



**Building Community
and
Building It Safer**

**CONTRACTOR
SAFE WORK
PRACTICES MANUAL**

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TO: ALL CONTRACTORS

SUBJECT: CONSTRUCTION SAFETY REQUIREMENTS

A. INTRODUCTION

The construction safety requirements shall be considered minimum standards applied to all work performed on JEA Projects and or facilities. All Contractors are required to ensure that they and their employees, Sub-contractors, suppliers, vendors, and visitors, while on the job site, comply with the provisions of this manual. THE PROVISIONS OF THESE REQUIREMENTS SHALL BE STRICTLY ENFORCED. Non-compliance with safety requirements shall be treated the same as non-compliance with any contract item. Any non-compliance will result in work stoppage, employee dismissal and willful or repeated non-compliance will result in Contractor dismissal.

The Federal Occupational Safety and Health Act as well as other federal, state, local and project codes, or regulations promulgated in the interest of safety shall be enforced and defined by the contract.

The Project Safety Requirements are a supplementary document to all governmental rules, codes and regulations, and does not negate, abrogate, alter or otherwise change any provisions of these rules, codes and/or regulations, and is intended to supplement and enforce the individual program of each trade Contractor and to coordinate the overall safety effort. It is understood that the ultimate responsibility for providing a safe place to work rests with each individual trade Contractor.

SAFETY WILL NOT BE SACRIFICED FOR PRODUCTION. Safety will be considered an integral part of quality control, cost reduction, and job efficiency. Every level of management and supervision shall be held accountable for the safety performance demonstrated by the employees under their supervision.

B. STATEMENT OF POLICY

It is the policy of all Contractors and JEA that a safe work place is provided. JEA and all others employed on the project will conduct their work in a safe manner consistent with good construction safety practices in addition to all written requirements.

The JEA shall require all contractors and sub contractors to fully comply with safety requirements, with all federal, state and local laws, statutes, ordinances, rules, regulations, requirements and guidelines of government authorities, agencies and any other authorities having control or responsibilities bearing on the performance of work.

Management and supervision are charged with the responsibility of preventing the occurrence of incidents or conditions that could lead to injuries or illness. The ultimate success of this safety program depends fully upon the total cooperation of every individual employee. It is management's responsibility to ensure that safety rules and procedures are enforced and to further ensure that effective training and education programs are employed. Work will be performed in a safe manner to protect all employees, visitors, the public, and adjacent property.

C. OBJECTIVES

To control the exposures and prevent the failures that cause fatalities, injuries, illnesses, equipment damage and/or fire, damage or destruction of property at the JEA work site.

D. GOALS

Totally eliminate incidents that cause or could cause injuries or illness, achieve zero fatalities, zero permanent disabling injuries, and zero lost work day cases.

- 1.1 PURPOSE AND SCOPE: The purpose and scope of these requirements is to establish, implement and execute a practical, sound and effective program for the prevention of incidents that cause or may cause injuries, as well as the assignment of specific responsibilities to trade Contractors, for program compliance.

These safety requirements have been designed to assist all Contractors, and their supervision, to recognize, evaluate, and subsequently control hazardous activities or conditions within their respective areas of contract responsibility. JEA **will not** assume the responsibility for or relieve any Contractor of their direct responsibility for employee and public safety.

- 1.2 OBJECTIVES: The objective of these requirements is to identify how the program will be administered, identify responsibilities, and ensure control.

1.3 PROGRAM EFFECTIVENESS

The effectiveness of the safety program depends upon the active participation and sincere cooperation of all Contractors and their employees and the coordination of their efforts in carrying out the following basic responsibilities.

- A. Plan all work to eliminate personal injury, property damage, and the loss of productive efforts in accordance with the Safety Task Hazard Analysis Procedure.
- B. Establish and maintain a system for early detection and correction of unsafe practices and conditions by following the example Safety Task Hazard Analysis Procedure contained in these requirements for each work activity.
- C. Provide adequate protection for adjacent public and private properties and to ensure the safety of the public at all times.
- D. Establish and conduct safety education programs designed to gain, stimulate and maintain the interest and active participation of all employees through:
 - 1) Safety meetings and communication.
 - 2) Investigation of incidents that have caused or could cause injuries and potential safety incidents to determine the root cause and the taking of necessary corrective actions.
 - 3) Use of proper work procedures, personal protective equipment and mechanical guards (Safety Task Hazard Analysis.)
 - 4) Safety instruction for individual employees and safety training programs.
 - 5) Maintenance of records of incidents and losses and development of injury/losses experience summaries.

1.4 ADMINISTRATION

All Contractors are responsible for the implementation of the project safety requirements. These requirements will be administered by each Contractor and will include maintaining and auditing individual sub-contractors' safety performance for compliance with all applicable federal, state, local, and established project safety requirements, including, but not limited to, Contractors' individual safety and hazard communication programs. General Contractors are responsible for ensuring all subcontractors are safety pre-qualified by the JEA prior to the resource beginning assigned work.

Sub-contractors are held to the same requirements and standards of safety performance as the general contractor. General Contractors shall ensure that Sub-Contractors are properly trained and work in accordance with this document. Sub-contractors are also subject to work site assessment and training verification.

Daily inspections will be conducted by the Contractors Field Superintendent or designee in conjunction with Contractor safety personnel. When a violation of job safety is observed, the Contractor shall be notified either verbally or in writing and immediate corrective action shall be taken. Contractor safety personnel shall audit their company's safety performance continually throughout the entire workday and during non-scheduled work activities. The Contractor shall perform at a minimum, one documented Self Audit (Safety Assessment) monthly. A copy of this audit shall be provided to the JEA Project Manager and retained within the project history file.

Daily inspections shall be conducted by all Contractors' field superintendents in conjunction with sub-contractors' site supervision. When unsafe acts, conditions or fire hazards are noted, immediate corrective action shall be taken. Where immediate corrective action cannot be obtained, the Contractor shall be notified verbally and in writing of the unsafe act or condition and the Contractor will be required to correct the situation and notify the Contractors Designated Safety Representative of action taken in writing before the end of that work day. Failure to correct a problem shall result in the immediate stopping of all work in the related area and work shall not be permitted to resume until unsafe conditions are corrected.

Under the terms and conditions of the contract documents, each Contractor is required to administer their own activities and those of their Sub-Contractors. Each Contractor and Sub-Contractor is responsible for the safety of their employees. Each Contractor will be required to submit JEA's Pre-qualification packet and a copy of their company safety/hazard communication program. The Contractor's safety program will be equal to or better than the JEA Contractor Safety Requirements. Where the programs differ, the JEA master project safety guideline will be the governing factor. Prior to commencement of work at the site, the Contractor, his safety supervisor, and Sub-Contractor(s) for the project shall attend a pre-construction safety conference with the JEA Project Manager Team and JEA CSMP Program Administrator or designee. The purpose of the meeting shall be to review procedures, forms, record keeping, reports, etc. and to clarify any misunderstandings about project safety.

1.5 DUTIES AND RESPONSIBILITIES

A. Project Director

Has the responsibility for insuring that all participants in the construction activities adhere to the contents of this program in the performance of their work.

1) Project Executive

The Project Executive has full responsibility for the implementation and execution of the project safety program.

2) Project Manager

The project manager has full responsibility for the implementation and execution of the project safety program in all areas under his control.

3) Project Superintendents

All Project Superintendents are responsible for the implementation of the safety program for all areas under his control. He is responsible for the administration and coordination of the following activities:

- Establish with his line supervisors a clear understanding of each member's responsibilities and specific duties.
- Make a thorough review of all incident investigations and initiate corrective action.
- Hold one formal safety meeting each week with his line supervisors.
- Review weekly the safety performance and take action as may be necessary within his area of responsibility.
- In the event of a fatal or disabling injury, assist in conducting an investigation according to the prescribed requirements.
- Maintain effective and prompt line of communications of safety matters through all levels of supervision.
- Monitor Contractors required weekly safety meetings with their employees.

4) Assistant Superintendent, Area Superintendent, Supervisor and/or Foreman

The assistant superintendent, area superintendent and/or foreman are responsible for the safety performance in his assigned area. He is responsible for administration of the following:

- Enforce all phases of the established safety program, as well as special controls issued by the Project Superintendents, and is responsible for obtaining results.
- Communicate safety information to his Contractors and alerts them daily on potential dangers that may develop from their daily operations.
- Install a workable housekeeping program. Assign definite duties to individual Contractors. Perform daily checks of work areas. Make weekly housekeeping inspections (accompanied by a Contractor supervisor). Keep records of conditions found and corrective actions taken.
- Ensure that Contractors are requiring all employees to make proper use of personal protective equipment such as safety lines, goggles, clothing, ventilation equipment, etc.
- Make spot checks covering housekeeping, unsafe acts, unsafe conditions, condition of equipment, and observance of safety rules.
- Maintain an effective line of communication of safety matters to all workers.
- Instill in all personnel, by action, example and training a sincere attitude toward safety; develops a better understanding of efficiency in accident prevention/loss control.
- Assist with developing and communicating safe job procedures for unusual

or hazardous operations.

- Enforces compliance with federal, state, city, other agencies', and this safety manual's requirements.
- Performs a monthly documented safety audit.
- Perform daily Safety Task Assessment (STA). See Chapter 13
- Provide CSMP Program Administrator or designee, the names and last four numbers of the Social Security Number for each employee working on a JEA Project. This list shall be provided at the start of a project and maintained thereafter for the duration of the project.
- Verify with the CSMP Program Administrator or designee that all new employees to a project are eligible to work on JEA projects.

5) Contractor Designated Safety Representative

- Serves as a technical advisor to project management on safety, health planning, training and problem resolution.
- Applies recognized policies, procedures and work practices to promote the companies project safety and health program and administers assigned functions to aid in this overall responsibility.
- Administers the Project Safety Program.
- Administers and coordinates, as necessary, medical and emergency first aid services and programs.
- Monitors compliance with mandatory safety and health laws, standards, and codes.
- Tests the work environment and documents the results in order to eliminate or control hazards that could contribute to, or result in, an occupational illness.
- Foster and maintain a good relationship with government and local safety, health, and fire prevention officers.
- Investigates injuries, conditions, and incidents that do or could involve actual or potential liability; maintains adequate records of pertinent data, and compiles the required reports of individual job occupational injury and illness experience.
- Monitors compliance with established pollution control, noise and environmental protection standards and regulations.
- Assists project management in the inspection of equipment, facilities, and work in progress.
- In conjunction with project controls and construction engineering, develops and initiates specific safety and health procedures in order to translate policies and regulations into effective work practices.
- Administers and coordinates the project security program.
- Plans and utilizes promotional material to further safety and health education among job craft and supervisory personnel; conducts safety class and/or first aid instruction for supervisors and craft personnel.
- Promulgate safety standards during the course of construction as deemed necessary, in the interest of safety.
- Conduct new Contractors pre-construction safety orientation prior to their performing work.

- In the interest of safety and for the protection of all employees, the Contractor Designated Safety Representative will render any tool, piece of equipment, or materials that creates or could create a hazard to employees, inoperable as he deems necessary.
- Administer and coordinate the Contractors substance abuse prevention program.
- Administer disciplinary action as may be appropriate to insure compliance with all identified safety requirements.

B. Contractor

Contractor management, line supervisors, and safety personnel shall have the same duties and responsibilities to those described above. All Contractors shall have a designated qualified safety person on site at all times, this includes overtime work, scheduled and non-scheduled off hour work, and Subcontractor coverage.

The Contractor's responsibility cannot be delegated to Subcontractors, suppliers, or other persons.

Each Contractor is required to employ a qualified safety person knowledgeable in safety, health, and fire prevention. Their designated safety representative shall be responsible for the performance of safety, health, and fire prevention services under the direct supervision of the Contractor's Field Superintendent. There shall be no deviation from this requirement.

NOTE: "Qualified" shall be defined as *one who is trained in and familiar with all Federal, State and or any other regulatory agency/organization safety and health requirements. This person shall be capable of identifying existing and predictable hazards in the work environment related to unsanitary, hazardous, or dangerous conditions to employees, and who is authorized to take prompt corrective measures to eliminate them.*

- 1) Contractor's shall be required, in accordance with OSHA regulations and contract inclusions, to comply immediately with all safety directives verbal or written.

