program is aimed at the ironworker in the field. Crew members are required to work safely and share their knowledge of safe work practices with one another. Crew members must always watch out for unsafe acts and conditions and communicate with fellow crew members during work activities that could present hazards to other workers.

It is every crew member’s responsibility to show up on the job site each morning with the proper personal protective equipment and tools to perform his/her job safely.

Crane Operators

Operators are important figures in job safety. For this reason, all operators will receive special training in crane safety. All operators must be familiar with their machine's capabilities and be able to read and completely understand load charts.

In accordance with OSHA's Subpart R, Steel Erection Standard, operators (or other appointed competent persons) must perform a pre-shift visual inspection of cranes and hoisting equipment. If deficiencies are discovered in the machine that constitute a hazard, the machine must be removed from service until the deficiency is corrected.

As far as crane safety is concerned, final decisions regarding the operational fitness of the machine, rigging of loads, moving cranes around job sites, or compliance with manufacturer's requirements will be the responsibility of the operator. If there is any doubt in the operator's mind concerning safety, he must stop and discuss the situation with management personnel until all issues are resolved.

DISCIPLINARY PROGRAM

Management/Supervision must enforce the safety policy in a consistent manner. Disciplinary action of an escalating nature is the motivator for some employees to learn and abide by company policy.

Documentation is to be maintained for one year on all verbal, written, and other disciplinary action taken. Violations more than 12 months old will not count against an employee for purposes of increased disciplinary action for "repeat" violations. However, the records may be used as part of an overall evaluation of an employee's work history and should be maintained.

The degree of discipline is determined by the severity and number of violations or frequency. The degree of discipline, even for the first occurrence, may be extended or increased to termination of employment for extreme violations. The disciplining authority should use judgement to determine the degree of discipline, utilizing information on the circumstances and the employee’s history.

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Violation (Definition):

Failure to comply with any company rule or regulation that is not a flagrant or willful disregard for safety. Disciplinary action for this type of violation normally results in a documented verbal warning for the first offense, a written reprimand for the second offense, and a disciplinary suspension or termination of employment for the third offense or other offenses. For a willful violation, the minimum disciplinary action is one day suspension from work without pay.

DisciplinaryAction:

FIRST OFFENSE – The employee shall stop what they are doing and correct the issue immediately. The superintendent shall document this violation along with the corrective action taken on a safety violation form. The superintendent shall request from the safety manager that the worker be re-trained in the area of concern.

SECOND OFFENSE – The employee shall stop what they are doing and correct the issue immediately. If the same worker is caught for the second time performing the same or substantially similar violation, they shall be kicked off the jobsite for the day and/or fined based on the discretion of the superintendent. The superintendent shall document this violation along with the corrective action taken on a safety violation form. The superintendent shall request from the safety manager that the worker be re-trained in the area of concern.

THIRD OFFENSE – The worker shall stop what they are doing and correct the issue immediately. If the same worker is caught for the third time performing the same or substantially similar violation, they shall be kicked off the jobsite for at least 3 working days and/or fined based on the discretion of the superintendent. The superintendent shall document this violation along with the corrective action taken on a safety violation form. The superintendent shall issue a plan on preventing the violation from occurring again to the CAS Safety Manager prior to allowing the worker to return to the jobsite.

Employees who willfully violate safety policy or willfully endanger themselves or other workers may be subject to immediate termination or suspension as deemed necessary by the Project Superintendent and/or Safety Manager. Employees who are terminated because of safety policy violations will not be eligible for rehire.

If you should become aware of unsafe conditions or unsafe acts committed by another worker, please inform your supervisor.

SAFETY VIOLATION FINE POLICY

The superintendent will determine the reprimand method to be issued. Safety violating employees can be fined and/or terminated. If the superintendent decides to issue fines, the following fines should be issued (See Appendix A for Safety Violation Notice form (A.3):

Hazard Area	2nd Offense	3rd Offense
Fall Protection	**$250 (per violation)**	**$750 (per violation)**
Guardrails	**$100 (per violation)**	**$300 (per violation)**
Personal Protective Equipment	**$100 (per violation)**	**$300 (per violation)**
Excavation / Trenching	**$100 (per violation)**	**$300 (per violation)**
Electrical Hazard	**$100 (per violation)**	**$300 (per violation)**
Scaffolding	**$100 (per violation)**	**$300 (per violation)**
Tools / Equipment	**$100 (per violation)**	**$300 (per violation)**
Crane / Rigging / Signaling	**$100 (per violation)**	**$300 (per violation)**
Housekeeping	**$100 (per violation)**	**$300 (per violation)**

DRUG & ALCOHOL TESTING POLICY

Company Statement

CAS has a strong commitment to its employees to provide a safe workplace and to establish programs promoting high standards of employee health. Consistent with the spirit and intent of this commitment, CAS has established this policy regarding drug/alcohol abuse.

While CAS has no intention of intruding into the private lives of its employees, the company does expect employees to report for work in condition to perform their duties.

CAS recognizes employee involvement with drugs/alcohol, on or off the job, can impact the workplace and the ability to accomplish an established goal for a drug/alcohol free working environment.

The illegal use, sale, or possession of drug/alcohols while on the job, in company vehicles, or on company property, constitutes grounds for dismissal. Any illegal substances will be turned over to the appropriate law enforcement agency and may result in criminal prosecution.

Employees who are under the influence of alcohol, or who possess or consume alcohol in company vehicles, or on the job, have potential for interfering with their own, as well as their co-workers, safe and efficient job performance. Consistent with existing company policies, such conditions will not be tolerated.

Some of the drug/alcohols which are illegal or controlled under Federal, State, and local laws include, but are not limited to, marijuana, heroin, hashish, cocaine, hallucinogens, depressants, anti-depressants, and stimulants not prescribed for current personal treatment by a licensed physician.

Employees undergoing prescribed medical treatment with a controlled substance must report this treatment to his/her supervisor or to management, prior to starting work. The unauthorized use of controlled substances is grounds for disciplinary action. It is important for the company to know such use is occurring.

Any employee that has been terminated for violation of our Drug Testing policy may not re-apply for employment for a period of six months. If an employee is re-hired, the employee will be required to undergo additional drug testing at his expense for a period of 6 months.

If the employee chooses to enroll in a drug/alcohol program, it will be at his/her expense.

Federal Drug Free Workplace Act

The Federal Drug-Free Workplace Act passed on October 21, 1988, lists several requirements employers must meet in order to ensure qualification for receiving contracts on any federally subsidized jobs.

1. Publish a notification to employees prohibiting the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance in the employer's workplace while specifying the penalties for violation of such prohibition.
2. Establish a program to inform employees of:
   A. Dangers of drug/alcohol abuse in the workplace.
   B. Our policy (as set forth below.)
   C. Drug/alcohol counseling, rehab, or employee assistance if such exists.
   D. Penalties for violation.
3. Provide a copy of the "notification to employees" outlined in number one above to each employee personally.
4. Notify employee that he/she must, as a condition of employment, abide by the policy set forth in accordance with number one above and, also, notify the employer of any criminal drug/alcohol statute conviction for a violation occurring in the workplace no later than five (5) days after the conviction. In turn, the Employer must notify the contracting agency within ten (10) days after receiving notification of such conviction or otherwise learning of such conviction.
5. Take the disciplinary action against the convicted employee as set forth in this substance abuse policy or require participation in drug/alcohol abuse assistance or rehab program.

Types of Testing

1. Random
2. Pre-hire
3. For Cause
4. Addition Testing
5. DOT / DOT Physicals

Random

Employees will be required to submit to drug testing on a random basis. Selection of employees for the random testing shall be conducted using a neutral selection process. Once selected, no one has the authority to waive your selection. All employees have an equal chance of being selected each time. This could mean that the same employee is selected more than once or not at

all. The frequency of random drug testing will be determined by CAS management. Employees testing positive will be terminated.

Pre-hire
Every individual seeking employment with CAS will be required to submit to a urine drug test as part of the pre-hire process. Those individuals that fail the drug test will not be eligible for employment.

For Cause
For Cause testing includes any individual who is injured on the job or is in any way involved or responsible for an accident/incident or circumstances resulting in an accident/incident. All injuries, no matter how slight, must be reported to your supervisor immediately. All employees involved in a motor vehicle accident on Company time and/or while driving a Company vehicle at any time, are required to submit to a drug/alcohol test immediately following the accident. Any employee causing damage to Company property or equipment will be required to submit to a drug/alcohol test. Any employee who appears to be under the influence of alcohol or drugs, or who by their actions, appear unable to carry out their duties without endangering themselves or others, will be taken to a medical facility for a drug/alcohol evaluation.

Any employee whose mental capabilities appear seriously affected for no apparent reason will be required to submit to a drug/alcohol test and a medical evaluation.

Additional Testing
As directed by CAS, employees will be required to submit to a company-wide drug test. When CAS is required by contract to submit to Pre-project drug testing and/or site random drug testing, our employees will be required to submit to this testing as a condition of employment. Employees testing positive will be terminated.

DOT (Department of Transportation) / DOT Physicals
As of January 1, 1996, the Department of Transportation requires mandatory random testing of all drivers with CDL licenses. CAS CDL licensed drivers will be required to submit to a random drug test. DOT testing shall follow the laws and requirements set forth by the DOT. In addition, all CDL drivers must submit to a "DOT" physical. Records of these tests will be kept on file at the main office of CAS. These drivers are required to repeat the test every two years.

Cutoff Levels
CAS has no intention of interfering with the private lives of its employees. However, certain drug/alcohol remains in the body for longer periods of time than others.
Cutoff levels will be consistent with current DOT regulations and other Federal regulations as applicable. At a minimum, the following cut-off levels will be used:

Drug Class	Initial Screening Cut-Off Limit	Confirmation Cut-Off Limit
Amphetamines/Methamphetamines	**500** ng/ml	**250** ng/ml
Ecstasy (MDMA)	**500** ng/ml	**250** ng/ml
Cocaine	**150** ng/ml	**100** ng/ml
PCP-Phencyclidine	25 ng/ml	25 ng/ml
Opiates (codeine/morphine)	2000 ng/ml	2000 ng/ml
Heroin (6-AM)	**10 ng/ml**	**10 ng/ml**
Marijuana (THC/Cannabinoids)	50 ng/ml	15 ng/ml

Test Methods and Procedures

The Company will pay for the cost of the testing.
All testing will be conducted by a licensed independent medical laboratory. Testing will be conducted on a urine sample provided by the employee to the testing laboratory under procedures established by the laboratory to ensure privacy of the employee, while protecting against tampering/alteration of the test results.
Pre-hire applicants will submit to a supervised drug testing. All urine samples will first be subjected to an initial screening process to detect the presence of illegal drugs. Those samples having a negative screen will be considered to have tested negative. Samples testing positive on the first screen will be sent to an approved lab to eliminate any false-positive results and confirm the presence of illegal drugs.
Pre-hire applicants will not be paid for the time spent in taking the drug test. However, employees will be compensated for such time at their regular hourly rate.
Employees testing positive will be terminated.

Refusal to Test

Any employee who refuses to submit to a drug/alcohol test will be terminated.

Voluntarily postponing testing, the same day or until the following day will be viewed as refusal to test. Employees tested at hospitals or other facilities must sign a waiver releasing test results to CAS. Failure to do so may result in termination.

See Appendix A for Employee Substance Testing Agreement form (A.2)

FIRST AID

CAS employees designated as First Aid responders will receive training in First Aid & CPR from a third-party training and certification facility such as American Red Cross. Refresher training to be conducted as required to ensure current certifications are maintained.

First Aid responders are required to carry proof of current certification with them.

At least one CAS First Aid responder must be on site during work activities.

First Aid kits will be kept in all company vehicles. In addition, some job sites will have first aid kits and equipment in job trailers and project gang box. All First Aid kits must be inspected regularly with supplies replenished, as necessary.

All employees must be informed of the job site designated First Aid responder.

An injured employee in need of medical assistance beyond First Aid is to be transported to project designated medical facility by a member of management or another employee when management is not available. Employees shall not be permitted to drive themselves.

For more serious injuries, an ambulance must be called, and paramedics shall administer medical treatment.

BLOODBORNE PATHOGENS (BBP)

CAS First Aid responders may encounter blood or other bodily fluids in the course of holding this designation. First Aid responders must also be trained in the recognition, associated hazards, handling and storage of bloodborne pathogens. A third-party training and certification facility such as American Red Cross will be used for this training. Refresher training to be conducted as required to ensure current certifications are maintained.

Bloodborne Pathogen kits will be kept with the First Aid kits. These BBP kits will provide the required containers for the collection and separation of waste that may be generated from rendering medical assistance. All BBP kits must be inspected regularly with supplies replenished, as necessary.

CAS First Aid responders can find the appropriate personal protective equipment to be worn in the BBP Kit

Hepatitis B vaccination is available to CAS First Aid responders at no cost to him/her.

ACCIDENT REPORTING

Accidents to be Reported Immediately

The following accidents are to be reported to the company management immediately:

a) Accidents requiring medical attention
b) Accidents involving two or more employees
c) Accidents which have or are likely to receive coverage by the news media, so families may be notified by the company before press release, if possible.
d) Accidents involving collapse or other failures of structures or equipment
e) Accidents involving equipment or vehicles
f) "Near miss" type incidents (accidental occurrence that could have resulted in serious injury or damage but did not)
g) Fire, windstorms, hail, or other "Acts of God"; Criminal acts such as vandalism, malicious mischief, burglaries, etc.; or any acts which involve a potential liability or loss to the company.
h) Any accident involving the equipment and/or employees of other contractors or material supplier/vendors, at or off the job site, if the accident occurred during the performance of work or the delivery of materials was being furnished for a company project.
i) Accidents to property or injuries to personnel other than the Company's.

Procedures for Reporting

The procedure for reporting the above referenced accidents shall be as follows:

a) The Project Superintendent shall initiate a brief preliminary telephone report, or cause such a report to be made, to the owner as soon as possible after assuring the needs of the injured, safety of the public, etc. have been adequately met.
If the accident involves serious potential legal or insurance requirements, the owner shall also notify the company's legal counsel and insurance carrier.
b) As soon as the extent and effect of the accident can be reasonably estimated and determined, the superintendent shall create a written report setting forth all the particulars of the accident. Copy of the report will be submitted to the GC or owner at their request.
c) Corrective Action and or Disciplinary Action will be taken, as necessary.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

General

All personal protective equipment whether company owned, or employee owned must be inspected daily and before each use for defects. All defective equipment must be removed from service and tagged out or destroyed.

Head Protection

Employees working in areas where there is a possible danger of head injury from impact, from falling, from flying objects, or from electrical shock and burn, shall be protected by protective helmets (hardhats). Operators on equipment that is not equipped with a cab or other means of overhead protection must always wear a hardhat.
Hardhats must meet ANSI standards for their respective working conditions (Typically Class G or Class E - Formerly called Class A and B respectively).

Hearing Protection

Whenever it is not feasible to reduce noise levels or duration of exposures to those specified in OSHA 1926.52, Table D-2, Permissible Noise Exposures, ear protective devices shall be provided and used. The rule of thumb regarding hearing protection is if you must raise your voice to be heard above the surrounding noise level, you need hearing protection. Ear plugs and other types of hearing protection will be available for use on all job sites. Employees will be trained in the proper selection, fit, and care of hearing protective devices.