WHEN A CONTRACTOR FAILS TO IMMEDIATELY CORRECT UNSAFE ACTS OR CONDITIONS, THE OWNER OR HIS DESIGNEE WILL UNDERTAKE CORRECTIVE ACTIONS AND DEDUCT THE COST OF THE CORRECTIONS FROM THE RESPONSIBLE CONTRACTOR'S PROGRESS PAYMENT.

- Willful or repeated violations, or lack of cooperation with regard to these procedures shall be cause for termination of contract.
- Should an eminent danger condition be discovered, all work in the area will be stopped until corrections are effected.
- It is imperative that employees at every level comply with the provisions and directives of the safety program at all times.
- Violations by employees of a Contractor or any tier to that Contractor will indicate non-compliance with provisions of these requirements that are included in the contract and will be reason for immediate removal from site.
- Submit a history of experience and qualifications of the person who will manage the Contractor's safety functions on site. Once approved by JEA CSMP Program Administrator, the Contractor safety personnel shall not be

changed or removed from that position except upon approval of the same approving authority.

- The Contractor shall furnish all information on the safety of his operations on the JEA Project Manager as may be specified.
- Each Contractor shall indoctrinate his employees as to the safety, health and fire prevention requirements for the work he is to perform and enforce adherence to all safe work practices and procedures.

- 3) The Contractor shall be required to maintain on a continuing basis a safety training program designed for employees and will be responsible for any expense incurred as a result. This program will include, but not be limited to:

For Each Employee -

- a. The hazards present in their work assignment, and surrounding area.
- b. Personnel protective requirements that will be needed.
- c. Proper procedure for reporting unsafe job conditions.
- d. Contractor is responsible for planning and execution of all work in harmony with the stated objectives of the project safety requirements.
- e. Contractor is responsible for insuring that immediate action is taken to eliminate all unsafe acts and/or conditions. If Contractor delays or refuses immediate corrective actions, JEA or its representative will take the following steps:

Immediately:

1. Cease the operation.
2. Stop payment for the work being performed.
3. Correct the situation and back charge the responsible Contractor for expenses incurred.
4. Permanently remove the responsible manager or supervisor from the project.

- 4) The Contractor's safety representative will continuously evaluate safety throughout the workday of all work areas and take immediate corrective action to eliminate all unsafe acts and/or conditions. Report these observations to the Contractor Field Superintendent on a daily basis.
- 5) Conduct weekly "toolbox" safety meetings.
- 6) Assist in incident investigations involving injuries, property damage, fire or near misses and preparation of required reports.
- 7) Attend safety meetings as required.
- 8) Provide and enforce the use of personnel protective equipment required by federal, state, local and project rules and regulations.
- 9) Complete supervisory incident investigation report for all incidents.
- 10) Supply and require the proper use of the appropriate tools for the job.

- 11) Ensure full compliance with the hazard communications program as outlined by OSHA and these requirements.
- 12) Any Contractor's/Sub-Contractor's manager, supervisor or other person in charge of the work, who requires, condones, coerces, directs, asks, or allows employees to work in/or around unsafe acts or conditions shall be immediately and permanently removed from the project.
- 13) JEA or the Contractors Safety Representative shall at their discretion, for any reason of clarification/corrective measures/or training, conduct an immediate meeting with Contractor's Sub-Contractors, suppliers and any project employees when deemed necessary.
- 14) Each Contractor, at time of mobilization, shall deliver to the JEA Project Manger a complete list of the Contractor/Sub-Contractor supervisors with the complete after hours telephone numbers. The list shall be kept current, and shall be updated accordingly.
- 15) Each Contractor shall ensure that his field trailers and his Sub-Contractor's field trailers are anchored in at least eight locations.
- 16) Each Contractor shall secure material on a continuous basis that may become air borne during high winds.
- 17) Crawler and mobile cranes shall have booms lowered or secured at the end of each work day or upon direction from JEA. Cranes not capable of lowering booms shall not be permitted to weather-vane or free-swing. Check to ensure that swinging booms will not contact other objects, i.e., power lines, structures, etc.

C. Employees

- 1) No employee shall be required or knowingly be permitted to work in an unsafe environment except for the purpose of making safety corrections and then only after all precautions have been taken for their protection.
- 2) Each employee is responsible for learning and abiding by those rules and regulations that are applicable to their work and for reporting observed, or anticipated hazards to their immediate supervisor. If the hazard is not corrected, the affected employee will refuse to perform this work and will report the conditions to the Contractors Designated Safety Representative.

1.6 Insurance Carrier

Prior to the Contractor or any Sub-Contractor working on or providing services for the project they will be required to complete the "Contractor Insurance Information Forms." Failure to do so shall cause start delays, no Contractor / Sub-Contractor's employee will be allowed on site prior to these form's being received.

1.7 Reporting Injuries

All employees must report all injuries, no matter how slight. When an employees is injured, the contractor shall see that they report promptly for first-aid medical treatment. Each employee shall know where to go and what to do in the event of an injury.

1.8 Incident Reports

All incidents resulting in first-aid treatment and/or medical treatment to employees or property damage shall be reported to the Contractors Safety Representative immediately, who will submit a Contractor Incident Report form within 24 hours. This report shall be signed by the Contractor Supervisor, JEA Project Manager and a copy forwarded to the JEA CSMP Program Administrator within the prescribed allotted time. A copy of the report shall be maintained by the JEA Project Manger within the project history file. Filling out of incident reports carefully and completely will help defining the cause of the incident and help in preventing similar occurrences in the future.

1.9 Reservation of Rights

JEA reserves the right to interpret, change, revise or depart from any/all policies and procedures at any time without notice. JEA further reserves the right to promulgate safety standards during the course of construction as may be deemed necessary in the interest of safety, at no additional cost to JEA. Nothing in this safety manual alters an employer's or employee's status or infringes on the rights upon any employee or Contractor.

Employees remain free to resign their employment at any time, for any reason, without notice; and as may be limited by law. JEA and all Contractors retain the right to remove any employee at any time, for any reason, and without notice.

CHAPTER 2

EMERGENCY ACTION AND MEDICAL PROCEDURES

2.1 PURPOSE AND SCOPE: The purpose of this procedure is to establish the requirements, responsibilities and methods for notification and response to emergency conditions.

2.2 SCOPE: This procedure applies to all personnel on JEA property, including Contractors/Sub-Contractors and visitors.

2.3 EXPLANATIONS:

- A. **CALL LIST:** The approved list of individuals appointed to be the designated coordinator of emergency response for each Contractor/Sub-Contractor. These are people designated as persons who know their employee's whereabouts.
- B. **CONTRACTORS EMERGENCY RESPONSE COORDINATOR (C.E.R.C.):** Contractor's Senior Person or his designee .
- C. **NOTIFICATION:** Notification of an emergency will be made to all Contractors' Emergency Response Coordinator by JEA's Project Manager or designee. This will initiate the Contractors emergency response procedure.
 - JEA'S C.E.R.C. will notify all groups on site via the "Call List" and relay appropriate instructions.
 - All Contractors' Supervisors having custody of the site after normal working hours, weekends or holiday operations, will be aware of all work and employee locations to ensure proper notification in case of emergency.
- D. **ALL CLEAR:** When the emergency situation is over, the C.E.R.C will notify all Contractors/Sub-Contractors per "Call List".

2.4 GENERAL PROCEDURES

The Contractor shall be responsible to activate site specific emergency plans when notified of an emergency condition. Efforts should be coordinated with JEA Project Management when work is performed at a JEA fixed facility where established emergency plans define appropriate action for specific conditions.

2.4.1 INCIDENTS INVOLVING SERIOUS INJURY OR DEATH

- A. Provide immediate, necessary first aid and then notify the Contractor Supervisor.
- B. Site personnel may provide assistance in the rescue of personnel if the appropriate type and level of training has been provided and documented.
- C. Make no comments to media representatives. Refer all inquiries to JEA.
- D. No on-site photographs are to be taken except with the approval of JEA.
- E. The responsible Contractor will make a full investigation and will file a Contractor Incident Form Report with the JEA Project Manager within 24 hours of the occurrence.

The JEA Project Manager will forward the completed form to the JEA CSMP Program Administrator.

- F. Within the immediate area of an incident scene nothing is to be disturbed or removed, after proper evacuation of the injured employee, without the permission of the JEA Project Manager.

2.4.2 FIRE

- A. Make a safe attempt to extinguish. Do not endanger your life. At the same time, notify the Contractor Supervisor who will inform the Contractor Safety Representative.
 - 1) If it is deemed by the person on the scene that the fire cannot be extinguished by site personnel, they will state in their message to the Contractor Supervisor, when reporting the emergency, that assistance is needed.
 - 2) Call 911 and then the JEA Project Manager.
- B. For JEA fixed facilities with JEA Security, they will meet the Fire Company at the site entrance to direct them to the fire location.
- C. All non-essential employees will be kept away from the fire.
- D. If explosive-type materials are involved, or other hazards may exist, it is the responsibility of all Contractor Supervisors, or Contractor Safety Representatives to ensure that all affected personnel are immediately evacuated to their assigned assembly location. Such information shall be immediately provided to the JEA Project Manager.
- E. Once evacuation is complete, each Contractor and Sub-Contractor will account for EVERY employee to the C.E.R.C. If an employee is found to be missing, this information will immediately be passed along to the Contractor Supervisor and JEA Project Manager. Efforts to locate the missing employee will be undertaken following the contractors Emergency Plan Procedures for the project or following the appropriate JEA Procedures for that JEA fixed facility.
- F. The Contractor responsible or affected will make a full investigation of the incident and file a written report. A Contractor Incident Report shall be submitted within 24 hours of the incidents occurrence to the JEA Project Manager. A copy of this report shall be forwarded to the JEA CSMP Program Administrator.

2.4.3 PROPERTY DAMAGE

- A. Notify Contractors Project Supervisor and the JEA Project Manager immediately.
- B. The Contractors Project Supervisor will protect against further damage where possible.
- C. Keep all non-essential employees back and/or away from the area.
- D. Make no comments to Media representatives. Refer all inquiries to JEA.
- E. No on-site photographs are to be taken except with the approval of JEA.
- F. Make a full investigation and file a written Property Damage Report and Contractor Incident Report Form with the JEA Project Manager within 24 hours of the occurrence. The JEA Project Manager will forward the completed form to the JEA CSMP Program Administrator.

2.4.4 SEVERE WEATHER

When notified by a responsible agency or party of a tornado watch, or other severe weather, the Contractor Project Supervisor shall notify the Call List contacts of the watch condition.

A. The following actions will be taken during the watch condition:

- 1) All loose material or materials that can become displaced will be secured.
- 2) All crane operators will be notified to be prepared to lower booms at a moment's notice.
- 3) All employees will be notified of escape routes and evacuation locations.

NOTE: It is recommended that the Call List contact person for all groups maintain contact with Contractors Project Supervisor or his designee in the event that conditions escalate to the warning state.

Upon notification of a tornado or other severe weather warnings, the Contractors Project Supervisor or his designee will immediately notify the Call List contacts for each group to take the appropriate actions.

B. The contact persons for each group, Contractor/Sub-Contractor will, upon notification, notify all of their employees of the weather warning:

- 1) Operators to lower crane booms without delay.
- 2) All site personnel will immediately seek shelter in assigned/designated locations.

NOTE: Preferably in the basement or lower levels of buildings. If this is not possible, shelter should be sought in the center of the buildings or near the strongest supported section of a building and or structure.

C. If a tornado or other severe weather has hit the site, the following actions are to be taken when conditions permit:

- 1) Establish communication between Contractors Project Supervisor or his designee, JEA Project Manager and all groups as appropriate.
- 2) If possible, contact the appropriate off-site agencies for assistance.
- 3) All members of Contractors and JEA Project Management Team will meet when conditions permit to establish and direct the appropriate actions to start site recovery.

2.4.5 BOMB THREAT

When a bomb threat is received, the site will be evacuated to designated assembly areas immediately as may be defined by project procedures.

The Contractor will immediately Call 911 and report the incident. Once emergency services have been contacted the Contractor will contact the JEA Project Manager to advise of condition.

Personnel will be evacuated at the direction of the Contractors Project Supervisor as defined by the project Emergency Plan Procedures. All personnel shall be accounted for. If an employee is found to be missing, this information will immediately be passed along to the Contractor Supervisor and JEA Project Manager. Efforts to locate the missing employee will be undertaken following the contractors Emergency Plan Procedures for the project or following the appropriate

JEA Procedures for that JEA fixed facility.

Make no comments to media representatives. Refer all inquiries to JEA.

If repeated threats occur within a short period of time, JEA will evaluate the situation and take appropriate action. This action may include the shutting down of the project for the remainder of the day.

A Contractor Incident Report Form shall be completed and submitted by the Contractors Project Supervisor to the JEA Project Manager within 24 hours of the occurrence. The JEA Project Manager will forward the completed form to the JEA CSMP Program.

2.4.6 EVACUATION

When an evacuation is required, all personnel should immediately react following the defined Contractors Emergency Plan Procedures or those of the JEA where such procedures are in place, e.g. JEA fixed facilities. When such action is directed, the Contractors Project Supervisor shall immediately contact the JEA Project Manger to inform them of the condition.

2.4.7 FIRST AID PROCEDURES

It is the policy of all Contractors and JEA to provide for first aid, medical and to ensure emergency transportation is provided for employees who sustain occupational injuries or illnesses.

A. Transportation of Injured or Ill Employees

1) Routine transportation of employees to the approved medical provider

Each Contractor shall provide transportation from the job site to the specified doctor's office or clinic. A vehicle will be available at all times during work hours to meet this need.

2) Emergency transportation

The proper handling of seriously injured or ill employees at the job site and their prompt dispatch to the hospital will, to a great extent, minimize confusion and offset the negative reaction which often occurs after a serious incident has taken place.

The Contractors Project Superintendent will determine the best method of providing emergency transportation from the job site.

The need for an ambulance or other emergency equipment shall be determined by the site Contractors Project Supervisor.

The contractor shall submit a completed Contractor Incident Report Form to the JEA Project Manager within 24 hours of the occurrence. The JEA Project Manager will forward the completed form to the JEA CSMP Program Administrator.

2.4.8 MEDICAL COVERAGE

A. Each Contractor shall ensure that a person trained in CPR, first aid, and bloodborne pathogens is on site at all times work is being performed.

CHAPTER 3 ORIENTATION AND TRAINING

- 3.1 PURPOSE AND SCOPE: To establish and implement basic training and instruction activities which all Contractors/Sub-Contractors are required to perform while working on the project.
- 3.2 OBJECTIVES: To ensure that all personnel are properly trained in hazard recognition, and are informed of their individual responsibilities in carrying out their assignments in efficient and incident-free manner and to assist Contractors in complying with the specific requirements of the Occupational Safety and Health Act, as well as State and Local safety requirements and the contents of these requirements.
- 3.3 RECORDS AND MINUTES: Records and minutes of safety meetings are mandatory. Lack of recording and prompt, proper distribution shall indicate non-compliance with project requirements. A list of attendees will always be part of these records and minutes.
- 3.4 BASIC ELEMENTS: Attention must be afforded the following basic areas of instruction and safety communication:
- Orientation
 - Safety Task Assessment Process
 - Hazard Recognition
 - Meetings
 - Personal Contact
 - Specific Instruction
 - Promotional Material
- 3.5 PROCEDURES: The Contractors Project Safety Representative will assist in carrying out these responsibilities.
- 3.5.1 Orientation: Newly employed promoted, and/or transferred personnel shall be fully instructed in the safety practices required by their assignments. All employees will receive orientation prior to starting work, which will include JEA's Construction Site Safety Orientation as provided by the Northeast Florida Safety Council or other approved training resource. In addition, all employees will receive a Site Specific Orientation for any JEA facility they will be assigned to work at. Visitors will be required to receive the same Site Specific Orientation prior to leaving the office areas or be escorted while on the site. For projects that do not take place on a JEA facility, employees will receive initial instructions which will include discussion of the site's basic safety regulations.
- A. Safety Orientation: The safety orientation requirements for each employee classification are:

- 1) **Vendor:** Any vendor that is listed or approved by JEA CSMP Program Administrator, can enter the project without having a safety orientation.
- 2) **Visitor:** Visitors shall attend a site hazard awareness orientation or be escorted by an approved JEA or Contractor's representative.
- 3) **Workers:** Workers shall have successfully completed the NCCER eight (8) hour safety orientation or an approved OSHA Part 1926 Construction Standards ten (10) hour Voluntary Outreach program before starting work on a JEA project site. The NCCER program entitled Construction Site Safety Orientation, is offered through the Northeast Florida Safety Council.

***Any worker claiming an OSHA ten (10) hour course exemption as described above shall also successfully complete a two (2) hour JEA Operation Specific Safety Orientation provided by the NE FL Safety Council. The two-hour JEA orientation is included in the eight (8) hour NCCER orientation. Documentation shall be provided to the JEA CSMP Program Administrator prior to beginning work.**
- 4) **Supervisors:** Supervisors shall have successfully completed a worker level orientation as defined above, have a current (within 24 months) certification in CPR/First Aid, and an eight (8) hour JEA approved Supervisor Safety Leadership course.

B. **Site Specific Training Where Required:** All Contractors will attend a project specific safety orientation on site before work begins. The Contractor will then be responsible for training their personnel in these site specific safety requirements. These requirements may change as project conditions change or as deemed necessary by the JEA Safety and Health Services.

Any OSHA or other regulatory required training that applies to the work being done is the responsibility of the Contractor and must have been completed before work begins. This includes 29 CFR 1910.269 (work in electric power generation, control, transformation, transmission, distribution lines and equipment) and 29 CFR 1926.957 (Construction in energized substations).

C. JEA Substation Safety/Access Training shall be required if work is to be performed within any JEA Substation.

D. **Documentation:** Proof of training must be available and presented to JEA before the worker begins work for the first time and on demand if requested.

E. **Resources and Contacts:** A list of community training resources including NCCER sponsored training units is available from JEA CSMP Program Administrator at (904) 665-4225.

F. Any expense associated with the complying with CSMP training requirements shall be the responsibility of the Contractor and or Sub-Contractor.

3.5.2 **Work Assignment:** All work assignments, regardless of the level of activity will include specific attention to safety, per the Safety Task Assignment Process.

3.5.3 **Meetings:** Regular scheduled safety meetings will be held for all personnel.

A. **Contractors' Meetings** - Accident prevention will have a prominent place on the agenda

and the record of these meetings will reflect the specific items discussed.

- B. Tool Box Training Meetings - Each supervisor will hold a safety training meeting in their work area with their entire crew. These meetings, "toolbox meetings," are to be held at least once per week. Subject matter will cover specific safety procedures pertinent to the crew's activity for the coming week. The meeting provides an opportunity to point out any hazardous conditions, or unsafe work practices that have been noticed. In addition safety rules and regulations safe working procedures, analysis of accidents and potential hazards will be discussed.

Meetings shall be documented and such be provided on request by the JEA.

- C. Special Meetings - JEA may call such special safety meetings as deemed necessary. Attendees will be notified verbally or in writing. Attendance will be mandatory. Failure to attend will result in immediate contractual action. JEA may, for any reason of clarification, corrective measure or training, conduct an immediate safety meeting with Contractor supervisors and employees. Attendance will be mandatory.

3.5.4 Personal Contacts - All levels of supervision shall make a specific effort to continually call to the attention of individuals under their direction, pertinent safety items relative to the work at hand. This personalized "on-the-spot" instruction is an extremely valuable training technique, as well as a continuing indication of management's commitment to project safety.

3.5.5 Specific Instruction - Each Contractor is required to provide regular and continuing training for their employees. Such training shall be carried out at no expense to the JEA. They will also monitor the training activities of Sub-Contractors under their direction. The following areas of training are required by OSHA. Each Contractor shall instruct their employees in:

- A. The recognition and avoidance of unsafe conditions and acts, regulations applicable to their work environment, the safe handling and use of poisons, caustics and other harmful substances when the employee is exposed to or required to handle or use them.
- B. Employees exposed to harmful plants or animals shall be instructed regarding the potential dangers, how to avoid injury and the first-aid procedure to be used in the event of injury.
- C. The employee shall also be made aware of the potential hazards, personal hygiene and personal protective measures required.
- D. Employees required to handle or use flammable gases, liquids or toxic materials shall be instructed in the safe handling and use of these materials.
- E. Employees required to enter confined or enclosed spaces shall be instructed as to the nature of the hazards involved, the necessary precautions to be taken, and the use of protective and emergency equipment required.
- F. All employees are to be trained in the recognition, selection, and appropriate use of portable fire extinguishers.
- G. Employees who are exposed to harmful dusts, mists, vapors or gases shall be trained in the selection, care, use and maintenance of respirators. Should such condition warrant the use of this PPE, the Contractor shall be responsible to ensure an approved Respirator Protection Program is in place.

- H. Employees used as flagmen shall be trained as to the method and manner of proper flagging. The training must be documented. Selection of proper clothing and equipment will be part of the training as defined by the State of FL DOT and JEA CSMP.
- I. Employees required to use powder-actuated tools are to be trained and certified on use, maintenance, and repair by an authorized training agency. The training must be documented.
- J. Employees that direct cranes, helicopters, backhoes, etc. shall be trained in the proper method of giving signals. The training must be documented.

3.5.6 Promotional Material

In addition to the required posting of safety requirements of OSHA 29 CFR Part 1926 Construction Industry, additional safety promotional material shall be posted monthly.

A. Bulletin Board

Each Contractor shall provide a bulletin board near the site office complex for the purpose of posting required OSHA information, Contractor safety information and posters. The bulletin board shall meet the following specification:

- 1) The bulletin board shall be mounted at a height that permits ease of reading.
- 2) Shall have a minimum horizontal dimension of six feet, and a minimum vertical dimension of four feet.
- 3) Shall have secured Plexiglas covers.
- 4) Shall be weatherproof.

CHAPTER 4

REQUIRED PERMITS AND CERTIFICATIONS

The Contractor is required to provide specific certifications and maintain required permits as listed below:

- 4.1 Scaffold Erection Permit: This permit is required when erecting any type of scaffolding, for any purpose, and for any duration of time.
- 4.2 Crane: Annual Certification Required.
ALL CRANES AND/OR CABLE (WIRE ROPE) RIGGED HOISTING EQUIPMENT SHALL HAVE A CURRENT ANNUAL INSPECTION BY AN ACCREDITED AGENCY, PRIOR TO WORKING ON ANY JEA SITE OR PROJECT AND SHALL MAINTAIN A CURRENT ANNUAL INSPECTION FOR THE DURATION OF WORK. AN ACCREDITED AGENCY SHALL BE DEFINED AS A THIRD PARTY WHICH IS RECOGNIZED BY THE DEPARTMENT OF LABOR/ OCCUPATIONAL SAFETY AND HEALTH ORGANIZATION.
- 4.3 Powder-Actuated Tool Operator: Each powder-actuated tool operator will be certified in accordance with OSHA requirements. The certification shall be made available for review to the Project Designated Safety Representative upon request.
- 4.4 Required Employer Respirator Procedures: Where applicable, the Contractor shall provide a written standard operating procedure governing the selection and use of respirators (written Respirator Program that meets OSHA Standards.)
- 4.5 Excavation Permits: An excavation permit maybe required at your job site. Check with your JEA Project Manager. Compliance with local, state and federal laws is mandatory at all times for any excavation, digging, trenching, drilling or blasting operation. This permit is to be issued prior to any work. The permit, if required, will be issued by the Project Designated Safety Representative or designee. Don't forget to call the Sunshine State One-Call of Florida (1-800-432-4770) two days prior to excavating outside JEA fixed facilities. Coordinate excavations inside any JEA fixed facilities with JEA Project Manager. Additional details for excavations are provided in Chapter 6, Section M of this manual.
- 4.6 Hot Work Permit: This permit is required within all JEA fixed facilities for all burning, welding, soldering, etc. operations that are capable of producing a flame or spark source. This permit will be issued daily by JEA Project Manager or its designee when required for each and every flame or spark source (i.e., each cutting outfit, every welder, etc.). The Hot Work permit will only be issued after each flame or spark source has been checked to ensure personal protective equipment is available, the proper type of fire extinguisher is dedicated and within easy reach of individual performing the work requiring the Hot Work permit, and that proper procedures are planned.
- 4.7 Confined Space Entry Permit: This permit is required prior to entry into a confined space. ALL CONFINED SPACE ARE TO BE CONSIDERED PERMIT-ENTRY ONLY. This permit will be issued daily after it has been demonstrated that all personnel have been trained and adequate personal protective equipment, lifelines, standby, fire extinguishers, ventilation, emergency

rescue equipment, etc. are in place and ready for immediate use. Contractors requiring entry will provide monitoring equipment.