Eye and Face Protection

Employees shall use eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical, or radiation agents.
Employees, whose vision requires the use of corrective lenses in eyeglasses, when required by OSHA regulation to wear eye protection, shall be protected by goggles or eyeglasses of one of the following types:

1). Eyeglasses whose protective lenses provide optical correction.
2). Goggles that can be worn over corrective eyeglasses without disturbing the adjustment of the eyeglasses.
3). Goggles that incorporate corrective lenses mounted behind the protective lenses.
4). For information on welding hoods and cutting goggles, see welding and cutting section.

Eye protection must meet the ANSI Z87.1 Standard

Respiratory Protection

Respiratory protection may be required in some job applications. Respirator use must be in accordance with the written Respiratory Protection Program included in this manual. If there is ever any doubt regarding the contents or chemical makeup of material or if respirators are required, reference the SDS sheet for the material being used.

Respirators, if required, will be furnished by the Company. Employees are not allowed to bring personal respirators to work. All employees required to wear respirators must be medically qualified, fit tested and trained prior to using it in the field.

Clothing

Good common sense should be used in selecting work apparel. The heavier the material being worn the less wear and tear on the body. Shirts must provide at least three inches of coverage on the shoulder.

Good heavy work boots are required. Steel toe safety shoes are recommended during certain work operations and when it is a contract requirement. The wearing of boots that are held together with duct tape or are in such poor condition as to constitute a trip or slipping hazard, will not be acceptable on the job site.

Gloves

Gloves should be worn at all times, except when their use would negatively affect the safety of employees in the performance of their work.

Full Body Harnesses

Full body harnesses and shock absorbing lanyards must always be worn while working on the building, or in any area where an unprotected fall hazard exists. Leg straps on harnesses must always be fastened when the employee is exposed to falls.

Full body harnesses must always be worn when employees are exposed to falls above six feet except when adequate alternative protection is in place in the form of guardrails, catch platforms, nets, etc.

Shock Absorbing Lanyards

Shock absorbing lanyards must be attached to the center back "D" ring for purposes of fall protection. Lanyards should only be attached to side "D" rings when used for positioning.

SANITATION

An adequate supply of potable (drinking) water shall be provided in all places of employment.

Portable containers used to dispense drinking water shall not be used. Water bottles are the preferred means of company provided water.

The common drinking cup or container is prohibited. Employees bringing individual containers to the workplace must not allow other employees to drink from that container.

Where single service cups are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

At a minimum, waterless hand cleaner and paper towels should be provided for employees to wash their hands.

Toilet facilities, either permanent or temporary, must be provided for employees on the site. When toilet facilities are not supplied by the controlling contractor on the site, the employer must provide them. Where male and female employees share the same toilet facilities, the toilet must be equipped with a lock on the door.

Toilet facilities must be kept sanitary and reasonably clean.

TRAINING

General

Training must be given to all employees to ensure the safe performance of their work, and the proper care and operation of tools and equipment.

All formal safety training must be documented. On the job training may not be documented.

New Hire Orientation

All new hires will receive training on health and safety in the workplace. Immediately after each new employee is hired, a member of management must present the company safety policies and procedures to that employee using a new hire orientation form. The employee will be encouraged to ask questions regarding policy. The orientation shall include, but not be limited to, the following subjects:

1) Employer/employee responsibilities
2) Required attendance and participation at regular safety meetings and other training
3) Disciplinary action for non-compliance with safety policy
4) Accident reporting - Report immediately to supervisors and in writing, within 8 hours.
5) OSHA Ironworker required training: (CDZ, rigging, connecting, signal, etc.)
6) PPE including eye, head, hearing, foot, respiratory, and fall protection equipment
7) Fall protection during steel erection and general fall protection including scaffold/ladders
8) Housekeeping, warning signs, barricades
9) Fire prevention and protection
10) Material handling, storage, rigging and crane safety
11) Electrical safety including Lockout/Tagout procedures
12) Special project requirements or procedures (Welding Certification, Hot work, etc.).
13) Emergency Evacuation Procedures

Specific Training

Specific training will be conducted whenever the need for such training is identified by members of management, and whenever requested by employees. The need for training will become evident through supervision of employee's work practices, inspections of the workplace, review of accident and near-miss investigations, and as required by OSHA.
All Training must be documented.

OSHA 1926.21(b)(2) states that "The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury". Training will be provided to all employees which meets or exceeds this requirement of the OSHA standards.

Employees will be trained on the proper use and maintenance of tools and equipment used for access to work areas. These items include ladders, scaffolds, and powered work platforms such as boom lifts, and scissor lifts.

Employees will be trained on the proper use and storage of flammable liquids in the workplace. This training will include instruction on the types of containers to be used, the proper labeling of those containers, personal protective equipment to be used when handling these materials, and the proper use and handling of fire prevention and fire protection equipment to be used including fire extinguishers.

Training will be given on personal protective equipment to be used including proper clothing, shoes, hardhats, glasses, gloves, etc.

A sufficient number of employees will be trained as often as necessary to ensure that medical and first aid treatment may be administered to injured employees in cases of emergency.

Employees will be trained in the proper recognition and use of accident prevention signs and tags in the workplace.

Employees will be trained on the dangers of substance abuse in the workplace.

Training will be provided on proper machine guarding for all tools and equipment to be used.

Employees will be trained on silica standard, hazards, and company procedure on the project.

Training will be provided on multiple lift rigging procedures (Christmas treeing) where applicable. This training will include a discussion of specific hazards associated with Christmas treeing iron and the proper procedures and equipment used to perform these lifts.

Connectors will be given specific training regarding the nature of the hazards associated with connecting including access to the work area, proper connecting techniques, fall protection during connecting operations and work practices including those described in 1926.760 (fall protection during steel erection) and 1926.756(c) (erection requirements).

Training will be provided for employees engaged in decking operations. Training will be provided on the nature of the hazards associated with deck operations, fall protection requirements. CAS does NOT use a CDZ in deck operations due to six-foot fall protection requirements.

HAZARD COMMUNICATION

REFERENCE ATTACHED HAZARD COMMUNICATION PLAN FOR FULL HAZARD COMMUNICATION PLAN, CHEMICAL LIST AND SDS (APPENDIX B) (Attached separately).

OSHA's Hazard Communication Standard is designed to ensure that employees are not overexposed to chemicals or substances that may be harmful or dangerous to their health.

All employees will receive hazard communication training before entering the workplace. This training will include a brief overview of the requirements of the OSHA standard on hazard communication. The training will also include instruction on how to read an SDS sheet including target organ effects, how to recognize a release of hazardous chemicals, and how to deal with such situations safely.

The employee will be trained in the proper use of personal protective equipment when working with certain substances. He will be informed of the location of the Haz Com program on the project.

Employees are encouraged to review the Haz Com package at any time. Any questions should be referred to their supervisor or safety representative.

Haz Com training updates will be delivered during safety meetings or more often as necessary.

HAZARD AND PREVENTION CONTROL PROCEDURE

PURPOSE

The purpose of this procedure is to identify safety hazards at CAS Steel Erectors, LLC, and in the work environment, prioritized them according to their importance to the company and develop appropriate controls for the identified hazards.
Scope: This procedure applies to all employees of CAS Steel Erectors, LLC

DEFINITIONS

Employee(s): Any employees of CAS Steel Erectors, LLC Inc. Full time, part time, or seasonal.
High Risk/Non-Routine Job (HR/NRJ): Jobs that are considered to have a high risk of injury or incident and/or conducted on a non-routine basis. All HR/NRJs require a documented JHA
Jab Hazard Assessment (JHA):A tool used to identify and mitigate/eliminate hazards associated with each step of a job. When used correctly, it will result in reduced injuries and incidents. It should provide a common understanding to help everyone plan to do the job safely. It also can be used as an effective tool for training all (new and experienced) employees.

STEPS/HOW TO DO/THE ACTIVITIES

Hazard Identification will mainly be in the form of Jab Hazard Assessment (JHA) and periodic jobsite inspections.

The Jab Hazard Assessment will be conducted for all tasks that contain steps, which may pose a hazard risk to personnel. The specific steps of the job that pose the hazard risk will be analyzed, the hazards and risks evaluated, and controls proposed.

Hazards to consider, but not limited to:

Struck Against
Struck By
Contact With
Contacted By
Caught In
Caught Between
Fall (to same or different level)
Over exertion
Exposure (chemical, radiation, biological, etc.)

All potential hazards within each step or activity are identified. The JHA may be included as part of a work plan and the requirements of the JHA may be incorporated into project/Site Specific Plan as appropriate.

Include the following information as prescribed on the JHA form:

Job scope and description of activities.
List each activity or phase.
Identification of the hazards associated with the activities being performed, including the use or presence of hazardous chemicals.
Specific, effective safety measures (engineering, administrative, or personal protective equipment [PPE]) to be applied to eliminate or control the hazards.
A list of specific applicable work control documents, such as maintenance instruction or equipment procedure.
Identification and detail (including drawings and other documentation) of activities/hazards for which protective measures are required to be designed, inspected, or reviewed by a professional engineer or JHAs are developed in sufficient detail to preclude confusion and misunderstanding.

Prevention of hazardous conditions or events should be the top priority in keeping employees safe.

This is done through operating only regularly and thoroughly maintained equipment.
Ensuring that hazard correction procedures are in place.
Ensuring that everyone knows how to use and maintain personal protective equipment.
Making sure that everyone understands and follows safe work procedures

Assessments

Assess the impact on health and safety issues and assess the level of risk for identified hazards by establishing priorities based on factors such as the level of risk, potential for system improvements, standards, regulations, feasibility, and potential business consequences, and identify underlying causes and other contributing factors related to system deficiencies that lead to hazards and risks.
This will be done using the risk hierarchy chart

Controls

The organization shall establish a process for achieving feasible risk reduction based upon the following preferred order of controls in this order:
Engineering controls
Administrative Controls
Personal Protective Equipment

TRAINING
Training will be conducted on the procedure requirements.

RESPONSIBILITIES FOR THE ACTIVITIES
Employees are responsible for the identification of hazards, reporting them to site supervision, and assisting in writing the JHA
Site supervision is responsible for the review of creation of the JHA, and assessment of risk, and the

development and implementation of controls
President is responsible for reviewing hazards identified in the JHA
President is responsible for the implementation and management of the hazard prevention and control procedures.

RESPONSIBILITY FOR REVIEW OF THE PROCEDURE
The President is responsible for the review and update of this procedure

RECORDS GENERATED BY THE PROCEDURE
Jab Hazard Assessment

INCIDENT INVESTIGATION PROCEDURE

Purpose: This procedure provides basic guidelines for objectively gathering information following an occupational illness or injury occurrence, near miss or other safety related incident and develops solutions to prevent incident reoccurrence at CAS Steel Erectors, LLC Inc.
ALL INCIDENTS, no matter how minor, shall be reported IMMEDIATELY to the immediate supervisor for investigation and evaluation. The Supervisor is then to report the incident immediately to the President. Since every incident includes a sequence of contributing causes, it may be possible to avoid a repeat performance of the first event by recognizing and eliminating these causes. The removal of a single cause may prevent a recurrence.
After the evaluation, the supervisor must determine the possible consequences that could take place if the situation is not corrected. The supervisor and/ or The President must take appropriate action to remedy the cause(s) based upon those findings (i.e., investigate, report, correct, etc.).
The Incident Investigation Report is to be filled out as soon as possible but no more than 24 hours after the incident. The Report is to be forwarded to the Owner immediately.
Scope: This procedure is applicable to all employees at CAS Steel Erectors, LLC Inc.,

DEFINITIONS:

Incident: An unexpected, unplanned event resulting in an injury, property, or material loss, and/or business interruption.
Incident Causation: A complex mechanism that involves five elements: Employees, Machine, Materials, Methods and Environment.
Lost Time Incident: An occupational illness or injury that results in the employee missing work following the day of the injury.
Nature of Injury: A description of injury that was sustained by the person involved (such as sprain, contusion, burn, laceration).
Near Miss: Event that could have resulted in a release to the environment, property or facility damage, or personal injury.
Occupational Illness: Any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment.
Occupational Injury: Any injury, such as a cut, fracture, sprain, or amputation, which results from a work incident or from an exposure involving a single incident in the work environment.

Recordable Injury: An incident which results in an injury and requires medical attention beyond first aid. These injuries and illnesses are generally considered recordable: fractures, lacerations requiring stitches, and medical restrictions placed on an individual by a qualified medical provider. All injuries & illnesses shall be classified using the US & OSHA classification system.
Underlying Causes or Failures: Abnormal conditions which contributed or caused the nature of injury (such as frequency or repetition of task, improper posture, ineffective rules/regulations, ineffective employee training, inadequate or unsafe job procedure).
Unsafe Condition: Any physical state which deviates from that which is acceptable, normal or correct (*e.g.,* congested product area, improperly designated workstation, spill, poor housekeeping).
Unsafe Acts: A behavioral departure from an accepted, normal, or correct procedure (*e.g.,* failure to place warning signs/tags, leaving spills on floor, using defective equipment, horseplay, bypass).

STEPS/HOW TO DO/THE ACTIVITIES

Incident Occurrence

Upon occurrence of an incident, the supervisor must ensure the incident site is secured until pictures are taken and investigation is completed.
Supervisors must attempt to recreate the incident site by taking pictures from different angles of incident site (e.g., location of employee, property damage, equipment condition, floor surface).

If the incident involves an injury, then the Superintendent must contact the President or President for guidance

Significant near misses must be reported by the end of the shift.
Personal Interview Statement
The employees involved in the incident must describe in detail his/her actions or activities leading up to the incident and complete the appropriate reporting of the incident report
Employees involved in the incident shall describe in their own words what occurred.
The supervisor must be present to assist the employee and ensure that the form is completed with sufficient detail.
This form should be completed by the end of the shift in which the incident occurs.

Witness Statement

Witness Statement, must be completed by each witness to the incident in all investigations. and complete the appropriate reporting of the incident report
The supervisor responsible for the area in which the incident occurred must be present to assist each witness and ensure that this entire form is completed with sufficient detail. Witnesses shall describe in their own words what they saw happen, including what occurred at the specific moment of the incident.
If there are no witnesses present, the investigating supervisor must note on the Incident report" No Witnesses."

Supervisor's Incident Investigation

Supervisors shall immediately initiate an incident investigation. Incident investigation is an analysis to determine the causes of an incident, particularly those that can be controlled or eliminated. The

supervisor shall first obtain information from the employee(s) involved; including anyone injured, if possible, and then talks with everyone who may have had any possible involvement.
Supervisors must maintain an open mind during the investigation and remain open to all possibilities. Fact finding, while avoiding fault finding, is crucial to the incident investigation.
The supervisor must conduct the initial investigation before the end of the shift in which the employee was injured. The supervisor must complete Incident investigation form.
Supporting documentation, including photographs, shall be attached to the Incident Investigation Form.

Incident Investigation Root Cause Analysis
After the incident investigation has been completed, A Root Cause Analysis, must be also completed for all investigations.
The President will assist in this process with input from the supervisor, who is responsible for completing the Incident investigation form, including determining which contributing factor(s) were the direct cause of the incident.

TRAINING
Elements of this procedure

RESPONSIBILITIES FOR THE ACTIVITIES
Senior management shall ensure compliance with requirements of the Incident Investigation Procedure.
President & Superintendent must identify the underlying causes, and recommendations addressing corrective actions, both administrative and physical in nature. Superintendent shall determine, during the incident investigation, the unsafe conditions and/or unsafe acts.
Superintendent must interview all employees, including witnesses involved in the incident and all witnesses.
President shall insure the following:
Ensure each incident is thoroughly investigated and documentation is complete.
Assist Presidents and site supervision in conducting occupational injury/illness incident investigations.
Provide senior management with recommendations to correct deficiencies.
Review Jab Hazard Assessment applicable to job function involvement.
Ensure each incident is classified appropriately per US OSHA record keeping guidelines.