- 4.8 Crane-Suspended Personnel Platform Permit: This permit is required prior to using a crane for lifting personnel where a suspended platform will be used. This permit will be issued when it is determined by the Contractor Project Safety Representative that the use of the platform is the only feasible method of accomplishing the task. The safety checklist included with the permit will be utilized prior to hoisting personnel.
- 4.9 Crane-Heavy Lift Permit: This permit is required prior to using a crane for any lift that exceeds 75% of the crane's rated capacity for the crane configuration or when the lift will require two or more cranes.

CHAPTER 5 INSPECTION AND AUDITING

- 5.1 **PURPOSE AND SCOPE:** To establish an inspection/audit program for the elimination of unsafe practices by employees and to establish a hazard free work environment for all employees.
- 5.2 **OBJECTIVES:** To reaffirm the Contractor's responsibility for the actions of the employees as originally assigned under the General Provision of the Occupational Safety and Health Act of 1970 (revised). The exercise of these responsibilities by all project Contractors will be the effective deterrent to accidents arising from unsafe practices and physical conditions, that will materially enhance the construction efficiency of a project.
- 5.3 **PROCEDURES:** Control will be achieved only when each Contractor fulfills their contractual and statutory responsibilities and when practical steps to maintain safe and healthful work practices and conditions are implemented.
- 5.3.1 **Project Controls:** Continued evaluation of the performance of the Contractor and their supervision under this section will be accomplished by all Contractors. Contractors shall be notified of unsafe practices observed.
- 5.3.2 **Supervisory Control:** Each Contractor shall be responsible for conducting continuous daily monitoring of their operations to ensure they are aware of the probable sources of potential injury or loss due to unsafe acts or conditions.
- 5.3.3 **Planning:** Contractors shall extensively plan the procedures to be followed for each operation. Personnel chosen to perform any such planned operation shall be thoroughly trained in all aspects of the procedure, including emergency actions, to be taken in the event of a mishap.
- 5.3.4 **Safety Inspections and Assessments:** In addition to inspections conducted by the Contractor Project Safety Representative, all Contractor's On Site Management Staff, Regional and Corporate Safety Managers, Insurance Representative, and each Contractor's construction activities are subject to periodic inspection by JEA or OSHA Compliance Officers.

Contractors shall forward copies of any and all inspection reports and/or citations received by the Contractor from OSHA or other sources to the JEA Project Manager and JEA CSMP Program Administrator. All information will remain confidential. In the event an OSHA Compliance Officer visits a site, the JEA Project Manager will be immediately contacted who will contact the JEA CSMP Program Administrator. The JEA will provide support as may be appropriate.

The Contractor Safety Assessment Program provides a quantitative measure of job site conditions and compliance with JEA policy and requirements. The assessment form can be viewed by going to the JEA Contractor Information web page at jea.com/business/services/contractor/safety.asp. At this site a link to the form is provided within the section entitled Forms and Permits. A copy of the Observation/Action Item Form which

listed identified defects, will be left with the Contractor's Project Supervisor at the conclusion of every assessment. Discrepancies will be followed up with a certified letter to the Contractor's Ranking Designated Safety Representative.

- 5.3.5 Notification of Hazards: Each Contractor shall notify the JEA Project Manager in writing of the existence of any hazardous conditions, property, or equipment at the work site which are not under the Contractor's control. It is the Contractor's responsibility to take all necessary precautions against injury until corrected by the responsible party.

- 5.3.6 Equipment and Facilities: All Contractors operations, equipment and facilities shall be used, inspected, and maintained as directed by these requirements and/or as dictated by the applicable Federal, State and Local safety and health regulations. In the event of conflict, the more stringent requirement will take precedence.

CHAPTER 6

SPECIFIC SAFETY REQUIREMENTS

6.1 PURPOSE AND SCOPE: To establish procedures to be observed by all Contractors, Sub Contractors, their personnel, and vendors.

These standards are not to be considered as “all inclusive.” Where any portion of these standards are less stringent than any applicable Federal, State or Local statutory safety regulations, the statutory regulation takes precedence. Where JEA Contractor Safety Requirements are more stringent than Federal, State or Local Regulations the JEA shall take precedence.

6.2 OBJECTIVES: To further the effective prevention of accidents and ensure Contractor / Sub-Contractor compliance with the requirements of the Federal Occupational Safety and Health Regulations. Contractor observance of these specific project procedure standards, as well as OSHA requirements, is a requirement of the terms and conditions of the contract.

6.3 PROCEDURES

- A. Housekeeping
- B. Electrical
- C. Lockout/Tag-Out Procedures
- D. Small Tools
- E. Welding, Cutting and Burning
- F. Personnel Protection
- G. Ladders
- H. Scaffolding
- I. Concrete and Concrete Forms
- J. Floor and Wall Openings
- K. Fall Protection Requirement
- L. Steel Erection
- M. Excavation and Trenching
- N. Personal Protective Equipment (PPE)
- O. Fire Prevention and Protection
- P. Cranes, Heavy Lifts, and Rigging
- Q. Environmental
- R. Motor Vehicles and Heavy Equipment
- S. Protection of Employees and The Public
- T. Roadway Work Safety
- U. Lead
- V. Asbestos Handling Procedures
- W. Heat Stress
- X. Radiation Control
- Y. Barricade Tape Program

A. Housekeeping

- 1) Work areas, storage areas, passageways, and stairs, in and around the buildings and structures, shall be kept clear of debris. Construction materials shall be stored in an orderly manner. Storage areas and walkways on the site shall be maintained free of dangerous depressions, obstructions, and debris. Construction equipment shall be stored or placed in an orderly manner, segregated and neat.
- 2) The entire site shall be cleaned daily and debris disposed of in dumpsters, or off site, in accordance with EPA and other regulatory agencies.
- 3) Failure to maintain daily housekeeping and clean-up will result in contractual action by JEA.

B. Electrical

- 1) All temporary and permanent electrical work, installation, and wire capacities shall conform to the National Electrical Code, all applicable Federal, State, and local codes, and the JEA Contractor Safety Requirements.
- 2) Only qualified electricians, familiar with code requirements, shall be allowed to perform electrical work. No work will be performed on an energized electrical circuit by anyone regardless of experience.
- 3) No employee shall be permitted to work on or close to unprotected electrical power circuit unless the employee is protected against electrical shock by de-energizing the circuit (lock out and tagging) and grounding it, protecting the individual by effective insulation.
- 4) All switches shall be enclosed and grounded. Panel boards shall have provisions for closing and locking the main switch and fuse box compartment.
- 5) Extension cords used with portable electric tools and appliances shall be heavy duty (no less than 12 gauge conductors), of the three wire grounding type, and shall conform to the type and other configurations required by the OSHA standards. All cords shall be inspected at least quarterly and the activity documented. Such records shall be made available on request to the JEA.

NO FLAT ELECTRICAL CORDS WILL BE ALLOWED ON SITE.

- 6) Suitable means shall be provided for identifying all electrical equipment and circuits, especially when two or more voltages are used on the same job. All circuits shall be marked for the voltage and the area of service they provide.
- 7) Electrical equipment or machinery shall be de-energized and rendered inoperative by the electrician locking out supply switches prior to performing work. The only exception is when power is required for the initial checking out of circuits and equipment for start-up.
- 8) **Prior to work beginning, all affected power sources shall be tested to verify a de-energized and safe to work condition exists.**
- 9) Electrical cords and trailing cables shall be covered, or elevated at least 8 feet above work areas or otherwise protected from damage which could create a hazard to employees or other persons in the area. The means used for covering will not create a tripping hazard
- 9) **All temporary electrical tools and cords shall be properly protected by a ground fault circuit interrupter throughout all phases of construction and applied at the source of power.**
- 10) The use of extension cords shall be as limited as possible.
- 11) OSHA regulations governing the operation of heavy equipment in proximity to high-voltage power lines are very specific. Specific care shall be taken when the potential exists for equipment operation and or personnel are with defined approach distances for rated line capacity. **A minimum distance of 20 feet shall be maintained from all Transmission and 10 feet from all Distribution Lines.**
- 12) Even though all Temporary Power will be supplied with Ground Fault Interrupters, each Contractor will perform assured Electrical Grounding Testing of all electrical cord and plug connected equipment on a quarterly basis and shall make available such documentation on request by the JEA.
- 13) **TEMPORARY LIGHTING - string lighting shall be caged and of the molded type consisting of manufactured fixed lengths. Contractor assembled multiple conductors or romex stringers will not be acceptable.**
- 14) Damaged electrical cords will be repaired with heat shrink material only. Electrical tape

repairs are prohibited. All such repairs shall be performed by a qualified Electrician.

- 15) All Electrical cords will be suspended by non-conductive materials.

C. "Lock-Out" - "Tag-Out" Clearance Procedure

When work is performed at a JEA fixed facility and or site, the Contractor will coordinate hazardous energy isolation with the JEA Project Manager in accordance with JEA LO/TO Procedures. At all other JEA Projects/Sites, the Contractor will apply all necessary precaution in accordance with OSHA Standards to ensure isolation and control of hazardous energy.

Warning

Any person who attempts to operate a valve or switch to which a lock and "Danger" tags are attached or removes or attempts to remove a lock or isolation tag without authorization will be removed from the site immediately.

D. Small Tools

1) Power, Air, Powder-Actuated, and Hand Tools

- a. Power tools shall not be used if safety equipment, such as shields, tools rests, hoods, and guards have been removed or otherwise rendered inoperative.
- b. Employees using tools under conditions that expose them to the hazards of flying objects or harmful dusts shall be provided with the required personal protective equipment.
- c. All electrically powered tools shall be properly grounded. Outlets used for 110-volt tools shall be protected by ground fault circuit interruption devices throughout all phases of construction.
- d. Gasoline powered tools shall not be used in unventilated areas. Gasoline and other flammable liquids shall be dispensed only from U.L. approved safety cans clearly labeled to identify their contents.
- e. Portable grinders will be provided with hood type guards with side enclosures that cover the spindle and at least 50% of the wheel. All wheels will be inspected regularly for signs of fracture.
- f. Bench grinders shall be equipped with deflector shields and side cover guards. Tool rests shall have a maximum clearance of 1/8 inch from the wheel.
- g. Hoses supplying pneumatic tools shall have couplings secured to prevent accidental disconnection.
- h. Air-supply lines will be protected from damage, inspected regularly and maintained in good condition.
- i. Air sources supplying hoses exceeding 1/2 inch ID shall be protected by excess flow valves to prevent "whipping" in the event of hose separation or failure.
- j. The pressure of compressed air used for cleaning purposes will be reduced to 30 psi or less (does not apply for cleaning of forms, etc.) Six-foot hose extensions with controls for the operator will always be used.

2) Powder-Actuated Tools

Even if permitted by authorities having jurisdiction, powder-actuated fasteners shall not be used in the work place except if approved in writing by JEA. In those cases where such approval is requested, the Contractor shall submit an affidavit from the Contractor's insurance company certifying that the use of powder-actuated fasteners is under the liability provisions of the insurance policy and under the specific circumstances of this project. In addition, the Contractor shall submit an affidavit certifying that the type and utilization of said powder-actuated fasteners shall be in accordance with all applicable law.

- a. Only employees who have furnished evidence of having been trained shall be allowed to operate a powder-actuated tool. Additional eye protection shall be worn by all personnel exposed to the use of this type of tool.
- b. Tools shall not be loaded until immediately before use. Loaded tools shall not be left unattended.
- c. Tools shall not be used in an explosive or flammable atmosphere. Cartridges (powder source) shall be kept separated from all other material.