RESPONSIBILITY FOR REVIEW OF THE PROCEDURE
Only the President is authorized to review and amend this procedure.

RECORDS GENERATED BY THE PROCEDURE
- Incident Investigation Report
- Training Records

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SAFETY MEETINGS

Safety Meetings must be conducted with all employees on a regular basis. It is desirable to conduct these meetings on Monday morning to focus each employee's attention on safety at the beginning of each week.

These meetings are to be documented showing the topics discussed, employee's recommendations, and signatures of each person in attendance. Completed Toolbox Safety meetings must be turned in to the office to be kept on record.

FIRE PREVENTION

All Company trucks and equipment such as forklifts, aerial lifts, cranes, etc., shall be equipped with fire extinguishers. In addition, all hot work areas must have an extinguisher in close proximity. OSHA considers close proximity to mean within 50' of the work areas. Extinguishers shall be returned to storage areas at the end of each shift to prevent theft.

Fire extinguishers to be inspected and certified annually by a fire protection equipment company. A CAS documented monthly inspection shall be performed on fire extinguishers. Ensure fire extinguishers are filled and holding pressure, trigger pins and tabs installed, proper labeling and current annual inspection.

All gas cans, fuel tanks etc., capable of containing 5 or more gallons of flammable liquid must be accompanied by a fire extinguisher. It is recommended that all fuels be dispensed at the beginning of a shift and containers be returned to trucks or suitable storage areas. All fuel cans must be of the approved type with screens in place and in good working order.

"Hazard" type labels must be permanently affixed to all containers carrying flammable or otherwise hazardous materials that are not equipped with the original manufacturer's label.

Whenever cutting or welding in an enclosed space, adequate ventilation must be provided to prevent overexposure to smoke and/or fumes.

Whenever there is a danger of sparks causing fire below, warn others of the hazard and post a fire watch if necessary. Fire blankets should be used to protect materials below from damage due to sparks or flames.

Employees will receive training on fire hazards, fire prevention, fire extinguisher use and Fire Watch procedure and requirements.

More fire prevention guidelines will be discussed in the chapters on "Daily Inspections" and "Cutting and Welding".

TOOLS AND EQUIPMENT

All hand and power tools and similar equipment, whether furnished by the employer or the employee, shall be maintained in a safe condition and handled in a way to prevent damage.

Hand Tools

Employers shall not issue or permit the use of unsafe hand tools. Wrenches, including adjustable, pipe, end, and socket wrenches shall not be used when jaws are sprung to the point that slippage occurs. Impact tools such as hammers, bull pins, and wedges, shall be kept free of mushroomed heads. The wooden handles of tools shall be kept free of splinters or cracks and shall be kept tight in the tool.

The employee will be responsible for the maintenance, care, and replacement of his/her hand tools.

Tools and equipment, when not in use, must be secured to prevent them from falling to lower levels. This can be accomplished through the use of tools scabbards, buckets that are secured to the structure, and, for heavier tools, by tying the tool to a lanyard or rope.

Power Tools

When power operated tools are designed to accommodate guards, they shall be equipped with such guards when in use.

Belts, gears, pulleys, shafts, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or moving parts of equipment shall be guarded if such parts are exposed to contact by employees or otherwise create a hazard.

All hand-held power drills, tapers, fastener drivers, angle grinders with wheels greater than 2 inches in diameter, reciprocating saws, and other similar operating powered tools shall be equipped with a momentary contact on-off control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

All electric powered hand tools must be properly grounded. The use of electrical cords to hoist or lower tools is not permitted.

All fuel powered tools and equipment such as demo saws, welders, man lifts, etc., must be shut off while being refueled.

Powder Actuated Tools

Only those employees who have been trained and certified in the safe use of powder actuated tools will be allowed to operate them. Any employee who uses a powder actuated tool must inspect the tool daily in accordance with the manufacturer's instructions.

Employees using powder actuated tools must use the proper personal protective equipment in the form of safety glasses and required hearing protective devices.

Warning signs shall be posted in the immediate work area that read "Caution, Powder Actuated Tool in Use", or other appropriate language that will provide adequate warning.

Lasers

Only qualified and trained employees shall be assigned to install, adjust, and operate laser equipment.
Proof of qualification of the laser equipment operator shall be available and in possession of the operator at all times.
Areas in which lasers are used shall be posted with standard laser warning placards.

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.

WELDING AND CUTTING

Welding

Only manual electrode holders which are specifically designed for arc welding and cutting, shall be used for that purpose. The electrode holder must be kept in proper condition with all insulating components intact.

All welding lead must be completely insulated, flexible, and capable of handling the maximum current requirements of the work in progress.

Only cable free from repair or splices for a minimum distance of 10 feet from the cable end to which the electrode holder is connected shall be used.

When it becomes necessary to connect or splice lengths of cable one to another the proper connectors designed for that purpose must be used.

Welding lead in need of repair shall not be used. When a cable becomes worn to the extent of exposing bare conductors, the portion exposed shall be protected by means of rubber and friction tape or other equivalent insulation.

All ground connections shall be inspected to ensure that they are mechanically strong and electrically adequate for the required current.

When electrode holders are to be left unattended, the electrodes shall be removed, and the holders shall be so placed or protected in a way that they cannot make electrical contact with employees or conducting objects. Electrodes or welding leads must never be draped over wire rope guardrails or plumb cables, or otherwise come into contact with them.

When the arc welder or cutter has occasion to leave his work or to stop work for any appreciable length of time, or when the arc welding or cutting machine is to be moved, the machine must be turned off.

All welding hoods shall be the type that fastens directly to the hardhat. Welding hoods must be used during all welding operations including bridging and decking.

Cutting

All cutting must be done with approved type cutting goggles/face shields. Tinted or dark safety glasses are not sufficient protection for cutting operations.

When storing oxygen and acetylene bottles, they must be separated by a distance of 20 feet or a fire wall with a fire rating of at least one hour.

Whenever cylinders are transported, the must be secured in an upright position with gauges removed.

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.

Fire extinguishers must be present in all hot work areas.

When parallel sections of oxygen and fuel gas hose are taped together, not more than 5 inches out of 12 inches shall be covered by tape.

All hose in use, carrying acetylene, oxygen, natural or manufactured fuel gas, or any gas or

substance which may ignite or enter into combustion, or be in any way harmful to employees, shall be inspected at the beginning of each working shift. Defective hose shall be removed from service.

Torches in use shall be inspected at the beginning of each shift for leaking shutoff valves, hose couplings, and tip connections. Defective torches shall not be used.

Hoses, cables, and other equipment shall be kept clear of passageways, ladders, and stairs.

Oxygen cylinders and fittings shall be kept away from oil or grease. Cylinders, cylinder caps and valves, couplings, regulators, hose, and apparatus shall be kept free from oil or greasy substances and shall not be handled with oily hands or gloves. Oxygen shall not be directed at oily surfaces, greasy clothes, or within a fuel oil or other storage tank or vessel. Oxygen itself is not flammable, but due to its high pressure and purity, it makes any petroleum extremely flammable and explosive.
All gauges must be equipped with back flow check valves or approved flash arresters. Gauges must always be handled with great care to prevent their components from being damaged resulting in leaks or explosions. All gauges must be equipped with relief valves to protect the low-pressure side of the regulator from high pressure. Gauges must also be equipped with reverse flow check valves. This reduces the possibility of mixing gases in the hoses and regulators.
The regulators must be opened all the way (counterclockwise), before opening the cylinder valve to prevent sudden pressure to the regulator. Once opened, the oxygen valve should be opened all the way to seal the valve packing. Acetylene cylinders must be opened slowly at first and then no more than 3/4 of a turn. If a wrench is required to open the cylinder, always keep it on the cylinder in case it needs to be shut off quickly in an emergency. Acetylene becomes extremely unstable at 15 lbs. psi. Regulators must never be opened to allow more than 13 lbs. pressure. 8 lbs. is the standard operating pressure (for 1" thick material and torch tip size #2). 40 lbs. is the standard operating pressure for Oxygen.

When connecting the torch head to the torch handle, inspect the cone end for worn or damaged "O" rings. There must be two "O" rings present. "O" rings that are flat or cracked are bad and should be replaced or taken out of service. The absence or damage of either one will allow the premixing of Oxygen and fuel gas and will cause flash back or explosion. If the seating surfaces of the torch tip are damaged or worn, backflash may also occur. When attaching the torch head to the mixing tube, do not tighten with a wrench as this will damage the "O" rings.

Cylinders must be stored on a torch cart when possible and secured with chain or rope.
Cylinders must be stored upright at least 20 ft. apart in well ventilated areas.
If a compressed gas cylinder is exposed to extreme heat such as fire, it must not be transported until the supplier is notified and the cylinder is inspected by qualified personnel. Under normal conditions of use, cylinders must not be exposed to temperatures in excess of 130 degrees F.

SCHEDULED INSPECTIONS

Daily Inspections

All employees using Company tools and equipment, including personal protective equipment, on the job site are required to visually inspect their equipment before each use, and at least on a daily basis. Employee-owned tools and equipment fall under these same guidelines.

Electrical cords shall be checked to see that there are no cuts or frays. Plugs must be checked to see that the cord is not pulled away from the plug and that the grounding system is intact. All cords must be immediately repaired, tagged, or removed from the job site.

Welding lead must be checked for cuts and worn connectors. Ground clamps must be checked to make sure the lead is not frayed at the point of connection. When repairing lead make sure that it is waterproof, and that the insulation is as heavy as the original.

Torch hoses must be checked for cuts and leaky connections. Be sure all repairs are made with approved manufacturer torch repair kits. While checking hoses, check gauges to see that they are in good working order and the glass is intact on the gauge.

Rigging must be checked daily and before each use.

Safety cans must be checked daily to see that anti-flash screens are properly in place and that the spring on the cap is working properly to prevent spillage. Any cans with excessive dents which could allow fuel to leak must be discarded. All cans and fuel tanks must be properly labeled.

It is extremely important to remember that any equipment that needs repair or can no longer be used safely must be removed from the job site or tagged immediately. Any material in the back of a Company truck or stored away in the storage shack is considered by OSHA as equipment being "available for use" and will be subject to citation unless tagged.

Cranes and similar hoisting equipment must be visually inspected daily by competent persons. Inspections must be documented on a daily log.

Weekly Inspections

Weekly job site safety inspections are to be conducted. Corrective items to be addressed immediately. Equipment/tools or other items in need of repair must be removed from service immediately. Equipment is considered by OSHA to be available for use as long as it is on the job site. To avoid injury and citations, properly tag items in need of repair or render them inoperable by cutting plugs off, pulling keys from equipment, etc.
Inspection duties should be shared by various employees on the crew week by week.

Monthly Inspections

All company owned and employee-owned personal protective equipment and tools shall be inspected formally on a monthly basis. These inspections shall take place during the first safety meeting of every month and shall be documented on the safety meeting signature sheet.

Items to be inspected shall include articles of personal protective equipment including hard hats, welding hoods, cutting goggles, safety glasses, gloves, shirts (no tank tops), etc.

All personal fall protection equipment including harnesses, lanyards, ropes, and grabs, retractables, portable anchorages (beamers), etc.

Hand tools including hammers, spud wrenches, sleever bars, bull pins, etc.

The list above is not all inclusive. It is intended only to serve as a guide for the types of things to look for during inspections. Any defective equipment must be taken out of service immediately and replaced.

SITE LAYOUT

Before the commencement of steel erection, the controlling contractor must provide the steel erector with the following written notifications:

1. The concrete in footings, piers and walls or the mortar in the masonry piers and walls has attained, on the basis of an appropriate ASTM standard test method of field cured samples, either 75% of the intended minimum compressive design strength or sufficient strength to support loads imposed during steel erection.

2. Any repairs, replacements and modifications to the anchor bolts were conducted in accordance with the requirements, and with the approval of the project structural engineer of record.

The controlling contractor shall provide and maintain the site layout as follows:

1. Adequate access roads into and through the site for the safe delivery and movement of cranes, trucks, other necessary equipment, and the material to be erected and means and methods for pedestrian and vehicular control.
2. A firm, properly graded, drained, readily accessible to the work being performed and adequate space at the site for the safe storage of materials and the safe operation of the erector's equipment.

All hoisting operations in steel erection shall be preplanned to minimize exposure to overhead hazards. The preplanning requires the involvement of the controlling contractor to coordinate the sequence of work of other trades on the job site.

Job Preparation

Most layout procedures take place when the job site is in different stages of backfill or excavation. For this reason, employees must take care to be sure of their footing and watch for open holes and trenches. Other hazards present can include concrete form work taking place. Watch for nails sticking out of forms that have been stripped and pins and stakes sticking out of the ground.

Unloading and Shaking Out

During most unloading and shakeout, a crane or forklift will be used. Only one person may flag the crane or forklift at any one time. When working with the crane, watch for the hooks coming in overhead. Leave the hooks overhead and signal the Operator down only when the load is ready to be hooked up. Watch for chokers hanging up on dunnage and make sure the chokers are not rigged around especially sharp edges that could cut them. As the crane clears the load and starts away with it, watch the rest of the load in case it shifts. Keep hands and feet clear of pinch points at all times. It is recommended that a hooking type device be used to pull rigging underneath and around loads rather than reaching underneath with hands and arms. If the load should shift or settle, serious injury could occur. Stay in communication with fellow workers at all times.

When unloading with a forklift, make sure that the forks are completely under the load before attempting to hoist. Forklift operators must be certain that they are on reasonably level ground before hoisting loads to prevent a tipping situation. Be sure that operators receive proper signals when in the blind.

Someone must signal the forklift operator when backing up to warn of possible hazards when his/her view is obstructed. Cranes moving about the job site shall have an assistant present as well. Always maintain a safe distance away from machinery that is operating close to electrical lines in case of accidental contact.

Loads must be placed on dunnage, or otherwise properly secured, laid flat on the ground and as level as possible to prevent beams rolling over after shakeout. While lowering loads to the ground, stand a good distance away from the load so that if the load does settle, injury will be avoided. Before cutting the crane loose from the load, make sure that the load is stable.

Land material in clear view of the operator whenever possible.

Get help with heavy loads.

Proper lifting methods include the following:

- Stretch out
- Plan the lift
- Bend your knees
- Keep load close to waist level
- Straighten up fully, first

Avoid the following conditions:

- Lifting if you don't have to
- Lifting with your legs straight
- Lifting and twisting
- Lifting above your head
- Jerky and uneven movements

RIGGING

All rigging equipment must be inspected daily and before each use by competent persons. All damaged rigging must be cut in half and/or removed from the site. If three broken wires are found within one lay, the rope is defective and should be removed from the site.

Riggers shall have a rigging chart available showing safe working load capacities of rigging to be used. (See chart on following page)

Shake out hooks may be used for shaking out individual beams only. All other loads handled with spreaders must be rigged with bell hooks equipped with latches.

Loads must always be rigged with chokers, nylon straps, or hoisting grade chains of adequate size and strength. Nine wire, banding, or similar materials are not suitable for hoisting loads.

All loads passing over structures or areas occupied by employees must be choked or securely attached by shackles or other positive means to prevent accidental displacement of the load. No loads may be rigged in a basket passing overhead.