- d. Powder-actuated tools used on a project shall meet all applicable requirements of ANSI-A10.3-1970.
 - e. Warning signs will be posted throughout the area warning of the use of powder-actuated tools.
- 3) Procedure:
- a. All powder-actuated tools shall be of the low velocity cushioned pistol grip piston type design.
 - b. Loads, studs, nails, etc. used in powder-actuated tools shall be specifically approved by the manufacturer for use in that tool.
 - c. Powder-actuated tools shall be so designed that discharging the powering load can only be accomplished when the barrel of the tool is firmly depressed against the working surface.
 - d. All powder-actuated tools shall be U.L. and F.M. listed.
 - e. Powder-actuated, piston drive tools shall be so designed that the pistons always remain captive within the tool.

4) Conditions of Use:

In addition to the above requirements the following conditions shall govern.

- a. No persons shall operate a powder-actuated tool until they have satisfactorily completed the manufacturer's sponsored training for the particular powder-actuated tool.
- b. Powder-actuated tools shall not be used in areas where hazardous accumulations of ignitable dust, gases, liquids, etc. could possibly be present or collect until the area has been proven free from such hazards with appropriate instrumentation.
- c. No loads, studs, nails, etc. shall be used in powder-actuated tools for any purpose other than those specifically recommended by the manufacturer.
- d. Ear muffs, plugs, or some other equally substantial hearing protection shall be worn by each person within the confines of any enclosed area up to 50 feet from the point of discharge and 25 feet in open outdoor locations.
- e. Goggles, face shields, or some other equally substantial eye protection, in addition to safety glasses, shall be worn by each person within 25 feet of the point of discharge.
- f. Persons not directly involved with the operation of powder-actuated tools shall not remain within the areas defined in D and E of paragraph 4 above unless granted specific written permission by all Contractors and all applicable provisions of this procedure regarding personal protective equipment have been met.
- g. Powder-actuated tools shall not be left unattended unless all loads, studs, nails, etc. have been removed from the tool.
- h. All misfired loads shall be disposed of immediately and safely in a manner specifically approved by JEA.
- i. All loads except while in actual use shall be stored in a location and manner specifically approved for the purpose by JEA.

5) Maintenance

- a. All maintenance work on powder-actuated tools shall be performed by competent and qualified technicians.
- b. Maintenance shall be performed as stipulated by the manufacturer's literature.
- c. All parts used in maintenance or repair of powder-actuated tools shall be exact replacement parts only.

E. Welding, Cutting and Burning

No welding, burning, cutting or other spark or flame producing operation shall be permitted until a Hot Work Permit has been issued by the JEA Project Manager or their designee for work inside JEA fixed facilities. A JEA Hot Work Permit is required for each welding and/or cutting operation.

For those work site areas outside of a JEA facility where a Hot Work Permit is not required, the following process shall be applied.

- a. The Contractor Superintendent, Supervisor or Foreman shall be responsible to ensure a Fire Safe Area is established for a 35 feet radius surrounding the location of hot work activity.
 - b. Prior to hot work beginning, the Contractor Superintendent, Supervisor or Foreman shall inspect the work and adjacent areas, verify that required safety measures are in place to prevent a fire.
 - c. Prior to beginning hot work activities, a meeting to review hazards and relative safety measures will be conducted to insure the understanding of all employees. This action shall be documented on the STA form for that day's activities.
 - d. A fully charged and operable fire extinguisher appropriate for the potential types of fires will be immediately available at the designated work site before hot work is started.
 - e. At the conclusion of hot work activities, the Contractor Superintendent, Supervisor or Foreman shall conduct a final inspection of the work area to insure no conditions exist which present the potential for a fire.
- 1) A suitable cylinder truck with chain shall be used to keep cylinders from being knocked over while in use. An acceptable wrench shall be installed on each cylinder truck.
 - 2) Cylinders of oxygen shall not be stored close to cylinder of acetylene or other fuel gas. They shall be separated by a minimum of 20 feet or by a noncombustible barrier with at least a two (2) hour fire rating.
 - 3) Oxygen cylinders, cylinder valves, couplings, regulators, hose, and apparatus shall be kept free from oil and grease. "Oil and grease in the presence of oxygen under pressure may ignite violently." Employees shall be prohibited from handling oxygen cylinders or apparatus with oily hands or gloves.
 - 4) Cylinders in storage shall be kept away from sources of heat and shall be protected against the direct rays of the sun.
 - 5) Empty cylinders shall have their valves closed. Valve protection caps shall always be in place except where cylinders are in use or connected for use. Regulators and hoses will be removed at the end of each work shift.
 - 6) When moving cylinders by a crane or derrick, a cradle, boat, or suitable platform shall be used. Slings, hooks, or electric magnets shall not be used. Valve protection caps shall always be in place.
 - 7) Compressed gas cylinders--Empty or Full--shall be secured in an upright position at all times except, if necessary, for short periods of time while cylinders are actually being hoisted or carried. Empty cylinders shall be marked EMPTY. If a cylinder is not equipped with a valve wheel, a key will be kept on the valve stem while in use.
 - 8) All hoses and accessories shall be inspected quarterly by a competent person and daily by the operator for leaks, worn places, and loose connections. All hoses shall be elevated at least 8 feet above the work area to provide the safe passage of workers and equipment.

- 9) Approved flash arrestors shall be provided in both oxygen and acetylene hoses at the regulator connection.
- 10) Compressed gas cylinders and accessories shall not be taken into or stored in closed or confined areas.
- 11) Compressed gas cylinders will not be stored inside of any structure - this includes gang boxes, storage trailers and similar closed spaces.
- 12) Compressed gas cylinders will be stored only in properly construction storage racks. The racks will be constructed of rugged nonflammable materials.
- 13) Welding current return circuits or grounds shall carry current without hot or sparking contacts and without passage of current through equipment or structures which might be damaged or made unsafe by the welding current or its voltage. Specifically, welding current must not be allowed to pass through any of the following materials:
 - a. Acetylene, fuel gas, oxygen or other compressed gas cylinders or accessories.
 - b. Tanks or containers used for gasoline, oil or other flammable or combustible material.
 - c. Pipes carrying compressed air, steam, gases or flammable or combustible liquids.
 - d. Conduits carrying electrical conductors.
 - e. Chains, wire ropes, metal hand railings or ladders, machines, shafts, bearings, or weighing scales.
- 14) All arc welding and cutting operations shall be shielded by noncombustible or flame-proof screens.
- 15) The ground for the welding circuit shall be mechanically strong and electrically adequate for the service required.
- 16) Electrode and ground cables shall be elevated at least 8 feet above the work area and supported to prevent obstructions from interfering with the safe passage of workers and equipment.
- 17) Where it is necessary to couple, or uncouple, several lengths of cable for use as a welding circuit, insulated cable connectors shall be used on both the ground line and the electrode holder line.
- 18) An electrode holder (Stinger) of adequate rated current capacity insulated to protect the operator against possible shock, and to prevent a short or flash when laid on grounded material, shall be used.
- 19) Cables with worn or damaged insulation may not be used.
- 20) All connection lugs on welding machines will be insulated.
- 21) Protective measures for welders and helpers are:
 - a. Combination hard-hats - Welding helmets shall be worn while welding. No soft caps allowed.
 - b. For overhead work, fire-resistant Hard Hats and shoulder covers will be worn.
 - c. Clothing will be free of oil, grease, and other flammable material. Collars and cuffs will be buttoned and pant cuffs shall be turned inside pants. Pockets should be covered with flaps and buttoned or eliminated from the front of vests, shirts, and aprons.
 - d. Gloves will be worn to protect the welder/helper.
 - e. Welder helper will be protected with proper eye protection in addition to safety

glasses.

- f. Workers engaged in oxy-acetylene welding wear a welding helmet and safety goggles equipped with suitable filter lenses. Dark safety glasses are not acceptable. Workers engaged in oxy-acetylene cutting shall wear a welding helmet or face shield equipped with suitable filter lenses.
- g. Workers engaged in electric arc welding will use shields equipped with suitable filter lenses that will fit on hard hat.
- h. Eye protection in the form of approved safety glasses or goggles shall be worn under the hood.
- i. Face shields or goggles will be worn along with approved safety glasses during grinding operations.
- j. No welding, burning, or open flame work shall be performed on any staging suspended by means of fiber or synthetic rope.
- k. At a minimum, a 5lb. ABC fire extinguisher provided by the Contractor shall be placed within easy reach of welding, burning and cutting operations. In some locations, a fire watch will be required to stand by with an extinguisher.
- l. Either general mechanical or local exhaust ventilation, meeting applicable regulations, shall be provided whenever welding, cutting, or heating is performed in a confined or enclosed space or any area needing ventilation.

F. Tree Trimming

When tree trimming, tree felling, brush loading or brush disposal are underway near an area accessible to the public, the proper cones, barricades and other warning devices shall be used to protect vehicular and pedestrian traffic.

Trimming near energized conductors:

- 1) Before any employee performs tree trimming, a close inspection shall be made to determine whether an electric conductor passes within 10 ft of the tree.
- 2) Wires in proximity to tree trimming shall be deemed energized unless proven to be dead and grounded by JEA.
- 3) Only qualified electrical workers shall perform tree trimming if parts of the tree passes within the minimum approach distance. Minimum approach distance shall be defined as 20 feet from all Transmission and 10 feet from all Distribution Lines.
- 4) Tree trimming work shall terminate and employees shall seek safe shelter during an electrical storm or high winds or other unusual weather conditions that are dangerous to employees.
- 5) Employees shall not remove tree limbs or branches from energized conductors while other employees are working below conductors on the same span.
- 6) Broken or fallen wires shall not be handled except by qualified electrical workers
- 7) Tree limbs shall not be dropped on energized or de-energized conductors.
- 8) Ropes shall not be thrown over conductors or other equipment for the purpose of support during tree trimming operations.

G. Ladders

1) Manufactured Ladders

Manufactured ladders and their use shall comply with OSHA, latest ANSI standard, manufacturer recommendations, and the following safety guidelines.

- a. Ladders with broken or missing rungs, broken or split side rails, or otherwise damaged, shall not be used, and shall be destroyed.
- b. All portable ladders shall be equipped with non-skid safety feet and shall be placed on a stable base. The access areas at the top and bottom of ladders shall be kept clear at all times. All ladder way openings shall be guarded with a removable guard-rail.
- c. Metal or other metallic ladders shall not be used around energized equipment/systems. It is recommended that fiberglass ladders be used whenever possible.
- d. The six (6) foot 100% fall protection procedure shall apply when working from all ladders. All ladders shall be secured with a rope or other substantial device. Ladders being used on a JEA project will be considered work platforms.
- e. Wood ladders shall not be painted except for identification marking and such markings should not obscure defects. Such marking shall not be conductive.
- f. Ladder steps shall be maintained free of lines, ropes, hoses, wires, cables, oil, grease, and other debris. Objects shall not be left on ladders other than the rope or other device used to secure the ladder against displacement.
- g. Ladders shall be maintained and used in accordance with OSHA, latest ANSI standard, manufacturer's specifications and this procedure.
- h. Single portable ladders over thirty feet (30') in length shall not be used. If greater heights are to be reached, separate ladders will be used with intermediate landing platforms.
- i. Side rails shall extend 36 inches above the landings. When this is not practical, grab rails shall be installed. All ladders in use shall be tied, blocked, or otherwise secured to prevent displacement.
- j. The use of ladders in the following manner is prohibited:
 - Working from a ladder that is not secured or being held in place
 - Standing on the top two steps, or top of the ladders
 - Working from a ladder with one foot on the ladder and the other on another object
 - Sitting on the top of ladders
 - Pushing or pulling materials while working from a ladder
 - Using a ladder set up on a scaffold platform or materials.
 - Climbing or working from the back of ladders
 - Two people on the same ladder
 - Using a step ladder while in a collapsed and or unlocked condition
 - Working backwards from ladders
 - Standing straddle of the top of the ladder except "A" frame or special manufactured ladders.
 - Working from either a step or extension ladder with out maintaining 3 points of

contact. Where this may occur, a full body harness with shock absorbent lanyard and substantial tie off point shall be applied

- Placed in any configuration to resemble a scaffold. (Ladder jacks with walk boards or combination of ladders with walk boards.)
- Boxes, chairs, etc. shall not be used as a ladder.