Rigging Capacity Chart
(Ashley Sling, Inc)

Specifications
Rated Capacities in Tons (2000 lb.)
Extra Improved Plow Steel (EIPS) Rope-IWRC

Diameter of Rope (inches)	Minimum* Length of Sling (SL) (ft. in.)	Approx. Loop Width (in.)	Approx. Loop Length (in.)	Choker Hitch **	Single Leg Vertical	Vertical Basket 90º	Basket Hitch *** 60º	Basket Hitch 45º	Basket Hitch 30º
1/4	1-6	2	4	.48	.65	1.3	1.1	.91	.65
3/8	2	3	6	1.1	1.4	2.9	2.5	2	1.4
1/2	2-6	4	8	1.9	2.5	5.1	4.4	3.6	2.5
5/8	3	5	10	2.9	3.9	7.8	6.8	5.5	3.9
3/4	3-6	6	12	4.1	5.6	11	9.7	7.9	5.6
7/8	4	7	14	5.6	7.6	15	13	11	7.6
1	4-6	8	16	7.2	9.8	20	17	14	9.8
1 1/8	5-6	9	18	9.1	12	24	21	17	12
1 1/4	6	10	20	11	15	30	26	21	15
1 3/8	6-6	11	22	13	18	36	31	25	18
1 1/2	7	12	24	16	21	42	37	30	21
1 3/4	8	14	28	21	28	57	49	40	28
2	9-6	16	32	28	37	73	63	52	37
2 1/4	10-6	18	36	35	44	89	77	63	44
2 1/2	11-6	20	40	42	54	109	94	77	54

Showing 1 to 15 of 15 entries

*Minimum sling length (SL) is based on standard 7 lay loop dimensions (Eyes). Smaller lengths are available by utilizing smaller loop dimensions (eyes).
** Rated capacities of choker hitches apply when angle or choke is greater than 120º
*** Rated capacities of basket hitches are based on minimum diameter of curvature at the point of load contact of 25 times the rope diameter

ACCESS

Ladders

CAS has established a training program designed to assist employees in recognizing hazards related to the use of ladders and stairways.

This program will aid employees in dealing safely with hazards associated with ladder use and to minimize the risk of injury. Training will be conducted by qualified persons familiar with OSHA standards relating to ladders and stairways, has practical knowledge of problems encountered in the field, and can offer assistance in dealing with these hazards effectively.

The OSHA standards list specific items that must be covered in the training. The following is a list of those requirements:

1. The nature of fall hazards in the work area.
2. The correct procedures for erecting, maintaining, and disassembling the fall protection systems to be used.
3. The OSHA standards that address stairways and ladders.

OSHA also requires that retraining shall be provided for each employee as necessary so that each employee maintains the understanding and knowledge acquired through initial training. This retraining will take place in the form of weekly safety meetings.

Portable ladders must be able to support four times the maximum intended load. Ladder rungs must be able to support 250 pounds each. Rungs shall be spaced at least ten inches apart, but not more than 14.

The use of ladders with broken or missing rungs or steps, broken or split side rails, or other faulty or defective construction is prohibited.

Portable ladder feet shall be placed on a substantial base, and the area around the top and bottom of the ladder shall be kept clear.

Portable ladders shall be set up at an angle of approximately four to one.

Ladders shall not be placed in passageways, doorways, driveways, or any location where they may be displaced by activities being conducted on any other work, unless protected by barricades or guards.
The side rails of portable ladders shall extend not less than 36 inches above the landing to which it is used to gain access; or, when such an extension is not possible because of the ladder's length, then the ladder shall be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grabrail, shall be provided to assist employees in mounting and

dismounting the ladder. In no case shall the extension be such that ladder deflection under a load would, by itself, cause the ladder to slip off its support.

Ladders must be kept clean and free of oil, grease, or other substances which could cause an employee to slip or fall.

Portable metal ladders are not permitted on CAS projects.

Ladders shall not be painted except for means of identification.

Portable ladders in use shall be tied, blocked, or otherwise secured to prevent their being displaced. Employees shall use chain, rope, or other suitable material for securing ladders. Immediately upon placing a ladder in use, it must be properly tied off. A second person must hold the ladder while it is being tied off, and while untying and dismounting the ladder.

Ladders that are heavy or cumbersome should be handled by two persons. Beware of overhead electrical wires while handling ladders.

Three-point contact must be maintained while ascending and descending ladders. Work performed on ladders that could affect the worker's balance is not allowed unless fall protection is provided. An anchorage point independent of the ladder must be used. Employees are not allowed to tie off to portable or job made ladders.

Tools, equipment, or other objects shall not be carried up a ladder, but instead should be pulled up by means of a rope if a person's three-point contact is compromised.

Only one person at a time shall be on a ladder to avoid overloading or causing each other to lose their balance.

Employees must be 100% fall protected while performing work operations on ladders. Work operations are defined as any activity other than traveling up and down the ladder.

SCAFFOLDING

General

No scaffold shall be erected, moved, dismantled, or altered except under the supervision of competent persons. Competent person means one who is capable of identifying existing and predictable hazards in the surrounding or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

The footing or anchorage for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks, shall not be used to support scaffolds or planks.

Guardrails or the equivalent shall be installed on all open sides and ends of platforms more than 10 feet above the ground or floor, except needle beam scaffolds and floats. Baker type scaffolds 4 feet, to 10 feet in height, having a minimum dimension in either direction of less than 45 inches, shall have standard guardrails installed on all open sides and ends of the platform.

Equivalent means of protection may be used instead of guardrails for fall protection while working on scaffolds. Tying off with a harness and lanyard to a suitable anchorage is acceptable if the equipment will arrest the fall without the employee contacting lower levels.

Scaffolds and their components shall be capable of supporting, without failure, at least 4 times the maximum intended load.

Any scaffold including accessories such as braces, brackets, trusses, screw legs, ladders, etc. damaged or weakened from any cause shall be immediately repaired or replaced.

Scaffold planking shall be overlapped a minimum of 12 inches or secured from movement. Scaffold planks shall extend over their end supports not less than 6 inches, nor more than 12 inches.

Unless the legs are on concrete or similar rigid material, the leg shall rest on a base plate. Where there are conditions of unlevel elevations, this base plate shall be of the adjustable type. Furthermore, a mud sill shall be provided. In addition, the base plate shall be nailed or otherwise secured to the mud sill.

All scaffolds being used as a work platform shall be solidly planked.

Mobile Scaffolds

The employer shall not allow employees to ride on manually propelled scaffolds unless the following conditions exist:

The floor or surface is within 3 degrees of level, and free from pits, holes, or obstructions.

The minimum dimension of the scaffold base when ready for rolling is at least one-half of the height. Outriggers, if used, shall be installed on both sides of the staging.

The wheels are equipped with rubber or similar resilient tires.

All tools and materials are secured or removed from the platform before the mobile scaffold is moved.

Scaffolds in use by any person shall rest upon a suitable footing and shall stand plumb. The casters or wheels shall be locked to prevent any movement.

Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high with a mid-rail of 1 x 6-inch lumber (or other material providing equivalent protection), and toe boards, shall be installed on all open sides and ends on all scaffolds more than 10 ft. above the ground or floor. Toe boards shall be a minimum of 4 inches in height. Cross bracing is not considered part of the guardrail.

When free-standing mobile scaffold towers are used, the height shall not exceed four times the minimum base dimension.

Scaffolds shall be properly braced by cross bracing or diagonal braces, or both, for securing vertical members together laterally, and the cross braces shall be of such length as will automatically square and align vertical members so that the erected scaffold is always plumb, square, and rigid. All brace connections shall be made secure.

Platforms shall be tightly planked for the full width of the scaffold except for a necessary entrance opening. Platforms shall be secured in place.
A ladder or stairway shall be provided for proper access and exit and shall be affixed or built into the scaffold and so located that when in use it will not have a tendency to tip the scaffold. A landing platform must be provided at intervals not to exceed 35 feet.

The force necessary to move the mobile scaffold shall be applied near, or as close to the base as practical and provisions shall be made to stabilize the tower during movement from one location to another. Scaffolds shall only be moved on level floors, free of obstructions and openings.

All scaffold legs must be pinned to the scaffold frames with the proper pins designed for that purpose. Welding rod, nine wire, and other materials are not acceptable for use in this application.

FALL PROTECTION

General

All employees engaged in steel erection activities that are exposed* to a fall on any walking/working surface six feet** above a lower level must be protected from falls.

*Exposed: in accordance with SESAC and industry custom, policy and practice mean working within six feet of any unprotected side or edge, including, but not limited to, holes, leading edges, and floors, mezzanines, roofs, etc.

**Six Feet: unless required and specially agreed to be less by project specific requirements and by contract.

All employees *not* engaged in steel erection activities must be protected from falls to lower levels above six feet as outlined in OSHA's Subpart M, fall protection standard.

Fall protection shall consist of perimeter protection, guardrails, nets, personal fall protection systems, or controlled decking zones. All protection required for fall protection must conform to the criteria set forth in 1926.502 (Subpart M).

Falling Object Protection

All materials, equipment, and tools, which are not in use while aloft, must be secured against accidental displacement.

The controlling contractor, usually the general contractor, must ensure that the progression of work does not permit other construction processes to take place below steel erection unless adequate protection is provided. Consistent with OSHA's Subpart M, Fall Protection Standard, falling object protection must be provided by the employer whose employees are exposed to the hazards of falling objects below.

These provisions should not be interpreted to mean that the steel erector is excused from a "duty to warn" other employees working below or who wander into restricted areas. In no case, can work be allowed to proceed when employees are working below steel erection activities. In the event that a controlling contractor does not remove employees from hazardous areas, work must be discontinued in that area until further instructions from top management are received.

Roof and Floor Openings

Metal deck at roof and floor openings shall be installed in the following manner:

1. Where structural design and constructability allows, framed deck openings shall have structural members turned down to allow continuous deck installation.
2. Where structural design allows, roof and floor openings shall be covered during the decking process. (For more information see "Covers" in the "Fall Protection Systems Criteria" section)
3. Decking holes and openings shall not be cut until essential to the construction process and openings shall be immediately protected.

Covering Roof and Floor Openings

Coverings of roof and floor openings shall be capable of supporting, without failure the greater of either; 30 pounds per square foot (psf) for roofs and 50 psf for floors; or twice the weight of employees, equipment and materials that may be imposed on the cover at any one time.

All covers shall be secured when installed to prevent accidental displacement by wind, equipment, or employees.

All covers shall be painted with high visibility paint or shall be marked with the word "HOLE" or "COVER" to provide warning of the hazard.

Smoke dome or skylight fixtures, which have been installed, are not considered covers unless the strength requirements of this section are met.

Working Under Loads

Suspended loads shall be routed to minimize employee exposure to overhead hazards.

Employees shall not work directly under a load except for those employees engaged in the initial connection work, and those employees necessary for the hooking or unhooking of the load.

The following criteria must be met:

1. Materials being hoisted must be rigged to prevent unintentional displacement.
2. Hooks with self-closing latches or their equivalent must be used to prevent components from slipping out of the hook.
3. All loads must be rigged by qualified riggers.

Removal of Fall Protection Systems

Fall protection systems or equipment shall not be left in any area for use by other trades unless instructed to do so by members of top management.

When instructions are given by top management personnel to leave fall protection devices in an area, the controlling contractor must accept control of the fall protection in writing and/or make contractual provisions for fall protection to be provided by the erector.

A documented “Release of Guardrail" should be used in all cases prior to allowing other trades to enter work areas where steel erection activities have been completed.

FALL PROTECTION SYSTEMS CRITERIA

Guardrail Systems

Where structural design and constructability allow, perimeter columns must extend a minimum of 48 inches above the finished floor to permit installation of perimeter cables prior to erection of the next tier.

Where structural design and constructability allow, holes or other devices must be provided by the fabricator/supplier in or attached to perimeter columns at 42-45 inches above the finished floor and the midpoint between the finished floor and the top cable to permit installation of perimeter cables.

The top edge height of top rails, or equivalent guardrail system members, shall be 42 inches plus or minus 3 inches above the walking/working level. When conditions warrant, the height of the top edge may exceed the 45-inch height, provided the guardrail system meets all other criteria.

Mid-rails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members shall be installed between the top edge of the guardrail system and the walking/working surface when there is no wall or parapet wall at least 21 inches high.

Mid-rails, when used, shall be installed at a height midway between the top edge of the guardrail system and the walking/working level.

Screens and mesh, when used, shall extend from the top rail to the walking/working level and along the entire opening between top rail supports.

Guardrail systems shall be capable of withstanding, without failure, a force of at least 200 pounds applied within 2 inches of the top edge, in any outward or downward direction, at any point along the top edge.

When the 200-pound test load specified in this section is applied in a downward direction, the top edge of the guardrail shall not deflect to a height less than 39 inches above the walking/working level.

Mid-rails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall be capable of withstanding, without failure, a force of at least 150 pounds applied in any downward or outward direction at any point along the mid-rail or other member.

Guardrail systems shall be so surfaced as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.

Top rails and mid-rails shall be at least one-quarter inch nominal diameter or thickness to prevent cuts and lacerations. If wire rope is used for top rails, it shall be flagged at not more than 6-foot intervals with high-visibility material.

When guardrail systems are used at hoisting areas, a chain, gate, or removable guardrail section shall be placed across the access opening between guardrail sections when hoisting operations are not taking place.

When guardrail systems are used at holes, they shall be erected on all unprotected sides or edges of the hole.

When guardrail systems are used around holes used for the passage of materials, the hole shall have not more than two sides provided with removable guardrail sections to allow the passage of materials. When the hole is not in use, it shall be closed over with a cover, or a guardrail system shall be provided along all unprotected sides or edges.

When guardrail systems are used around holes which are used as points of access (such as ladder ways), they shall be provided with a gate, or be so offset that a person cannot walk directly into the hole.

Guardrail systems used on ramps and runways shall be erected along each unprotected side or edge.

Synthetic rope (wire rope) being used for top rails or mid-rails shall be inspected as frequently as necessary to ensure that it continues to meet the strength requirements of this section.

Personal Fall Arrest Systems

Unless a lanyard or other snap hook is a locking type and designed for the following connections, snap hooks shall not be engaged directly to webbing, rope or wire rope; to each other; to a D-ring to which another snap hook or other connector is attached; to a horizontal lifeline; or to any object which is incompatibly shaped or dimensioned in relation to the snap hook such that unintentional disengagement could occur by the connected object being able to depress the snap hook keeper and release itself.

On suspended scaffolds or similar work platforms with horizontal lifelines which may become vertical lifelines, the devices used to connect to a horizontal lifeline shall be capable of locking in both directions on the lifeline.

Lanyards and vertical lifelines shall have a minimum breaking strength of 5,000 pounds. When vertical lifelines are used, each employee shall be attached to a separate lifeline. Lifelines shall be protected against being cut or abraded.

Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body harnesses shall be made from synthetic fibers (no leather).

Personal fall arrest systems, when stopping a fall, shall:

1. Limit maximum arresting force on an employee to 1,800 pounds when used with a full body harness;
2. Be rigged such that an employee can neither free fall more than 6 feet*, nor contact any lower level;
3. Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet; and,
4. Have sufficient strength to withstand twice the potential impact energy of an employee free fall a distance of 6 feet, or the free fall distance permitted by the system, whichever is less.

The attachment point of the body harness shall be located in the center of the wearer's back near shoulder level.

Harnesses and related components shall be used only for employee protection (as part of a personal fall arrest system and not to hoist materials.

Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until inspected and determined by a competent person to be undamaged and suitable for reuse.

The employer shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.

Personal fall arrest systems shall be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service.

When a personal fall arrest system is used at hoist areas, it shall be rigged to allow the movement of the employee only as far as the edge of the walking/working surface.

* Note: Per OSHA interpretation, the six-foot fall distance may be exceeded, provided the force requirements are not exceeded by the falling employee and he does not contact lower levels.

Anchorages

Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached, or shall be designed, installed, and used as part of a complete personal fall arrest system which maintains a safety factor of at least two; and under the supervision of a qualified person.

Horizontal lifelines shall be designed, installed, and used, under the supervision of a qualified person, as part of a complete personal fall arrest system, which maintains a safety factor of at least two.

Personal fall arrest systems shall not be attached to guardrail systems unless the guardrail has been tested and/or engineered to meet the criteria of a horizontal lifeline system.

Steel joists and girders shall not be used as an anchorage point for fall arrest systems unless written authorization is obtained from a qualified person.

Purlins and girts must not be used as an anchorage point for a fall arrest system unless written authorization is obtained from a qualified person.

Post Fall Recovery

When a fall occurs, follow these guidelines:

1. Determine the seriousness of any injury to the fallen employee
2. Determine the most effective means of rescue
3. Call emergency services if needed
4. If possible, allow only trained personnel to participate in the rescue
5. Stabilize the injured employee, if possible, prior to moving him to prevent further injury
6. Lower the employee to a safe area
7. Re-evaluate injuries if any
8. Transport to the pre-designated medical facility if treatment or drug/alcohol test is required
9. Check fall protection systems immediately to determine damage
10. Remove the employee's full body harness and lanyard from service and return for inspection by competent persons
11. Always conduct an investigation

Rescue equipment must be available for use in close proximity of each work area at all times where employees are exposed to falls. The following equipment may be used:

1. Ladders
2. Mobile Scaffold
3. Scissor Lifts, Extendable Boom Work Platforms, JLG Lifts, Manlift, etc.
4. Cranes equipped with Stokes Litter Basket or Personnel Work Platform preferred

ERECTION

Structural Steel Assembly

The permanent floors shall be installed as the erection of structural members progresses, and there shall be not more than eight stories between the erection floor and the uppermost permanent floor, except where the structural integrity is maintained as a result of the design.

At no time shall there be more than four floors or 48 feet of unfinished bolting or welding above the foundation or uppermost permanently secured floor except where the structural integrity is maintained as a result of the design.

A fully planked or decked floor or nets shall be maintained within 2 stories or 30 feet, whichever is less, below, and directly under any erection work which is being performed. The intent of this standard is not only to provide structural stability during the erection process, but also to provide fall protection and falling object protection.

Walking/Working Surfaces

Shear connectors, rebar, studs, etc., shall not be attached to the top flange of beams, joists, or beam attachments such that they project vertically from or horizontally across the top flange of the member until after the decking, or other walking/working surface is installed.

When shear connectors are used in construction of composite floors, roofs and bridge decks, the installation of the connectors must be done after the decking has been installed and after a work platform has been established outside of the CDZ.

Plumbing-up

Temporary plumb cables will be installed as often as necessary to assist in the vertical alignment of the building.

Temporary bracing cables will be installed as often as necessary to ensure the structure's stability during erection.

Building’s permanent bracing to be installed during the erection process.

Project competent person will oversee the plumbing process, ensure plumbing equipment is properly installed and secured.

Plumbing-up equipment shall only be removed with CAS competent person approval.

Decking

Hoisting, Landing and Placing of Deck Bundles

Bundle packaging and strapping shall not be used for hoisting unless specifically designed for that purpose.

If loose items such as dunnage, flashing, or other materials are placed on the top of deck bundles they must be secured.

At the end of the shift or when environmental or job site conditions require, decking shall be secured against displacement.

The landing of bundles of decking on joists must be in accordance with 1926.757(e)(4) which states "a bundle of decking may not be placed on less than three steel joists unless":

1. The employer has determined from a qualified person and documented in a site-specific erection plan that the structure or portion of the structure is capable of supporting the load.

2. At least one row of bridging is installed and anchored.
3. The joist is attached at both ends.
4. The total weight of the decking does not exceed 4000 pounds.

On pre-engineered metal buildings, construction loads (standing seam deck bundles) can only be placed within a zone that is not more than 8 feet from the centerline of the primary support member (main frame). Other restrictions apply. See the section on Pre-engineered metal buildings for more information.

Roof and Floor Openings

Metal deck at roof and floor openings shall be installed in the following manner:

1. Where structural design and constructability allows, framed deck openings shall have structural members turned down to allow continuous deck installation.
2. Where structural design allows, roof and floor openings shall be covered during the decking process.
3. Decking holes and openings shall not be cut until essential to the construction process and openings shall be immediately protected.

Wire mesh, exterior plywood, sheet metal, or the equivalent must be used around columns where planks or decking do not fit tightly.

Floor decking must be laid tightly and secured to prevent accidental movement or displacement.

More information on this subject can be found in the fall protection section under "covering roof and floor openings" and "controlled decking zones".

On multi-story buildings, derrick floors must be fully decked and/or planked, and the steel member connections completed to support the intended floor loading. Temporary loads on a derrick floor shall be distributed over the underlying support members to assure no local overloading of the deck material.

Anchor Bolts

All columns must be anchored by a minimum of four anchor bolts.

Column anchor bolts and column to base plate welds must be designed so that the column will withstand a 300-pound eccentric load 18 inches away from the face of the column in each direction at the top of the column. Column splices must be designed within the same specifications.

Columns must be set on level finished floors, pre-grouted leveling plates, leveling nuts, or shim packs which are adequate to transfer construction loads.

Unstable columns must be guyed or braced where deemed necessary by a competent person.

Anchor bolts may not be repaired, replaced or field modified without the approval of the project structural engineer of record. This approval must indicate any requirements for special column guying or bracing as a result of the repair, replacement, or modification.

Prior to the erection of a column, the controlling contractor (general contractor) must provide written notification to the erector if there has been any repair, replacement, or modification of the anchor bolts of that column.

Management personnel are responsible for inspecting anchor bolts for signs of alteration, straightening, etc. If it is evident that alterations have been made, erection may not proceed until the written documentation has been received as stated above.

Beams and Columns

During the initial connection of beams, the hoist line may not be released from the load until each end of the beam is secured with at least two bolts wrench tight, or its equivalent (welding) as specified by the project structural engineer of record.

Diagonal bracing may be secured by a single bolt per connection wrench tight or its equivalent as specified by the structural engineer.

Double Connections

When two beams on opposite sides of a column web share common connection holes, a minimum of one bolt with a wrench tight nut must not be loosened or removed from the connection unless a shop attached, or field bolted seat or similar connection device is present to secure the first member from accidental displacement. When seats are provided, the beam to seat bolt must be made up before removing the bolts from the double connection.

Open Web Steel Joists

In steel framing, where steel joists or girders are used and columns are not framed in at least two directions with solid web structural steel members (beams), the joist or girder must be bolted at or near columns to provide lateral stability during erection.

Where joists at or near columns span 40 feet or less, the joist must be designed to support the weight of one erector on a bolted joist to release the hoisting cable without the need for bridging.

Where joists span more than 60 feet, the joists must be set in tandem with all bridging installed unless an alternative method which provides equivalent stability is designed by a qualified person and is included in a site-specific erection plan.

Stabilizer plates must be provided on columns where strut joists and girders intersect the column. The plate must extend down 3 inches below the bottom chord of the joist or girder with a 13/16" hole to provide an attachment point for guying or plumb cables.

Joists may not be placed on structures that have not been stabilized with guy cables or permanent angle braces. When joists are landed on structures, they must be secured to prevent unintentional displacement prior to installation.

Except for joists that have been pre-assembled into panels, individual joists in bays of 40 feet or more must be fabricated to allow for field bolting to provide stability during erection.
A bridging terminus point must be established before bridging is installed.

Modifications cannot be made to joists that affect the strength of the joist without the approval of the project structural engineer of record.

Joists and girders shall not be used as an anchorage point for fall arrest systems unless written direction is obtained from a qualified person.

Attachment of Joists and Girders

All "K" series joists must be attached to the structure with a minimum of two 1/8" fillet welds one inch long or with two 1/2" bolts, or the equivalent.

All "LH" and "DLH" series joists must be attached with two 1/4" welds two inches long or with two 3/4" bolts or the equivalent.

Each joist must be attached on at least one end immediately upon placement in its final erection position and before additional joists are set.

Panelized joist systems must be attached at each corner before the hoisting cable can be released.

Erection of Steel Joists

One end of all joists must be attached to the structure before allowing the weight of an ironworker on the joist.

On joists that span 40 feet or less that do not require bridging, only one erector shall be allowed on the joist until all bridging is installed and anchored.

On joists that span 40 feet or more, erection bridging located closest to the center of the span must be diagonal bridging and must be bolted into place before releasing the hoist line. A maximum of one erector is allowed on these spans until all other bridging is installed and anchored.

Where the span of the joist is 60-100 feet, the two rows of bridging nearest the third points of the joist must be diagonal bridging and bolted into place before the hoist line is released. A maximum of two erectors is allowed on the span until all other bridging is installed and anchored.

Joists 100 feet through 144 feet in length must have all rows of bridging installed prior to releasing the hoist line. Only two erectors are allowed on the span until all bridging is installed. For steel members spanning more than 144 feet, the erection methods shall be in accordance with 1926.756. This sentence means that the structural engineer of record must provide direction for setting girders this long or longer. Normally, the girder manufacturer or engineer will make notations on erection drawings regarding bridging requirements for girders of this length. If clear direction is not given on the plans, consult the engineer. When in doubt, err on the side of safety and install all bridging unless otherwise noted on the plans.

On all joists that are bottom bearing, diagonal bridging closest to the bearing point of the joist must be installed prior to releasing the hoisting cables.

Attachment locations of bolted diagonal bridging must be indicated on the erection drawing. The erection drawing shall be the exclusive indicator of the proper placement of this bridging.

Erection clips or functional equivalents must be provided where the bridging bolts to the joists.

When two pieces of bridging are attached to the joist by a common bolt, the nut that secures the first piece of bridging shall not be removed from the bolt for the attachment of the second.

Bridging attachments shall not protrude above the top chord of the joist.

Landing and Placing Loads

During construction, any contractor placing loads on steel joists shall provide means for adequate distribution of loads so that the carrying capacity of any steel joist is not exceeded.

No construction loads are allowed on steel joists until all bridging is installed and anchored, and all joist bearing ends are attached with the following exceptions:

1. A bundle of bridging shall not exceed 1000 pounds. A bundle of bridging shall be placed on a minimum of three joists which must be secured on one end. The edge of the bundle must be placed within one foot of the secured end of the joist.
2. A bundle of decking may not be placed on less than three steel joists unless:
    a) The employer has determined from a qualified person and documented in a site-specific erection plan that the structure or portion of the structure is capable of supporting the load.
    b) At least one row of bridging is installed and anchored.
    c) The joist is attached at both ends.
    d) The total weight of the decking does not exceed 4000 pounds.
    e) The edge of the bundle of decking must be placed within one foot of the bearing surface of the joist end.

Pre-engineered Metal Buildings

Erection of pre-engineered metal buildings can’t begin until the site layout meets the requirements of 1926.752 with respect to adequate roads and access for cranes and loads, firm level ground for placement of loads, etc.

All columns must have a minimum of four anchor bolts.

Rigid frames must have at least 50% or the manufacturer's specified number of bolts (whichever is greater) installed and tightened on both sides of the web before the hoisting equipment is released from the load.

No construction loads can be placed on any structural steel framework until the framework is safely bolted, welded, or otherwise adequately secured.

When girt and eave struts share common connection holes, a minimum of one bolt with its wrench tight nut must not be loosened or removed for the connection of the second member unless a field attached seat or similar device is present to secure the first member so that the girt or eave strut is always secured against displacement.

The seat or similar connection device must be provided by the manufacturer of the girt or eave strut.

Both ends of all steel joists or cold formed joists must be fully bolted and/or welded before releasing the hoist cables, before allowing the weight of the erector on the joists, and before allowing any construction loads on the joists.

Purlins and girts must not be used as an anchorage point for a fall arrest system unless written direction is obtained from a qualified person.

Purlins shall not be used as a walking/working surface.

Construction loads shall only be placed within a zone that is not more than 8 feet from the centerline of the primary support member.

MOTOR VEHICLES

All Drivers and Operators must be properly licensed and have all appropriate licenses, certifications, etc. Federal law requires that seat belts be used by employees in motor vehicles on all roads and highways. All employees in company vehicles must wear seat belts.

All motor vehicles must be checked daily, before the start of work, to ensure that they are mechanically sound. All lubricants should be checked, and fluids added, as necessary. Oil spills and leaks should be cleaned up as they occur.

Job site equipment including cranes, forklifts, personnel lifts, etc., must be equipped with backup alarms audible above surrounding noise levels.

All cranes shall have a qualified signal man watching while it is being moved on the project.

Before leaving any machinery, be sure that all parking brakes are set, and engine is turned off.

Crane Operators need to be sure that all brakes are set, swing lock is set, the boom dog is engaged, and that the master clutch is disengaged before leaving the machine. **NEVER** leave the machine with a load suspended in the air.

Remove keys from vehicles at night. Lock cabs, if possible.

Cracked or broken glass must be replaced upon notice of damage if the crack obstructs the driver's vision.

Company vehicles and equipment may be driven by authorized employees only. Top management approval must be obtained for non-employee drivers.

Motor vehicle driving records may be checked periodically. Employees with records that indicate the possibility of reckless or irresponsible driving behavior may be disallowed from driving Company vehicles.

Possession of alcohol and/or drugs is not allowed in any Company vehicle.

Company vehicles may be used for official Company business only. Non-sanctioned activities with Company vehicles are forbidden. Examples of non-sanctioned activities include stopping at bars, liquor stores, or other social establishments while in route to or from work.

Use of Company vehicles for non-sanctioned activities may be allowed only with approval by owner.

AERIAL LIFTS

Daily Inspection of boom lifts, scissor lifts, etc., shall be performed prior to use to determine they are in safe working condition. All deficiencies must be corrected before use. If the deficiency can’t be corrected, remove from service, and tag out of service.

Only trained and certified personnel shall operate an aerial lift.

Tying off, to an adjacent structure, or equipment while working from an aerial lift shall not be permitted.

Many articulating boom powered platforms (such as a JLG) have counterweights that can cause pinch points. Just like a cranes counterweights, these lifts need to have the swing radius protected. Barricade tape may be appropriate if the lift is being used in areas where pedestrian or vehicular traffic is present. Warning cones can also be used for this purpose.

Employees must tie off to the structure before exiting a man basket.

Employees shall always stand firmly on the floor of the basket and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.

A full body harness shall be worn, and a shock absorbing lanyard attached to the lifts anchor point when working from an aerial lift.

Boom and basket load limits specified by the manufacturer shall not be exceeded.

Articulating boom and extendable boom platforms, primarily designed for personnel carriers, shall have both platform and lower controls. Upper controls shall be in or beside the platform within easy reach of the Operator. Lower controls shall provide for the overriding of the upper controls. Controls shall be plainly marked as to their function. Lower-level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

FORKLIFTS

All forklift operators must be trained and certified in accordance with OSHA Standard 1926.602 (d). All operators must have written certification stating their name, the date the training was completed and the identity of the person(s) that trained and evaluated them. Proof of operator certification must be in the operator's possession while operating forklifts.

The operator is responsible for the safe condition and operation of his machine including daily inspection of the machine. All deficiencies must be corrected before use. If deficiencies can't be corrected, remove from service, and tag out of service.

Operators must become familiar with each machine's capacities and limits.

Forklift operators must possess the following qualities in order to be considered qualified and competent:

1. Physically and mentally fit for duty
2. Free from Alcohol or Drugs
3. Mechanical Aptitude
4. Understanding of Basic Mathematics and Physics
5. Heightened awareness and concentration
6. Proper attitude
7. Common sense - Beware! Common Sense Is Not That Common!

The following conditions must be avoided:

1. Operating forklifts with known mechanical defects
2. Traveling on an unsafe route
3. Carrying unsafe loads
4. Unsafe operating techniques
5. Never operate a forklift from anywhere other than the operator's seat.
6. Passengers are not allowed to ride on forklifts.

Forklift Operators must:

1. Use grab rails when mounting and dismounting machine. Don't grab levers to pull yourself up.
2. Never reach through potential pinch points.
3. Beware of loose clothing and long hair around moving parts (fans, pulleys, belts).
4. Keep all body parts inside the operator's compartment.
5. Wear hard hat to prevent injury from smaller objects penetrating the overhead protective structure.
6. Eye protection is required for windy, dusty conditions or when placing loads overhead.
7. Use extreme caution when adjusting forks. Tilt forks forward to relieve the weight. Wear gloves and keep hands clear of pinch points and crushing points
8. Be aware of soft ground, holes, overhead wires, bridges, pedestrians, other vehicles.
9. "Feather" the load when starting and stopping.
10. Communicate using voice, horns, back-up alarms and hand signals.
11. When leaving the machine unattended operators must fully lower the forks, controls must be neutralized, and the parking brakes set. On hills and inclines, wheels must be blocked.

Steel Erection with Forklifts

Steel erection with forklifts may not be permitted without the permission of Top Management Personnel.

Those personnel must pre-plan the lifts to be made including machine capacities, reach capabilities, job site conditions, employee access, etc.

During the erection process, all components must be safely bolted, welded, or otherwise adequately secured prior to releasing the load from the forklift.

Operators must use extreme caution when maneuvering in, under, and around existing structures.

to prevent accidental contact with the forks, boom, or other parts of the machine.

Rigging to be hooked to an engineered design forklift fork attachment. Rigging directly to the forks of the forklift is not permitted.

Use of Personnel Platforms with Forklifts

The following requirements must be followed during operations that include personnel platforms attached to forklifts:

1. Provide a personnel platform which complies with the design requirements of "personnel platforms" listed in the crane section of this policy.
2. Be certain that the platform is securely attached to the lifting carriage or forks.
3. Be certain that the lifting carriage and forks are secured to prevent them from pivoting upward.
4. Provide protection for personnel in their normal working position on the platform from moving parts of the forklift that represent a hazard.
5. Provide overhead protection as indicated to be necessary by the operating conditions.
6. Be certain that the lifting mechanism is operating smoothly through its entire lift height.
7. Be certain that the mast is vertical - do not operate on a side slope.
8. Be certain that the platform is horizontal and never tilt platform forward or rearward when elevated.
9. Be certain that the forklift has a firm and level footing.
10. Be certain that required restraining means such as railing, chains, cable, harnesses with lanyard(s), etc., are in place and used.
11. Place forklift in neutral and set parking brake.
12. Before elevating personnel, area should be marked with cones or other device to warn of work by elevated personnel.
13. Lift and lower smoothly and with caution.
14. Watch for overhead obstructions and electrical wires.
15. Keep hands and feet clear of controls other than those in use.
16. Move forklift only for minor adjustments in positioning when personnel are on the platform.
17. Alert personnel on the platform before moving forklift. Move forklift with caution.
18. A trained operator shall be in position to control the forklift or available to operate controls. When the operator is not in the operating position, the truck wheels should be blocked.
19. The combined mass (weight in pounds) of the platform, load, and personnel shall not exceed one-fourth of the capacity at the related load center and maximum forklift height as indicated on the information plate of the forklift on which the platform is used.
20. Prohibit modification to the platform that is detrimental to its safe use.

21. Personnel must maintain firm footing on platform floor unless secured by harness and shock absorbing lanyard. Use of railing, planks, ladders, etc., on the platform for purpose of achieving additional reach or height is prohibited.
22. Be certain that personnel and equipment on the platform do not exceed the available space.
23. Platform shall be lowered to floor level for personnel to enter and exit. Personnel shall not climb on any part of the forklift in attempting to enter and exit.
24. Any harness, shock absorbing lanyard, or deceleration device which has sustained permanent deformation shall be replaced.

CRANE SAFETY

Before operating any hoisting equipment, all potential Operators must present proper credentials and undergo an interview with the Company Owner to establish competency in safe crane operation including a thorough understanding of the equipment they will be operating, the machine's load charts and the machine's capabilities. Only owner approved crane operators are to operate cranes. Approved crane operators to hold NCCCO credentials for the type of crane operating. Company management team must also evaluate the operator to ensure that the operator has the skills, knowledge, and ability to recognize and avert risk to operate the equipment safely. Operator evaluation to be performed per OSHA 1926.1400 latest revision.

All Crane Operators must keep a daily log including maintenance procedures. Daily inspections are required to ensure all components and parts are working properly for safe operation. All Operators must report any abnormalities or malfunctions to the person in charge of crane maintenance at once. All deficiencies must be corrected before further use.

Rated load capacities recommended operating speeds, and special hazards warnings or instructions shall be posted on all equipment and be visible from the Operator's station.

Accessible areas within the swing radius of the revolving superstructure shall be barricaded.

Except where electrical distribution and transmission lines have been de-energized and visibly grounded at point of work, or where insulating barriers, not a part of or an attachment to the equipment or machinery, have been erected to prevent physical contact with the lines, no part of a crane or its load shall be operated within 10 feet of a line rated 50kV or below; 10 feet + 0.4 inches for each 1 Kv over 50 Kv; or twice the length of the line insulator, but never less than 10 feet.

Cranes must be equipped with fire extinguishers, of at least a 10-ABC rating or higher. In truck cranes, a fire extinguisher must be present in each cab.

Operators are required to perform a visual inspection of cranes used in steel erection before the start of each shift. Logs must be kept and signed by the competent person performing the inspection, along with other information indicating what items were inspected, the serial number of the crane, or other identifier, and the date of the inspection. The following items must be included as part of the daily inspection:

1. All control mechanisms for maladjustment
2. Control and drive mechanisms for excessive wear of components and contamination by lubricants, water, or other foreign matter
3. Safety devices including, but not limited to, boom angle indicators, boom stops, boom kickout devices, anti-two block devices, and load moment indicators where required.
4. Air, hydraulic, and other pressurized lines for deterioration or leakage, particularly those which flex in normal operation.
5. Hooks and latches for deformation, chemical damage, cracks, and wear
6. Wire rope reeving for compliance with hoisting equipment manufacturer's specifications
7. Electrical apparatus for malfunction, signs of excessive deterioration, dirt, and moisture accumulation
8. Hydraulic system for proper fluid level
9. Visual inspection of tires for proper inflation and condition
10. Ground conditions around the hoisting equipment for proper support to include settling under and around the outriggers, tracks, ground water accumulation, etc.
11. Check that the hoisting equipment is level (the crane should also be leveled after each move and setup)

*Note: The following items are not included in OSHA's required daily inspection but should be part of the inspection:

1. Check to see that barricades are in place around the full swing radius.
2. Check for loose bolts, nuts, steps, hand grabs, and guards, etc.
3. Keep operating deck clear of tools, debris, personnel, etc.
4. Before hoisting any loads, hoist and lower the load lines several times applying light pressure to the brake while hoisting in order to dry out brake linings and hoist clutches.
5. The boom should also be raised and lowered several times to dry out brakes and clutches.

If any deficiencies are identified, an immediate determination must be made as to whether the deficiency constitutes a hazard. If the deficiency is determined to constitute a hazard, the hoisting equipment must be removed from service until the deficiency is corrected.

The operator shall be responsible for those operations under his direct control. Whenever there is any doubt as to safety, the operator shall have the authority to stop and refuse to handle loads.

until safety has been assured.

Riding any part of a crane load is forbidden except for personnel man-baskets designed and used in accordance with the requirements listed in this policy. Personnel baskets may be used routinely for transport of employees performing steel erection activities.

SUSPENDED PERSONNEL PLATFORMS

Operational Criteria

The crane shall be uniformly level within one percent of level grade and located on firm footing. Cranes equipped with outriggers shall have them all fully deployed following manufacturer's specifications, insofar as applicable, when hoisting employees.

Hoisting of the personnel platform shall be performed in a slow, controlled, cautious manner with no sudden movements of the crane or derrick, or the platform.

Load lines shall be capable of supporting, without failure, at least seven times the maximum intended load, except that where rotation resistant rope is used, the lines shall be capable of supporting without failure, at least ten times the maximum intended load. The required design factor is achieved by taking the current safety factor of 3.5 (required under 1926.550(b)(2) and applying the 50 percent de-rating of the crane capacity which is required by 1926.550(g)(3)(I)(F).

Load and boom hoist drum brakes, swing brakes, and locking devices such as pawls or dogs shall be engaged when the occupied personnel platform is in a stationary position.

The total weight of the loaded personnel platform and related rigging shall not exceed 50 percent of the rated capacity for the radius and configuration of the crane or derrick.

The use of machines having live booms (booms in which lowering is controlled by a brake without aid from other devices which slow the lowering speeds) is prohibited.

Instruments and Components

Cranes and derricks with variable angle booms shall be equipped with a boom angle indicator, readily visible to the operator.

Cranes with telescoping booms shall be equipped with a device to indicate clearly to the operator the boom's extended length or an accurate determination of the load radius to be used during the lift shall be made prior to hoisting personnel.

A positive acting device shall be used which prevents contact between the load block or overhaul ball and the boom tip (anti-two-blocking device), or a system shall be used which deactivates the hoisting action before damage occurs in the event of a two-blocking situation (two-block damage prevention feature).

The load line hoist drum shall have a system or device on the power train, other than the load hoist brake, which regulates the lowering rate of speed of the hoist mechanism (controlled load lowering). Free fall is prohibited.

Personnel Platforms

Design criteria

The personnel platform and suspension system shall be designed by a qualified engineer or a qualified person competent in structural design.

The suspension system shall be designed to minimize tipping of the platform due to movement of employees occupying the platform.

The personnel platform itself, except the guardrail system and body belt/harness anchorages, shall be capable of supporting, without failure, its own weight and at least five times the maximum intended load. Criteria for guardrail systems and body belt/harness anchorages are contained in other Subparts, E and M, respectively of this part.

Platform Specifications

Each personnel platform shall be equipped with a guardrail system which meets the requirements of Subpart M and shall be enclosed at least from the toe board to mid-rail with either solid construction or expanded metal having openings no greater than ½ inch (1.27 cm).

A grab rail shall be installed inside the entire perimeter of the personnel platform.

Access gates, if installed, shall not swing outward during hoisting.

Access gates, including sliding or folding gates, shall be equipped with a restraining device to prevent accidental opening.

Headroom shall be provided which allows employees to stand upright in the platform.

In addition to the use of hard hats, employees shall be protected by overhead protection on the personnel platform when employees are exposed to falling objects.

All rough edges exposed to contact by employees shall be surfaced or smoothed in order to prevent injury to employees from punctures or lacerations.
All welding of the personnel platform and its components shall be performed by a qualified welder familiar with the weld grades, types and material specified in the platform design.

The personnel platform shall be conspicuously posted with a plate or other permanent marking which indicates the weight of the platform, and its rated load capacity.

Personnel Platform Loading

The personnel platform shall not be loaded in excess of its rated load capacity.

The number of employees occupying the personnel platform shall not exceed the number required for the work being performed.

Personnel platforms shall be used only for employees, their tools, and the materials necessary to do their work and shall not be used to hoist only materials or tools when not hoisting personnel.

Materials and tools for use during a personnel lift shall be secured to prevent displacement.

Materials and tools for use during a personnel lift shall be evenly distributed within the confines of the platform while the platform is suspended.

Rigging

When a wire rope bridle is used to connect the personnel platform to the load line, each bridle leg shall be connected to a master link or shackle in such a manner to ensure that the load is evenly divided among the bridle legs.

Hooks on overhaul ball assemblies, load blocks, or other attachment assemblies shall be of a type that can be closed and locked, eliminating the hook throat opening. Alternatively, an alloy anchor type shackle with a bolt, nut and retaining pin may be used.

Wire rope, shackles, rings, master links, and other rigging hardware must be capable of supporting, without failure, at least five times the maximum intended load applied or transmitted to that component. Where rotation resistant rope is used, the slings shall be capable of supporting without failure at least ten times the maximum intended load.

All eyes in wire rope slings shall be fabricated with thimbles when required.

Bridles and associated rigging for attaching the personnel platform to the hoist line shall be used only for the platform and the necessary employees, their tools, and the materials necessary to do

their work and shall not be used for any other purpose when not hoisting personnel.

Trial Lift, Inspections, and Proof Testing

A trial lift with the unoccupied personnel platform loaded at least to the anticipated lift weight shall be made from ground level, or any other location where employees will enter the platform to each location at which the personnel platform is to be hoisted and positioned. This trial lift shall be performed immediately prior to placing personnel on the platform. The operator shall determine that all systems, controls, and safety devices are activated and functioning properly; that no interferences exist; and that all configurations necessary to reach those work locations will allow the operator to remain under the 50 percent limit of the hoist's rated capacity. Materials and tools to be used during the actual lift can be loaded in the platform, as provided in paragraphs (g)(4)(iii)(D), and (E) of this section for the trial lift. A single trial lift may be performed at one time for all locations that are to be reached from a single set up position.

The trial lift shall be repeated prior to hoisting employees whenever the crane or derrick is moved and set up in a new location or returned to a previously used location. Additionally, the trial lift shall be repeated when the lift route is changed unless the operator determines that the route change is not significant (i.e., the route change would not affect the safety of hoisted employees.)

After the trial lift, and just prior to hoisting personnel, the platform shall be hoisted a few inches and inspected to ensure that it is secure and properly balanced. Employees shall not be hoisted unless the following conditions are determined to exist:

Hoist ropes shall be free of kinks
Multiple part lines shall not be twisted around each other
The primary attachment shall be centered over the platform
The hoisting system shall be inspected if the load rope is slack to ensure all ropes are properly stated on drums and in sheaves.

A visual inspection of the crane or derrick, rigging, personnel platform, and the crane or derrick base support or ground shall be conducted by a competent person immediately after the trial lift to determine whether the testing has exposed any defect or produced any adverse effect upon any component or structure.

Any defects found during inspections which create a safety hazard shall be corrected before hoisting personnel.

At each job site, prior to hoisting employees on the personnel platform, and after any repair or modification, the platform and rigging shall be proof tested to 125 percent of the platform's rated capacity by holding it in a suspended position for five minutes with the test load evenly distributed on the platform (this may be done concurrently with the trial lift). After proof testing,

a competent person shall inspect the platform and rigging. Any deficiencies found shall be corrected and another proof test shall be conducted. Personnel hoisting shall not be conducted until the proof testing requirements are satisfied.

Work Practices

Employees shall keep all parts of the body inside the platform during raising lowering, and positioning. This provision does not apply to an occupant of the platform performing the duties of a signal person.