2) Job Made Ladders

- a. Job made ladders shall be fabricated in accordance with OSHA requirements.
- b. All rules in these requirements applying to the use of manufactured ladders also apply to the use of job made ladders.
- c. If a ladder is to provide the only means of access or exit from a working area for 25 or more employees, or simultaneous two-way traffic, a double cleat ladder shall be installed.

3) Ladder Training Requirements

- a. The Contractor shall provide a training program for each employee using ladders and stairways. The program shall enable each employee to recognize hazards related to ladders and stairways, and shall train each employee in the procedures to be followed to minimize these hazards.
- b. The Contractor shall ensure that each employee has been trained by a competent person in the following areas:
 - The nature of fall hazards in the work area.
 - The correct procedures for erecting, maintaining, and disassembling the fall protection systems.
 - The proper construction, use, placement, and care in handling of all stairways and ladders.
 - The maximum intended load-carrying capacities of ladders.
 - All rules applying to ladders contained within these requirements.
- c. Refresher training shall be provided for each employee so that the employee maintains the required understanding and knowledge.

4) Ladder inspection will be performed on a **quarterly** basis, and **documented**. Such documentation shall be made available upon the request of the JEA.

5) Extension ladders shall not be separated and used as two separate ladders but maintained as one single complete system.

H. Scaffolding

Inadequate scaffolding is responsible for many construction incidents. Scaffolds shall be designed, built, and inspected by competent persons. To avoid the use of makeshift platforms, each application will be carefully planned to ensure that scaffolding is used where required and that such scaffolding conforms to the applicable scaffolding erection requirements.

- 1) Lean-to scaffolds and makeshift platforms are prohibited.
- 2) Scaffolds shall not be used for the storage of material except material for immediate use. Materials will only be placed over cross members.
- 3) All scaffolds shall be adequately designed to carry, without failure, four (4) times the maximum intended load. At no time shall scaffold be overloaded.
- 4) All scaffolds shall be maintained in safe condition and scaffolds damaged or weakened, from any cause, shall be immediately replaced.
- 5) Scaffolding or staging more than six (6) feet above the ground or floor, suspended from an overhead support, or erected with stationary supports, and mobile scaffolds shall have standard guardrails and toe boards properly attached.
- 6) Guardrails shall be two inches by four inches (2" x 4") or the equivalent, approximately 42 inches high with mid rail. Supports shall be at intervals not to exceed eight feet (8'). Toe boards shall be a minimum of four inches (4") in height. Planking shall be cleated or otherwise secured to prevent displacement. All platforms will be the complete width of the scaffold being erected. Scaffolds shall be braced and tied off both horizontally and vertically at intervals specified in the pertinent regulations.
- 7) Scaffolding with any dimension of less than 45 inches will be equipped with outriggers, and guarded with standard railing.
- 8) Mobile scaffolding will be equipped with outriggers, all caster will be locked, mobile scaffolding will be guarded with standard railing regardless of height. Also, no mobile scaffolding will be constructed or used where there is a change of elevation in the floor level.

No employee will be transported or moved on a mobile scaffold.

- 9) The 6' Foot Fall Protection Requirements will be followed without exception:
 - While erecting, dismantling or altering scaffolding
 - On scaffolding not meeting guarding requirements
- 10) The wording “**accepted practices**” in the industry of not using fall protection while erecting, dismantling or altering scaffolding is not recognized by the JEA.
- 11) All scaffolding shall be equipped with a ladder for access to the work platform and all work platform guarding will be equipped with a self-closing gate to ensure easy and safe entry onto the work platform.
- 12) All employees will be trained in the use of scaffolding in accordance with OSHA, the manufacturer, the Scaffold Association and this guideline's rules, regulations, and requirements.

13) **Scaffold Tagging**

Each scaffold shall be erected under the supervision of a competent person, and a tag/permit will be completed and attached to each scaffold prior to its use. Only competent persons are to fill out and attach permits. Scaffold erectors shall be properly trained in erection and dismantling of the specified type scaffold being utilized.

14) Scaffold Inspection

Scaffold and scaffold components shall be inspected for visible defects by a competent person each work shift and after any occurrence which could affect a scaffolds structural integrity.

I. Concrete, Concrete Forms, and Pre-Cast

All equipment and materials used in concrete construction and masonry work shall meet the applicable requirements as prescribed in ANSI-A10.9-1970 "Safety Requirements for Concrete Construction and Masonry Work".

- 1) Employees working more than 6 feet above unguarded adjacent working surface, while placing reinforcing steel setting or dismantling forms, etc. will use a full body harness with two shock absorbent lanyards with double locking hooks. 100% tie-off/fall protection practices will be followed above 6 feet; also while climbing vertically and moving horizontally on rebar and forms.
- 2) Employees shall not be permitted to work above vertically protruding reinforcing steel unless such steel has been protected to eliminate the hazard.
 - a. Rebar caps will be placed on all rebar that is less than 6 feet high when employees are required to work around it.
 - b. Rebar that must be passed over or be worked above will be covered with at least 2-inch thick material.
- 3) The riding of concrete buckets for any purpose shall be prohibited. Working crews shall be kept out from under swinging and suspended concrete buckets.
- 4) Reinforcing mats used as a walkway shall be covered with plywood to afford safe footing.
- 5) Workmen involved in sandblasting shall wear Bureau of Mines approved supplied air respirators and hoods.
- 6) Concrete workers will be required to wear the appropriate shirts, boots, and gloves to eliminate the danger of burns.
- 7) All personnel involved in concrete placement who are subject to splatter will be required to wear goggles over their safety glasses.
- 8) All lumber and materials shall be clear of nails and wire. Excess materials shall be removed from the immediate work area, segregated and store properly.

J. Floor and Wall Openings

All conditions shall be controlled where there is a danger of employees or materials falling through floor or roof openings, holes or where there is a danger of employees or materials falling through wall openings or from the floor or roof perimeter edges. Specific attention is to be paid to this section of the program. The requirements are the **ABSOLUTE MINIMUMS**.

Guarding and/or covers shall only be removed after other means of approved fall protection are in place. Employees installing and/or removing guarding and/or covers shall be protected by alternative fall protection throughout the entire process. The Contractor responsible for the removal of guarding/covers is responsible for its replacement.

The perimeter protection and floor and wall opening protection is to be maintained at all times. Notification of violations that are not rectified immediately shall result in removal of supervisor responsible for the activity. Further violation may result in more severe contractual action.

THE PERIMETER, FLOOR, AND WALL OPENING PROTECTION WILL INCLUDE THE INSTALLATION OF ORANGE 4' HIGH VERTICAL DEBRIS NETS ALONG WITH PERIMETER, FLOOR AND WALL OPENING FALL PROTECTION.

VERTICAL DEBRIS NETS ARE REQUIRED IN LIEU OF TOE BOARDS AND IS A PART OF THE GUARDING SYSTEM AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

The phrase “**leading edge**” as some times used in decking practices and the phrase “**accepted practice**” in the construction industry as sometimes used in the erection of scaffolding are not recognized by the JEA.

No employee, regardless of position, craft, or job assignment, shall be allowed in an area which could expose that person to a fall unless required fall protection procedures are followed.

- 1) A STANDARD RAILING SHALL CONSIST OF A TOP RAIL, INTERMEDIATE (MIDRAIL) RAIL, 4' HIGH VERTICAL DEBRIS NETS AND POSTS.
 - a. The top rail shall be approximately 42 inches from the upper surface of the rail to the floor, platform, or ramp level. The top rail shall be 1/2" wire rope with at least 3 J-type fist grip wire rope clamps at each connection. All connections will be made with eyes and thimbles and turn buckler installed every 100 feet.
 - b. The mid rail shall be halfway between the top rail and the floor, runway, platform, or ramp. The mid rail shall be 1/2" wire rope with 3 J-type fist grip wire rope clamps at each connection. All connections will be made with eyes and thimbles and turn buckler installed every 100 feet.
 - c. The toe board, 4-inch minimum height, shall be securely fastened in place and have not more than 1/4 inch gap between it and the floor level where vertical debris nets can not be installed. This determination will be made by the Project Designated Safety Representative.
- 2) Other types, sizes, and arrangements of railing construction are acceptable only by written approval from the Project Designated Safety Representative.
- 3) Stair Railings - A stair railing shall be constructed similar to a standard railing, but the vertical height shall not be more than 36 inches, nor less than 34 inches, from the top rail to the surface tread in line with the face of the riser at the forward edge of the riser. All hand rails shall be provided with a minimum clearance of 3 inches between the hand rail and any other surface or object.
- 4) Covered Floor Openings

Floor opening covers shall be capable of supporting the maximum intended load and so installed as to prevent accidental displacement. Covers shall be distinctively labeled with a stencil (Floor Opening Below) with fluorescent paint and anchored. All floor openings more than 3 feet square shall be protected by a cover and standard railing with vertical 4 feet high debris nets.

- 5) During construction, stairs shall be provided on all structures that are two or more floors or more than 20 feet in height. Prior to the installation of permanent stairways, temporary stairs will be provided as access. Ladder access to all elevated platforms and upper levels will be held to a minimum and only used until temporary stairways are provided. Ladder way openings will be guarded.
 - a. Permanent stairway placement will follow other construction activities.
 - b. All parts of stairways shall be free of hazardous projections. Debris and other loose material shall not be allowed to accumulate on stairways. No materials will be stored or left under stairways.
 - c. Permanent steel stairways having hollow pan type treads and landings that are to be used prior to concrete placement, shall have the pans filled with solid material to the level of the nosing.
 - d. Temporary stairs shall have a landing not less than 30 inches wide, in the direction of travel, for every 12 feet of vertical rise. Wooden treads for temporary service shall be full width.
 - e. Riser height and tread width shall be uniform throughout any flight of stairs.
- 6) Runways and Openings
 - a. Wall openings, from which there is a drop of more than 3 feet shall be guarded. Any means of access with a change of elevation exceeding 19 inches will be provided with intermediate steps.
 - b. Runways shall be guarded by a standard railing, or the equivalent on all open sides 19 inches or more above the floor or ground level. Whenever tools, machine parts, or materials are likely to be used on the runway, a toe board shall also be provided on each exposed side.
 - c. Regardless of height, open-side floors, walkways, platforms, or runways above or adjacent to dangerous equipment and similar hazards, shall be guarded with a standard railing and 4 feet high debris net.

K. Fall Protection Requirement

Full body safety harnesses, shock absorbent lanyards and double locking hooks shall be provided by the Contractor and shall be used by all employees. The Fall Protection requirement is six feet (72") for all work performed - NO EXCEPTIONS. At no time shall any employee be exposed to the potential of a fall exceeding six feet (6') without using required fall protection. Appropriate work platforms, with required guardrails or the use of exterior and interior safety nets at each floor level, which remove such fall exposures shall be considered adequate substitutes.

Full body safety harnesses, shock absorbent lanyards with double locking hooks, as well as lifelines, regardless of configuration, are to be inspected quarterly by the employer. Said inspection is to be documented and shall be made available to the JEA on request. A sample copy of this inspection form is attached for use and information.

Each Contractor will furnish with their bid a detailed written description of how they and their Sub-Contractor(s) will comply with the 6-foot fall protection requirements for the protection of all of their employees throughout all phases of their work. Within this plan, the Contractor shall define how rescue of a worker that has sustained a fall will be carried out.

L. Steel Erection

1) Permanent Flooring

Permanent floors shall be installed as soon as practical following the erection of structural members. At no time shall there be more than two floors, or 24 feet, of unfinished bolting or welding above the foundation or uppermost secured floor.

2) Temporary Flooring

- a. The erection floor shall be solidly planked over its entire surface except for access openings. Planking shall not be less than 2 inches thick, full size undressed, and shall be laid tight and secured against movement. Access openings will be guarded with standard guard-rail.
- b. A safety railing shall be installed, approximately 42 inches high, around the periphery of all temporary planked or decked floors during structural steel erection. A mid rail meeting the OSHA requirements will also be installed during this operation. A single safety railing is not acceptable for steel erection. Both railings shall be at least 1/2" wire rope with at least 3 J-type wire rope fist grip clamps at connection. Eyes and thimbles will be used to make all connections with turnbuckles installed every 100 feet.
- c. With the A/E's approval, all exterior steel will be punched by the fabricator at the above guard cable heights during fabrication. Holes will be punched on the interior flange of all columns.

3) General Requirements

- a. When setting structural steel, each piece shall be secured with not less than two bolts at each connection and drawn up wrench tight before the load is released.
- b. Material shall not be hoisted to a structure unless it is ready to be put into place and secured.
- c. The fall protection requirement is six feet (72") for all work performed. At no time shall any employee be exposed to the potential of a fall exceeding six feet (6') without required fall protection - NO EXCEPTIONS. Appropriate work platforms with required guardrails, static lines, or the use of safety nets which remove such fall exposure shall be considered adequate. Exterior nets are required when nets are used. Nets will be installed at each level so as not to allow steel between the employee and the net.
- d. When loads are being hoisted, walking under the lift or permitting an employee to be exposed to the swing of the lift is prohibited. No one shall be permitted to ride the load under any circumstances.
- e. A tag line shall be used to control all loads.
- f. For the protection of other crafts on the project, barricades (red barricade tape) and signs shall be posted around the erection area, "Danger - Keep Out - Men Working Overhead".
- g. CHRISTMAS TREEING OF IRON IS PROHIBITED WITHOUT AN APPROVED PROCEDURE.

M. Excavations and Trenching

- 1) The determination and design of the supporting system shall be based on careful consideration of the following: Depth of the cut; anticipated changes in the soil due to air, sun, freezing temperature, water, ground movement caused by vehicle vibration and earth pressures (not only the angle of repose).
- 2) The Contractors Safety Representative will issue an excavation permit prior to all excavation, digging, trenching or drilling operations and a copy shall be provided to the JEA Project Manager.
- 3) According to the OSHA Standards, a trench is referred to as a narrow excavation in which the depth is greater than the width, although the width is not greater than 15 feet. An excavation is any man-made cavity or depression in the earth's surface.
- 4) Requirements are that all trenches and excavations over 5 feet deep be sloped, shored, braced, or otherwise supported. When soil conditions are unstable, excavations lower than 5 feet shall be sloped, supported, or shored. ***Benching is prohibited for Type C soil.***
- 5) Contractors also may use a trench box - a prefabricated, movable trench shield composed of steel plates welded to a heavy steel frame. OSHA standards permit the use of a trench box as long as the protection it provides is equal to or greater than the protection that would be provided by the appropriate shoring system.

6) Designing Adequate Protection

Some of the considerations the Contractor will take into account when designing a protective system are:

- Soil Structure
- Depth of Cut
- Water Content of Soil
- Changes Due to Weather and Climate
- Superimposed Loads
- Vibrations
- Other Operations in Vicinity
- Overhead Power Lines
- Underground Obstructions
- Air Quality

7) Installing of Protection:

- a. Whatever support system is used, workers shall always install shoring, starting from the top of the trench or excavation and working down. When installing the shoring, care shall be taken to place the cross beams or trench jack in true horizontal position and to space them vertically at appropriate intervals. The braces also will be secured to prevent sliding, falling, or kick outs.
- b. All materials used for shoring shall be in good condition, free of defects, and of the required size. Timbers with large or loose knots shall not be used.
- c. Installation of shoring shall closely follow the excavation work. It is dangerous to allow trenches to remain unshored even if no work is being performed, dirt walls will slough off, causing dangerous overhangs. The longer a trench is left unsupported, the greater the chance of a cave-in.
- d. One method of ensuring the safety of workers in a trench or excavation is to slope the sides of the cut to the "angle of repose", the angle closest to the perpendicular at which

the soil will remain at rest. The angle of repose varies with different kinds of soil, and must be determined on each individual project and at each trench or excavation. When an excavation has water conditions, silty material, or loose boulders, or where erosion, deep frost, or slide planes are apparent, the angle of repose will be flattened.

- e. Other methods of support include shoring-sheeting, tightly placed timber shores, bracing, trench jacks, piles, or other materials installed in a manner strong enough to resist the pressures surrounding the excavation.

8) Special Precautions

- a. The Contractor shall guard against an unstable excavation bottom, such as below the water line. Sheet piling may have to be driven below the bottom of such an excavation to add to the soil stability.
- b. OSHA standards require that diversion dikes and ditches, or other suitable means, be used to prevent surface water from entering an excavation and to provide adequate drainage of the area adjacent to the excavation. Water causes erosion and softening and shall not be allowed to accumulate in a trench or excavation.
- c. In trenches or excavations which employees are required to enter, excavated or other material (this includes materials to be installed) shall be effectively stored and retained at least 2 feet or more from the edge of the trench or excavation.
- d. In case of emergency, workers will be able to leave the trench or excavation quickly. When employees are required to be in trenches that are 4 feet or greater in depth, adequate means of exit, such as ladders or steps, shall be provided and located so as to require no more than 25 feet lateral travel. Ladders will be in good condition, extend from the floor of the trench to 3 feet above the top of the excavation, and be secured at the top by some means to ensure stability.
- e. All underground utilities shall be located in advance of excavation and provisions made for their protection.

9) Inspections

- a. Excavations and shoring systems will be inspected daily by a competent person.
- b. Inspections are required after rain storms or any other change in conditions that can increase the possibility of a cave-in or slide. If dangerous ground movements are apparent, such as tension cracking, all work in the excavation shall be stopped until the problem has been corrected.

10) After the Work is Completed

As soon as work is completed, backfilling shall take place as the shoring is dismantled. Workers shall remove the shoring from the bottom up, taking care to release jacks or braces slowly. In unstable soil, ropes will be used to pull out the jacks or braces from above.

11) Remember

- a. OSHA regulation for trenching and excavations work leaves no room for risk-taking. Safe working conditions shall be provided for all employees working in excavations.
- b. A greater awareness of the safety problems to be overcome in excavation--on the part of the employer who designs the protection and the employee who installs it--will help prevent cave-in hazards in construction.

12) Drilling Operations

- a. All Contractors will issue an excavation permit prior to any excavation, digging, trenching or drilling operations commencing.
- b. The drilling area shall be inspected for hazards before starting the drilling operation.
- c. Drill crews and other employees shall be directed to stay clear of augers or drill stems that are in motion.
- d. When drill helpers assist the drill operator during installation or operation of a drilling rig, the helpers shall be in sight of, or in communication with, the operator at all times.
- e. While in operation, drilling rigs shall be attended at all times.
- f. Drill steel, spare parts, and tools shall be safely stored in racks or receptacles on the drill rig when not in use.
- g. Employees shall not drill from positions which hinder their access to the controls or from insecure footing or staging.
- h. Drilling equipment shall be inspected at the start of each shift by competent person and any defects noted shall be corrected before the equipment is used.
- i. Before each drilling cycle is started, warnings shall be given to workers in the area around the drilling operation.

13) Hazardous Atmospheres

In environments of known chemical or sanitary contamination, or if the potential exists for the development of a hazardous atmosphere produced from equipment operation or near by motor vehicles, the Contractor shall test the atmosphere. Such testing shall qualify the atmosphere in the breathing zone of exposed workers to contain adequate level of Oxygen (> 19.5%), and the absence of flammable/explosive, and or toxic vapors/gases/fumes. The results of this testing shall be documented and made available to the JEA on request.

N. Personal Protective Equipment

All Contractors are responsible for providing and insuring the use of the required personal protective equipment. All employees shall use the protective equipment prescribed by Local, State, Federal regulations and JEA Contractor Safety Requirements to control or eliminate any hazard or other exposure to illness or injury. An employee who refuses to use the prescribed protective equipment designed to protect him/her or willfully damages such equipment shall be immediately removed from the job site. This section establishes the minimum requirements for personal protective equipment to be used. Only equipment complying with OSHA regulations shall be used. All Contractors shall be responsible for the compliance of their employees. The Contractor's safety representative shall make continuous field inspections to audit compliance. Personal protective equipment will be considered when preparing your required "Safety Task Assignments (STA)."

1) Head Protection:

The wearing of approved non-conductive safety hard hats is mandatory while on JEA sites and or projects **100% of the time**. Refer to ANSI Z89.1 Safety Requirements for Industrial Head Protection. Hard hats will be worn with the bill to the front and Contractor's I.D. will be on the hat. **The only exceptions are inside offices, vehicles or equipment with rollover protection systems!**

2) Hard Hat Identification:

a) Designated sites may require employees to have a hardhat with his or her Company's Name or logo, his or her first initial and last name, and the badge number.

3) Full Body Safety Harness Inspection:

a) All safety harnesses and lanyards will be inspected by a Competent Person at least quarterly. The JEA Project Manager or JEA S&HS may request documentation of these inspections at anytime.

4) Eye and Face Protection:

Safety glasses with side shields will be provided by the Contractor and are mandatory at all times. Prescription eyewear will meet OSHA requirements for eye protection and will have side-shields attached. Safety glasses will be worn, and eyewear will be appropriate to the lighting conditions available to the work conditions.

a. All construction areas require 100% eye protection. Minimum eye protection includes approved safety glasses with side shields or mono-goggles meeting the standards specified in American National Standards Institute Z 87.1-1968, Practice for Occupational and Educational Eye and Face Protection.

b. Additional eye and face protection shall be worn by employees when:

1. Welding, burning, or cutting with torches.
2. Using abrasive wheels, grinders, or files.
3. Chipping concrete, stone or metal.
4. Working with any materials subject to scaling, flaking, or chipping.
5. Drilling or working under dusty conditions.
6. Sand or water blasting.
7. Waterproofing.
8. Using explosive actuated fastening or nailing tools.

9. Working with compressed air or other gases.
10. Working with chemicals or other hazardous materials.
11. Using chop saws, chain saws, masonry saws or other similar equipment.
12. Working near any of the operations listed above.
13. Any additional operations where additional eye protection is deemed necessary by the Contractors Safety Representative and or JEA CSMP Program Administrator.

2) Respiratory Protection

Respiratory protection devices approved by NIOSH and the United States Bureau of Mines shall be provided by the Contractor and worn by employees exposed to hazardous concentrations of toxic or noxious dust, fumes, or mists as required by OSHA. Each Contractor's Hazard Communications Program will include a written respiratory protection program meeting OSHA Standards.

3) Hearing Protection

Approved ear protection shall be provided by Contractors and such protection shall be worn by employees exposed to noise levels above 85 dB.

4) Fall Protection

Full body safety harnesses, shock absorbent lanyards with double locking hooks meeting OSHA standards shall be provided by the Contractor and shall be used by all employees. Safety belts and regular lanyards are not acceptable. The Fall Protection requirement is six feet (72") for all work performed - **NO EXCEPTIONS**. At no time is an employee to be exposed to the potential of a fall exceeding six feet (6') without required fall protection. Appropriate work platforms with standard guardrails or the use of interior and exterior safety nets which remove such fall exposures shall be considered adequate substitutes.

Full body safety harnesses, shock absorbent lanyards with double locking hooks, as well as lifelines, regardless of configuration, are to be inspected quarterly by the employer. Said inspection is to be documented and a copy of said documentation provided to the JEA Project Manager upon completion of each inspection. A sample copy of this inspection form is attached for use and information.

5) Safety Toe Shoes

All areas require 100% safety toe shoes. **Safety-toe shoes may be either lace up or slip on type, at least six inches tall with a defined heel.** Safety toed shoes will meet current ANSI standards. Foot wear such as steel toed sneakers and etc. are not acceptable.

6) Basic Work Clothing

Basic work clothing for field or plant usage itself is considered a form of personal protective apparel. The minimum clothing requirement for all contractor employees consists of long trousers and a short or long sleeve shirt, as preferred. Sleeveless shirts or tank tops are not acceptable due to increased sun or possible chemical exposure.

7) Gloves and Hand Protection

Gloves, provided by the Contractor, will be worn when handling objects or substances that could cut, tear, burn or otherwise injure the hand. The required Safety Task Assignment Process performed by each Contractor will determine the need for hand protection and the type needed.