Before employees exit or enter a hoisted personnel platform that is not landed, the platform shall be secured to the structure where the work is to be performed, unless securing to the structure creates an unsafe situation.

Tag lines shall be used unless their use creates an unsafe condition.

The crane or derrick operator shall remain at the controls at all times when the crane engine is running, and the platform is occupied.

Hoisting of employees shall be promptly discontinued upon indication of any dangerous weather conditions or other impending danger.

Employees being hoisted shall remain in continuous sight of and in direct communication with the operator or signal person. In those situations where direct visual contact with the operator is not possible, and the use of a signal person would create a greater hazard for the person, direct communication alone such as by radio may be used.

Except over water, employees occupying the personnel platform shall use a full body harness system with lanyard appropriately attached to the lower load block or overhaul ball, or to a structural member within the personnel platform capable of supporting a fall impact for employees using the anchorage. When working over water the requirements of 1926.106 shall apply.

No lifts shall be made on another of the crane's or derrick's load lines while personnel are suspended on a platform.

Traveling

Hoisting of employees while the crane is traveling is prohibited, except for portal, tower, and locomotive cranes, or where the employer demonstrates that there is no less hazardous way to perform the work.

Under any circumstances where a crane would travel while hoisting personnel, the employer shall implement the following procedures to safeguard employees:

Crane travel shall be restricted to a fixed track or runway;
Travel shall be limited to the load radius of the boom used during the lift; and
the boom must be parallel to the direction of travel.

A complete trial run shall be performed to test the route of travel before employees are allowed to occupy the platform. This trial run can be performed at the same time as the trial lift required by this section which tests the route of the lift.

If traveling with a rubber-tired carrier, the condition and air pressure of the tires shall be checked. The chart capacity for lifts on rubber shall be used for application of the 50 percent reduction of rated capacity. Notwithstanding paragraph (g)(5)(I)(E) of this section, outriggers may be partially retracted as necessary for travel.

Pre-lift Meeting

A meeting attended by the crane or derrick operator, signal person (if signal person is necessary for the lift), employee(s) to be lifted, and the person responsible for the task to be performed shall be held to review the appropriate requirements of paragraph (g) of this section and the procedures to be followed.

This meeting shall be held prior to the trial lift at each new work location and shall be repeated for any employees newly assigned to the operation.

CONFINED SPACE ENTRY

Typically, confined space work is not in CAS's scope of work. Controlling Contractor (GC) is responsible for informing and identifying any confined space work areas in the project pre-planning process and prior to start of erection. If confined space work accepted in CAS's scope, owner, 3rd party safety rep. and superintendent will implement and follow the confined space entry program below.

GENERAL
A confined space is any trench, tank, vessel, or similar enclosed area that has a hazardous or potentially hazardous atmosphere, and/or a restricted means of entry and egress, that is entered by Company personnel. A hazardous atmosphere is any atmosphere containing a toxic substance

above the OSHA or ACGIH (American Conference of Governmental Industrial Hygienist) recommended exposure levels, whichever regulations are most stringent. A hazardous atmosphere may also be a combustible gas or an oxygen deficient atmosphere.

Confined space is further defined as any tank, vessel, silo, vault, pit, or open-topped space more than 4 feet deep (except open-topped spaces whose width is greater than the depth) or any other enclosed space that is not designed for routine employee occupancy, and has one or more of the following characteristics:

1. Contains an actual or potentially hazardous atmosphere (i.e., an accumulation of toxic or combustible agents, or an oxygen deficient or oxygen rich atmosphere.)
2. Ready escape is difficult (i.e., prevents egress in a normal walking position).
3. Restricts entry for rescue purposes.

The using of purging and mechanical ventilation should be used prior to entering confined spaces unless conditions prevent it. Ventilation equipment must be hazard classed for the area it will be used in; for example, Class I Division II explosive proof fans may be required if ventilation is used.

Confined space atmospheres must be tested before entry is allowed. The atmosphere must be tested for oxygen content, flammability or explosive atmospheres, and any suspected toxic contaminants such as hydrogen sulfide, carbon monoxide, etc.

In such instances, where entry is required to test the atmosphere, the individual conducting the test shall wear a self-contained breathing apparatus (SCBA) or airline positive pressure respirator with egress bottle. The Respiratory Protection program shall be followed when using respiratory equipment.

All equipment used for atmospheric testing shall be calibrated and operationally checked prior to use according to manufacturer specifications. Only persons trained in the use of testing equipment shall conduct atmospheric testing. The atmospheric tests and operational checks that precede the issuing of a permit should be as close as practical to the time work is to begin and recorded on the entry permit.

Oxygen Content:
The percentage of oxygen for unprotected entry into a confined space shall be no less than 19.5 percent nor greater than 22.5 percent. The oxygen level must be monitored before the flammability test is conducted.

Lower Explosive Limit (LEL):
Entry will not be allowed if LEL is greater than 10 percent.
Direct Reading Instruments for oxygen and LEL are the only units approved for confined space entry.

Portable or fixed DANGER signs must be posted at all point(s) of entry to the confined space which may not be safe for unprotected entry, or where a hazardous atmosphere may accumulate. Signs shall state: Confined Space - Entry by Permit Only.

Work in a confined space will not be allowed until a confined space entry permit is completed and a safety meeting has been held. Permits must have an expiration time. Permits will not be valid for shifts other than the one in which the work started.

A vessel or confined space entry permit (See Form MS 23) must be completed by the company supervisor authorizing entry into the confined space. A copy of the Form shall be retained on file at the main office for at least one year upon completion of the work.

Place the permit in a transparent envelope at the entrance of the confined space during performance of work.

Company personnel authorized to enter a confined space/oxygen deficient atmosphere shall be provided with the proper respiratory equipment and operating instructions.

Those confined spaces that do not require respiratory protection based on the test results shall be continuously monitored with an oxygen meter during performance of work. Continuous monitoring shall also be conducted for toxic and combustible gases which may be released during the work. The area must be evacuated immediately if the oxygen content falls below 19.5 percent by volume, or if 10 percent of the LEL is exceeded.

Proper personal protective equipment (gloves, goggles, hearing protection, etc.) shall be used where applicable. The competent person will assist to ensure the proper protective equipment is utilized.

Standby Person and Rescue

In all cases of confined space entry, an employee(s) shall be posted outside of the entry/exit point in order to handle emergencies. Circumstances may require more than one person posted at different access/entry points.
A written rescue plan shall be maintained and followed. The plan shall include, at a minimum:

1. An assessment of the hazard
2. Personnel required to perform the rescue
3. Precautions to be taken while in the confined space
4. Personal protective equipment to be used
5. Rescue equipment needed
6. Tools or other special equipment needed

Completing the rescue plan section on the permit is sufficient for the written plan requirements.

This plan must be reviewed before the permit is initially issued. It is only necessary to review this plan once on those jobs requiring numerous permits to be issued unless the different personnel are performing the work.

The standby person(s) shall be in constant communication by the most practical and effective means available with the individual(s) in the confined space. The standby person will always have a SCBA and rescue equipment available in the event of an emergency.

Full body harnesses and lifelines will be used by persons first entering a confined space that is suspected to have an atmosphere that is immediately dangerous to life and health. These lines shall be attended by a standby person(s). If the area is determined to be safe for entry through atmospheric testing, then the lifelines are no longer necessary.

The standby person must be aware of his/her responsibilities as a rescue team member and must be trained in CPR and First Aid.

Employee Training

Employees must be trained so they know the relevant aspects of safety regarding confined spaces. Training shall include but not be limited to:

1. Type of confined space to be entered
2. Chemical or physical hazards involved
3. Work practices and techniques
4. Atmospheric testing procedures
5. Personal protective equipment to be used
6. Rescue procedures

All new employees shall be trained prior to confined space entry work. Retraining shall be performed as needed. All training shall be documented and maintained on file.

RESPIRATORY PROTECTION

CAS EMPLOYEES MAY ONLY USE RESPITATORY PROTECTION (INCLUDING DUST MASK) WITH PREAUTHORIZED APPROVAL OF CAS TOP MANAGEMENT.

Due to CAS's scope of work, respiratory protection typically would not be required. In the event Respiratory Protection is required, CAS's owner, 3rd party safety rep. and superintendent will implement and follow the Respiratory Program below.

Purpose

CAS has developed a Respiratory Protection Program to safeguard employees that risk exposure to airborne contaminates, toxic, or oxygen deficient atmospheres. Employees that must work in these types of situations must be familiar with respirators, including selection, proper fit, and maintenance.

Application

All employees engaged in confined space operations, or other duties requiring the use of respirators are required to receive training on respirator use as well as those employees using respirators for general use over extended periods of time.

Selection Guide

When selecting the proper respirator, several elements must be considered. First, respirators shall only be used in emergencies or when engineering controls such as ventilation fail to prevent harmful exposure to employees.

All respirators selected for use must be NIOSH approved.

The nature and extent of the hazard, work requirements and conditions, as well as the limitations and characteristics of the respirators shall be considered when making proper selection of respirators to be used.

If employees wish to use respiratory protection on a voluntary basis when they are not being overexposed to airborne contaminants, they may use filtering facepiece style respirators that will be supplied to them by the company. All employees who wish to voluntarily use these respirators must first read the contents of Appendix D in the OSHA Respiratory Protection Standard (1910.145)

Special Note: The following is only a guide. Refer to ANSI Z88.2-1969 for additional information.

Hazard	**Respirator**
Oxygen Deficiency*	Self-contained breathing apparatus. Hose mask with blower. Combination airline respirator with auxiliary self-contained air supply or an air storage receiver with alarm.
Gas and Vapor Contaminates immediately dangerous to life or health (IDLH). *	Self-contained breathing apparatus. Hose mask with blower. Air purifying, full facepiece respirator with chemical canister (gas mask). Self-rescue mouthpiece respirator (for escape only) Combination airline respirator with auxiliary self-contained air supply or an air storage receiver with alarm.
Not immediately dangerous to life or health	Airline respirator Hose mask without blower *Air purifying, half mask respirator with chemical cartridge and appropriate filter.

Note: For the purpose of this discussion "immediately dangerous to life or health" is defined as a condition that either poses an immediate threat to life and health or an immediate threat of severe exposure to contaminants which are likely to have adverse delayed effect on health.

Other factors to consider when selecting respirators include:

1. Estimated concentration of contaminants at point of use.
2. The PEL (Permissible Exposure Limit) of the contaminant (Information available on MSDS sheets).
3. Is the contaminant gas, vapor, mist, dust, or fume?
4. Is the contaminant flammable? If so, does the concentration of the chemical reach the LEL?
5. Will it irritate the eyes at the exposed concentrations?
6. Can the contaminant be absorbed through the skin?

Answers to these questions must be obtained from SDS sheets for the corresponding chemicals present, and by air monitoring of work areas prior to and during the actual work operation.

The location of the contaminated air in relation to the nearest exit and number of exits from the work area must be taken into consideration.

* Note: For the types of exposures most experienced by CAS personnel, an air-purifying, half mask respirator with chemical cartridge and appropriate filter will be issued. This type of respirator is approved for most gases, vapors, and particulate contaminants that CAS is associated with in their work of this nature.

Should any special situations arise that may require the use of other respirators, such as those for oxygen deficient atmospheres, the Competent Person in charge at the site will requisition them before any operations requiring their use shall begin. Employees will receive additional training on these other types of respirators as needed. Before work in an oxygen deficient or IDLH area, written authorization from a company officer must be obtained for the project and a daily permit must be issued by the corporate Safety Director or his designee.

Training

Training will be carried out at direction of a designated Competent Person prior to use of any respirator.

Those individuals designated to select, and issue respiratory equipment shall be adequately trained in the selection process.

All employees will be trained in the use and care of respiratory equipment prior to first use and as needed thereafter.

Whenever possible, each respirator issued will be permanently assigned to one individual and will be permanently marked indicating the person's name to whom it was assigned. These permanent markings shall be applied in such a way as to not affect the performance of the equipment. The date of issuance will be recorded and kept on file at the main office.

All affected CAS personnel shall be familiar with the safety procedures described herein.

A designated competent person shall make frequent, random inspections to assure that proper selection of respirators, their use, cleanliness, and maintenance is adequate.

For training purposes, supervisors, and employees alike, will be instructed by competent persons. Training will provide the employees with an opportunity to handle the respirator, have it fitted properly, test its face-piece-to-face-seal, and wear it in normal air for a reasonable familiarity period.

Every employee wearing a respirator shall receive fitting instructions including demonstrations and practice in how the respirator should be worn, how to adjust it, and how to determine if it fits properly.

Respirators shall not be worn when conditions prevent a good face seal. Such conditions may be a growth of beard, sideburns, a skull cap that projects under the face piece. or temple pieces on glasses.

The absence of one or both dentures can seriously affect the fit of the facepiece.

Employees will be checked on a regular basis to ensure that they are following proper guidelines for fit testing before each use. Following the specific manufacturer's instructions for facepiece fitting will ensure proper fit.

Maintenance, Cleaning and Storage

Respiratory equipment shall be inspected regularly and maintained in good condition. Gas mask canisters and chemical cartridges shall be replaced as necessary to provide complete protection. Mechanical filters shall be cleaned or replaced as necessary to avoid undue resistance to breathing. A change out schedule is required for special filter cartridges that have no definite end-of-life indication (example: vapor cartridges that do not change color, etc. after they are no longer working). Relying on an employee’s sense of smell, taste, etc. to determine if a cartridge has lost its effectiveness is unacceptable. Manufacturer information may be needed to determine the lifespan of a given cartridge. In any event, no cartridge will be used for more than one week.

Emergency rescue equipment shall be cleaned and disinfected immediately after each use.

Respiratory protective equipment that has been previously used shall be cleaned and disinfected before it is issued to another employee.

The wearer of any respirator shall inspect it daily whenever it is in use.

Respirators not discarded after one shift use, will be cleaned on a daily basis, according to the manufacturer's instructions, by the assigned employee or other person designated by a Competent Person.

Respirators not discarded after one shift use, will be stored in a suitable container away from areas of contamination.

Each area or job site requiring the regular use of respirators will maintain a logbook. Employees not discarding respirators after one shift shall sign this logbook daily in order to document the

issuance, inspection, and maintenance of their respirators.

Emergency Respirator Equipment

Self-contained breathing apparatus (SCBA) may be required in specific areas for emergency use. This equipment will be used only by trained personnel when it is necessary to enter hazardous atmospheres. The following points must be considered:

1. All potential users will be fully trained in the use of this equipment.
2. When the equipment is used, it will be tested in an uncontaminated atmosphere prior to entering the hazardous area, if possible.
3. An employee must not work with this apparatus in a hazardous atmosphere on an individual basis. At least one additional employee suitably equipped with a similar breathing apparatus must be in contact with the first employee and must be available to render assistance.
4. This equipment will be inspected monthly by trained personnel. Inspection and maintenance information will be recorded in a logbook.

Medical

CAS employees who are required to wear respiratory equipment must fill out a medical questionnaire. This questionnaire must be examined by a licensed health care provider who will determine whether the individual is physically fit to wear respirators in their course of work. If the licensed health care provider needs more information about the medical condition of the applicant, they may need to undergo an in-person interview and/or a full respiratory examination. All employees must receive medical clearance from the licensed health care provider before they can be fit tested or required to wear a respirator. Being able to wear a respirator is a condition of employment. Being unable to wear a respirator when required by management, for any reason, is grounds for termination. Employees will be given a leave of absence and may return when their work no longer requires the use of a respirator. Reasonable accommodation may be made to find other work for the employee, including transfer.

Fit Testing

Employees must be fit tested with the specific make, model, brand, size, and style of tight-fitting (seals against the face) respirator that they are required to use. Fit testing determines if any excessive leaks are present in a respirator that could compromise its effectiveness. Fit testing must be completed prior to initial use, whenever a different respirator facepiece (size, style, model, or make) is used, and at least annually thereafter.

There are several types of fit tests that can be carried out to determine proper fit of the respiratory equipment:

Qualitative

Qualitative testing consists of subjecting a respirator wearer to an irritant or odor to see if the respirator has an effective facial seal. A special non-toxic smoke is often used as irritant, while saccharine is often used as an odor agent. This testing can be easily performed in field situations. Qualitative fit testing protocols for each testing agent are outlined in the OSHA standards for respiratory protection (1910.145). CAS will have a competent person conduct fit testing.

Quantitative

Quantitative testing involves placing a respirator wearer into a safe controlled area and taking actual measurements of contaminate exposure to the individual. This is a more accurate determination of fit but is less often used in the field because of the equipment requirements. Generally, CAS will not undertake quantitative fit testing unless the OSHA standards specifically require it, or work is long term (over one year), and full-time respirator use is required for that period.

Fit Checks

All employees who are required to wear respirators must check the seal of its face piece each time it is donned. This fit check procedure ensures that the sealing mechanisms of the respirator are still in proper working condition. Fit checks are not a substitute for the fit testing procedures (either qualitative or quantitative). Employees who have a change in fit, such that they can no longer get a seal as they were trained to do, shall report to their supervisor before any further work in a respirator required area is performed.

Negative Pressure Fit Check

To conduct a negative pressure fit check, place the palms over the openings of the fit check/filter covers (if so equipped) or unscrew the air-purifying elements from the respirator and place the palms over the inhalation connectors, inhale and hold your breath for about five seconds. If the facepiece collapses slightly and no air leaks between the facepiece and the face are detected, a good fit has been obtained. If air leaks are detected, reposition the facepiece on the face and/or readjust the tension of the elastic straps and repeat the pressure check until a tight seal has been obtained. If the cartridges have been removed once a tight facepiece-to-face-seal is obtained, a co-worker must assist the wearer by screwing the air-purifying elements onto the inhalation connectors mounted on the facepiece. This must be done without removing the facepiece from the face. Check to be sure that each air-purifying element is tightly sealed against the facepiece.

Positive Pressure Fit Check

A positive pressure fit test is carried out by covering the opening in the exhalation valve guard with the palm of your hand, and simultaneously exhaling. If the facepiece bulges slightly and no air leaks between the facepiece and the face are detected, a tight fit has been obtained. If air is detected to be leaking out between the facepiece and the face, re-position the facepiece on the face and/or read adjust the tension of the elastic straps to eliminate the leakage. This check must be repeated until a tight seal of the facepiece to the face is obtained.

The positive or negative fit test is to be performed prior to a qualitative or quantitative fit test to indicate a good seal. It is good practice for employees to use this type of test each time they don a respirator. If you cannot obtain a tight seal with your facepiece, try another size until a tight seal is obtained or notify your supervisor.

Program Administrator

CAS will designate a program administrator to implement and manage this respiratory protection program and evaluate its effectiveness. The program evaluations will be performed on a periodic basis and whenever there is a change in workplace conditions that could render the program inadequate.

LOCKOUT / TAGOUT

Purpose

The purpose of this procedure is to prevent the operation of valves, switches, or any piece of equipment when bodily injury or property damage could result from their operation.

Scope

This procedure or its equivalent, is to be utilized by all of CAS employees, subcontractors, or vendors to protect persons from unexpected energy sources for all field or shop operations.

General

Only the standard danger tags reading "DANGER-DO NOT OPERATE" will be used. These tags shall be used only to prohibit operation of mechanical and electrical systems.

Individually keyed locks shall be used with each tag, and the person placing the tag shall retain the key to the lock on his person.

Locks used for this procedure must be identified as such and shall not be used for any other purpose.

All contractor's tags shall be filled out indicating date, name, supervisor, equipment, or system to be locked out, and attached securely to the lock.

No device shall be operated with a tag or lock attached regardless of circumstances.

No person shall remove another's tag or lock unless the lock and tag's owner are off site. If a lock and tag need to be removed, the CAS management representative may remove the tag, or authorize its removal, after ensuring that the employee is not on the job site.

It is the Superintendent's responsibility to ensure that no work is performed beyond the protection of the locks and tags installed.

Locks and/or tags are not a substitute for breaking flanges, placing blanks, draining and otherwise decontaminating equipment or systems.
Each employee must place his own lock and tag prior to working on the equipment or system.
"Multi-lock" devices will be used as needed. Lock boxes approved by CAS may be used in lieu of multi-lock devices.

On complex lockouts, or where many crafts are involved, the other contractor’s superintendent(s) with CAS permission, may jointly place tags and locks on behalf of all involved; unlocking must also be done jointly in such cases.

Lockouts that extend beyond the normal shift requires the approval of CAS.

Lockouts should be explained to every individual involved. A diagram should be used to explain the hazards involved and the lockout procedure. It should cover all the major concepts involved but needs to be simplified as much as practical.

Each Contractor shall maintain a current Lock Out Log, indicating each lock out, blind placed, equipment disconnected, etc.

Blinds, where needed, must be made of compatible material and must be of sufficient strength to withstand the maximum operating pressure of a functional system.

Warning: Any construction employee who operates a valve, switch, device, or piece of equipment to which Danger Tag or lock is attached or removes such tag or lock without authorization will be terminated.

Electrical Systems or Systems with Electrical Components

The Superintendent or designated competent person, shall place the "Danger-Do Not Operate" tags and locks as needed to ensure the system cannot be electrically operated from any source. Then the system is to be tried three times to verify the system is not operable.

Before work on the system commences, a voltage meter shall be used to verify the system is not electrically charged.

Each employee required to work on the system will place his lock and tag behind his supervisor's lock and tag.

The supervisor is not to remove his lock and tag until he is certain all of his workers have stopped working on the system and removed their locks and tags.

If an electrical system cannot be locked out in a manner that positively prevents operation, then the system shall be physically disconnected from the power source by a competent electrician and a "Danger - Do Not Operate" tag securely and conspicuously placed on the feed wire(s).

Mechanical and Process Systems

Contractors will clean, decontaminate, and otherwise prepare the system for isolation. Contractors will place the "DANGER - DO NOT OPERATE" tag(s) to isolate the affected part of the system, make the first break, and install the needed blanks, blinds, and otherwise make the system safe to work on, including both mechanical and electrical components.

Contractor competent person(s) shall verify that the portion of the system intended to be isolated cannot be electrically operated from any source and place their lock and "DANGER - DO NOT OPERATE" tag.

Contractors shall place "DANGER - DO NOT OPERATE" tag on all agitators and similar equipment. This equipment should have the drives disconnected if possible. If that is impossible or impractical, then the leads to the drives shall be disconnected by electricians and tagged with the appropriate "DANGER - DO NOT OPERATE" tag.

Each construction employee required to work on the system shall place their lock and "DANGER - DO NOT OPERATE" tag over their supervisor's lock(s) and tag(s).

Each construction employee's lock(s) and tag(s) shall remain in place until his work is finished and he is no longer exposed to danger caused by system operation. Construction employees, after their work is completed, may remove their lock and tag. Supervisors are not to remove their locks and tags until all of their employees have removed their locks and tags.

Action Required for Extended Lockouts

If CAS approves a lockout that extends beyond the end of a normal working shift, the following measures are to be taken:

Employees performing work that requires their locks and tags remain on an electrical, mechanical, or process system beyond the end of the normal working shift, shall leave the "DANGER - DO NOT OPERATE" tag with the lock in place. This tag and lock shall indicate that the equipment or system is not to be operated even in the absence of the employee(s) who placed the lock(s)/tag(s). Lockouts are not to extend beyond the end of the shift if it can be practically avoided.

An employee's lock and tag can be removed from the system if the CAS competent person on site deems it safe to do so. Verification that the construction employee is not on the project is the responsibility of the competent person.
Note: It must be determined that the system can be safely operated before the locks and tags are to be removed.

It is the responsibility of the person authorizing the removal of an employee's lock and tag to notify the employee of this action immediately upon his return to the Project.

BARRICADE TAPE

Barricade tape will be utilized by CAS and used as a visual warning for employees. Barricade tape does not offer physical protection for floor edges, roof edges, floor openings, etc., and shall not be used for physical protection.

Yellow/black barricade tape shall be utilized to serve as a caution in order to indicate to employees that a potential hazard exists. In most cases, employees may enter this barricaded area after he/she has determined the potential hazard.

Red barricade tape shall be utilized to warn others to Keep out of a restricted area. Barricade signs will be posted on the red barricade area with hazard, company and contact information. Only Authorized personnel may enter this red barricade area.

Warning Tags

The standard red, black, and white tags shall be used that state the following:

DEFECTIVE - DO NOT USE

Warning tags shall be used for the purpose of warning employees of defective tools or equipment that should not be used until repaired.

The standard warning tags are also to be used for the Danger Tag, Lock-out, and Tag Procedure that states the following:

DANGER - DO NOT OPERATE

LIGHT/RESTRICTED DUTY PROGRAM

Definition

Light duty assignments under this policy are specially created temporary modified job assignments for employees injured or otherwise temporarily incapacitated due to job related injuries. Such light duty assignments are temporary assignments only, are not vacant or permanent positions within the CAS work force and are not available to employees on a permanent basis under any circumstances. The availability of such light duty assignments depends on the employee's restrictions and the business needs of the Company. The existence of this light duty policy does not in any way guarantee that light duty will be available at any given time, or for any particular employee who requests it.

Purpose

To provide temporary, modified duty for employees who are partially disabled due to work-related injuries. Every effort feasible will be made to assist the employee to return to his/her former position. We will cooperate with the employee, the physician, therapist and/or any rehabilitation personnel involved in the case.

OBJECTIVES

1) To allow the employee to remain in the work force and resume productive employment as soon as possible in his/her normal classification.
2) To enable the worker to gradually overcome his/her limitations through a transitional period of modified duty, work reconditioning assignments.

Limitations of Modified Light Duty Assignments

The modified light duty assignment ends on the earliest of:

1) The date the Employee is released to his/her regular schedule with no restrictions as evidenced on the "Physician's Release to Return to Work form".
2) The date the Physician determines the Employee has permanent restrictions.
3) The date the Employee fails to take a required medical examination, and/or participate in any physical therapy assigned, without good cause.
4) The date the Employee refuses to participate in an assigned light-duty assignment that has been approved by their physician.

Procedure

The Employee is responsible for having the Physician complete a "Release to Return to Work" form and shall include the probable length of the restrictions and the nature of the restrictions.

Once the completed "Physician's Release to Return to Work" form is received by CAS Human Resources, one of the following 3 things will occur:

Return to Work with Regular Hours and No Restrictions:

- The Employee obtains the completed "Physician's Release form" noting no restrictions and the ability to work his/her regularly scheduled hours and job duties. This form must be presented to the Supervisor and Human Resources immediately upon the Employee's return to work.

Return to Work with Restrictions:

- Restrictions noted by the Physician on the Release Form may be:

    a) Restricted duties (For example, limitations on lifting, walking, stooping, bending, etc.) and/or
    b) Restricted number of hours worked per day or per week, with or without limitations on the duties performed.

- If the Physician releases the Employee to return to work with restrictions, as specified on the "Return to Work" form, the form must be submitted to their Supervisor and Human Resources **prior** to returning to work. At that time, the Supervisor and Management shall review the restrictions and determine if the Employee is eligible for a modified duty assignment based upon the employer's and employee's needs at that time.

- If the Employee is approved for a modified duty assignment by their Supervisor, HR and Management, the Employee must make sure that he/she complies with any/all restrictions outlined in the "Physician's Release to Return to Work" form. If the Employee's restrictions change at any time, he/she must notify his supervisor immediately and give the supervisor a copy of the revised "Release form".

- If a modified duty assignment is not available, a representative from Management will determine what remaining leave benefits are available to the Employee, if any.

Inability to Return to Work:

- If the Employee is unable to return to work for a modified duty assignment right away, as noted on the Release to Return to Work form from the Physician, the employee must notify their Supervisor and Human Resources as soon as possible. The employee may be required to provide periodic updates from his/her Physician every 30 days, in order to retain their status as an employee with CAS.

- While off work, it is the responsibility of the Employee to supply their Supervisor and Human Resources with a current telephone number, email address and a mailing address where the Employee can be reached.

- The Employee will notify their Supervisor and Human Resource as soon as possible of all changes in medical condition.

- It is the **employee's** responsibilities to initiate communication with their supervisor during this time of leave.

Appendix

Appendix A: Misc. Safety Forms

Appendix B: Hazard Communication (GHS) (separate)

Appendix C: Training Program and Training Forms (separate)

A.1 Employee Policy & Procedure Acknowledgement

CAS STEEL ERECTORS, LLC

SAFETY
POLICY AND PROCEDURES

ACKNOWLEDGMENT

I have received an orientation on the attached Company Safety Policies and Procedures, and I agree to abide by them. I have also had the duties of the position which I have accepted explained to me and I understand the requirements of the position. I further certify that I am qualified and capable of performing these duties. I understand that any violation of these policies is reason for disciplinary action up to, and including, termination.

_____ _____

Signature Date

_____ _____

Please PRINT your name Last 4 digits of SS #

A.2 Employee Substance Release Acknowledgement

ACKNOWLEDGMENT OF DRUG TEST POLICY AND TEST RELEASE AUTHORIZATION

I have received an orientation on the attached Company Drug and Alcohol Policy. I understand that the policy includes that the employer has the authority to order drug tests for cause including but not limited to following any accident or any occupational injury I am involved in, or during any treatment for any occupational injury or illness.

My signature below hereby authorizes any medical facility to test my urine and/or breath whenever medically warranted or whenever ordered by my employer, and hereby authorizes any medical facility to release to my employer the test results for any tests for any drugs or alcohol content, including any urine and/or breath test when any such test is conducted in conjunction with any order for tests from my employer, or any treatment for any occupationally related injury or disease. This authorization cannot be rescinded as long as I am employed by this employer.

_____ _____

Signature Date

_____ _____

Please PRINT your name Last 4 digits of SS #

A.3 Safety Violation Notice

CAS Safety Violation Notice

Name:_____
Violation Date: _____

A Safety and Health Survey of your operation has revealed non-compliance of certain safety rules, procedures, programs and/or federal regulations. As a condition of the company's safety policy, you are required to maintain a safe work environment and to prevent unsafe actions of yourself and co-workers.

Violation:

Rule Violated	Violation Description	Corrective Action Required
1.		
2.		
3.		

Corrective Action Required*

1) Cease operations until corrective action is complete
2) Warn personnel and instruct them on proper safety procedures
3) Provide proper equipment necessary
4) Change procedure/work method
5) Initiate and complete corrective action
6) Monetary Fine (If the GC's fine is larger, assign the larger fine to employee)
7) Other (specify above)

Comments:

Disciplinary Action Imposed:

- ○ Verbal Reprimand
- ○ Suspension (From_____to____)
- ○ Written Reprimand
- ○ Termination of Employment
- ○ Monetary Fine

I have read this Safety Violation Notice and Understand it.

_____ ___/___/___
Signature of Employee Date

_____ ___/___/___
Signature of who issued warning Date