8) Other Personal Protective Equipment

Other personal protective equipment to be used under unusual circumstances such as high temperature work, handling corrosive liquids, etc., not specifically covered in this section shall be reviewed with the Contractors Safety Representative and will be furnished by the Contractor when deemed necessary.

9) Maintenance

Personal protective equipment which has been altered in any manner shall be destroyed.

O. Fire Prevention and Protection

- 1) Particular care shall be taken when welding and cutting in locations where flammables or combustibles are present. When such welding or cutting is done, the surrounding area shall be protected with fire resistant blankets. An approved fire extinguisher, provided by the Contractor performing the work, will be located at each welding, burning, heating and grinding location. Where required, the JEA Hot Work Permit Procedure shall be implemented.
- 2) The operation and maintenance of temporary heating equipment shall not create a fire hazard. The use of solid fuel salamanders shall be prohibited. Clothing will not be dried by placing them on or near heaters. Only smokeless fuels shall be used for heating purposes. Flammable liquids will not be stored inside buildings whether permanent or temporary. This includes gang boxes, storage trailers, etc.
- 3) All flammable and combustible materials shall be stored and handled with due regard to their fire characteristics. Flammable liquids shall be stored in an approved manner and dispensed only in approved safety containers. Welding gases shall be stored in isolated areas and segregated by type of gas. Lumber shall be stacked in small piles that are interspersed with wide aisles. Lumber storage will be as far as possible from any structure.
- 4) Temporary structures shall be constructed of fire resistant materials.
- 5) Provide access to the work site and around the perimeter. Such access shall be maintained in a serviceable condition suitable at all times for use by heavy fire fighting equipment.
- 6) Trucks and motor vehicles shall not be taken within the perimeter of any building, completed or under construction.
- 7) **Open Fires Shall Not Be Permitted:** If required for the performance of the work, it shall be the responsibility of the Contractor to maintain all heaters, bearing the Underwriter's Laboratories label, and approved by JEA., Such devices shall be in proper working order with properly trained personnel in attendance at all times while heaters are in operation. A tip-over shut-off device shall be included for space heating equipment.
- 8) Torch-cutting and welding operations for any type of work shall be performed in strict accordance with the applicable fire and safety regulations. Tarpaulins used in connection with torch-cutting and welding operations shall be fire resistant.
- 9) Combustible materials or equipment in combustible containers shall be stored in a proper manner. Not more than one (1) day's supply of combustible materials or containers may be stockpiled in one (1) location within the building. Supplemental fire fighting equipment shall be located in the vicinity of such containers and materials.
- 10) All combustible waste materials, rubbish, and debris shall be removed daily.
- 11) Temporary fire fighting or fire protection equipment shall be replaced immediately after use and shall be removed upon completion of the project.
- 12) Storage of oxygen, acetylene, and other welding gases contained in pressurized cylinders is not permitted within buildings. All pressurized gas cylinders that are in use, shall be secured and in carts approved by the Contractors Safety Requirements. Reserve and empty cylinders shall be stored at least 25 feet from buildings, with safety caps on the cylinders, and secured to prevent falling. Cylinders shall not be stored in trailers, gang boxes or other confined areas.

13) Specific Fire Prevention Requirements

- a. All Contractors' superintendent responsible for the work to be performed, shall issue daily Hot Work permits for each welding, burning or other Hot Work source to be used by each Contractor where work is performed in a JEA fixed facility. All other locations shall be checked to ensure a *fire safe*
 - b. Fires, open-flames devices, etc., will not be permitted in or around combustible materials. If exceptions are granted, such operation shall have an approved fire extinguisher in the immediate vicinity. It may be necessary to use fire resistant blankets and wet down the area before starting welding operations. An after-shift inspection is to be made to assure that no fire hazards are present.
 - c. Flammable and combustible materials will be separately and properly stored.
 - d. Refueling of equipment while the motor is running is prohibited.
 - e. All rubbish will be cleaned from work areas daily and good housekeeping practices shall be enforced for the entire work area.
 - f. Proper safety waste cans shall be provided for disposal of oily rags or other combustible materials. Flammable liquids shall be stored in proper safety cans.
 - g. Fire protection equipment will be made available during all phases of construction.
 - h. Portable heaters must be approved by JEA prior to use. Such heaters must be UL or FM approved and must be located and used in accordance with applicable fire codes and in properly ventilated areas.
 - i. Open fires are prohibited.
- 14) Required Compliance for Use of Temporary Portable Atmospheric Pressure Fuel Tanks on the Work Sites (Gasoline, Diesel, and Fuel Oil)

Tank Construction , Design and Staging

1. Metal: Metal tanks must be UL listed or approved by a recognized agency as a flammable liquid storage tank and meet requirements as Chapter III and IV of NFPA 30-1969, The Flammable Liquids Code.
2. Tank Size: Minimum 61 gallons, maximum 600 gallons.
3. Vents:
 - a) At least one vent having a minimum size of 1-1/4 inches inside diameter is required.
 - b) The automatic vent shall be set to open at 5 psi and have the capability of limiting internal tank pressure to 10 psi.
 - c) Breather vents on Class I liquids (flash point under 100 degrees F) shall be equipped with a flame arrestor.
4. Outlet Valves, Nozzles, Hoses:
 - a) Outlet Valves, nozzles and hoses must be UL listed and of the automatic self-closing nozzle type that can be padlocked to its hanger to prevent tampering.
 - b) A bottom draw off gravity flow tank shall be equipped with a valve located on the tank discharge pipe ahead of the hose (preferably fusible link valve).
 - c) A top dispensing tank shall be equipped with an UL listed anti-siphoning pump.

5. Grounding and Bonding:

The tank shall be grounded by a metallic grounding cable with an electric resistance not to exceed 10 to the 6th power ohms and it must be permanently bonded.

6. Top dispensing tanks shall be mounted at least 6 inches above the ground.

7. Bottom gravity flow tank supports shall be made of steel and have a maximum height of 7 feet.

8. All tanks shall be properly labeled to identify its contents.

9. Location and Control of Spills

a) Tanks shall be located at a minimum of 50 feet distance from any facilities, major equipment, or other materials.

b) The minimum clearance between tanks shall be of 5 feet.

c) Ground shall be sloped away from exposures.

10. Diking

a) The capacity of the diked area shall not be less than the capacity of the largest tank.

b) The minimum distance between the tank and toe of the dike shall be 5 feet.

c) Storage of combustible materials, empty or full drums or barrels in the diked area is prohibited.

11. Weeds and other debris shall be kept a minimum of 20 feet from a storage area.

12. Collision protection shall be provided where needed.

13. Fuel tanks may not be located in close proximity to power lines e.g. JEA Distribution, Transmission Power Lines.

14. Electrical equipment, within 20 feet of dispensing location, shall be rated as a Class I, Group D location.

15. General

a) No smoking signs shall be displayed in the area.

b) As a minimum, a 20 lb. BC fire extinguisher shall be provided within 50 feet, but not closer than 20 feet, of the storage tank. It shall be protected from weather, mounted, and labeled by stencil.

c) All containers will be legibly labeled as to their content on all 4 sides.

15) Inspection of Portable Fire Extinguishers – Monthly, Annual Maintenance Inspection

a. Monthly Inspection – All portable fire extinguishers shall be inspected when initially placed in service and there after monthly. A tag shall be attached to the each unit showing the initials of the person performing the inspection and date.

b. Annual Maintenance Inspection – All portable fire extinguishers shall be inspected by a licensed qualified technician at an interval not to exceed annually. A tag will be attached to each unit showing month, year, the type maintenance inspection performed, person performing inspection and other information as may be required by the Florida Fire Marshall's Office.

P. Cranes and Rigging

Cranes are a vital part of any construction operation. To insure that they handle loads properly, safely and with greatest efficiency, the following procedures shall be followed along with applicable OSHA and other rules, regulations and codes. Contractors whose activities require the use of cranes shall be responsible for proper set up and operation. Each crane will be inspected by the Project Designated Safety Representative prior to use on site. Minor deformity of any crane part will be reason for crane rejection.

Contractors shall provide the JEA Project Manager evidence of an annual inspection performed by an OSHA certified testing agency for each crane, piece of hoisting and rigging equipment brought onto the site. If one year has elapsed since the last annual inspection, or if the crane or its associated rigging has sustained any incident which may have resulted in damage, the crane and the associated rigging shall be fully re-inspected and documented evidence of the current inspection must be provided. Before operations begin on this site, documentation shall be provided to the JEA Project Manager by the third party agency that this inspection has been performed. No claims will be considered for losses sustained by the Contractor for delays caused by failure to comply with these requirements. A daily inspection of the crane shall be performed by the crane's operator, or other competent person, to ensure that the crane is safe for operation. This inspection shall be documented, in writing, by the person performing the inspection and the documentation shall be available for examination at any time. In addition, a copy of these daily inspection reports shall be provided monthly to the JEA Project Manager. An Operator's Manual will be located on each piece of hoisting equipment.

1) Mobile Crane - Crane Set Up

The operator shall be responsible for:

- a. The proper placement of the crane in relationship to the load to be handled and the landing area so as to obtain the best rated lift capacity.
- b. Leveling the crane to within 1 degree of level and rechecking the level, a minimum of three times, during the 8-hour work shift.
- c. The proper placement and use of outriggers for all lifts except where the manufacturer permits otherwise for assembly of boom.
- d. The determination of the stability of the ground or footing. Should additional floats, cribbing, timbers, or other structural members be needed, they shall be of proper design and sufficient to uniformly distribute the load.
- e. The installation and maintenance of crane swing radius protection.
- f. Maintain minimum approach distance from all overhead power lines. That dimension is defined as 20 feet for all Transmission and 10 feet for all Distribution Lines.

2) Load Ratings Determination

- a. All rigging shall be considered as part of the total load. Additionally, the weight of all items added to the load at the site must be determined and added to the total weight.
- b. The operator shall be provided with a copy of the Bill of Lading with the item weight clearly legible. This will be used to determine total load weight.

3) Crane Inspection:

Cranes shall be inspected:

- a. After set up and prior to the initial lift;
- b. Before each shift; and

- c. After every malfunction.
 - d. Daily inspections will be performed to check:
 1. All control mechanisms for maladjustment interfering with proper operation.
 2. All control mechanisms for excessive wear of components and contamination by lubricants or other foreign matter.
 3. All safety devices for malfunction.
 4. Deterioration or leakage in air or hydraulic systems.
 5. Crane hooks with deformation or cracks; sling and chokers for broken strands, fraying or linking.
 6. Electrical apparatus for malfunctioning, signs of excessive wear, dirt, and moisture accumulation.
 - e. Periodic and annual inspections shall be performed in accordance with the manufacturer's recommendations.
 - f. Record keeping
 1. All records pertaining to crane inspections shall be kept on site with the crane or in the Contractor's site field office.
 2. If, during any safety inspection, the operator or supervisor cannot produce the required crane inspection sheets, the crane shall be shut down and inspected.
 3. The crane operations and maintenance manual will be located on each crane.
- 4) Crane-Setup - Ground Stability

One of the critical factors of proper crane setup is a "firm supporting surface." For maximum capacity, the crane must be level. However, to maintain a level condition, the ground surface must be adequate to support the dynamic load of a "working crane."

Four basic elements that are to be considered are:

- total imposed load;
- supporting surface area;
- pounds per square foot; and
- soil stability.

a. Total Imposed Load

The load on the tires, outriggers, wheels or tracks is derived from the gross weight of the crane and suspended load. However, additional loading can be exerted by shock, or dynamic (movement) loads due to fast hoisting, lowering, swinging, or wind forces. This total load must be considered.

b. Supporting Surface Area

The amount of area in contact with the ground will determine the bearing pressure the crane and load exert on the soil. When it is determined that the bearing pressure exceed soils stability, the bearing area of the crane must be increased by the use of cribbing.

Cribbing to be used must:

1. Be strong enough to withstand the weight of the crane without major deflection, thus, actually increasing the bearing surface.
2. Bolted or secured together to prevent slippage and collapsing.

3. In complete contact with the soil, no void, unsupportable areas, etc.

c. Pounds per Square Foot

To calculate the psf divide the load by the bearing area.

Sample:

Crane and load = 150 tons

Four 2' x 2" floats = 16 sq ft

150 tons/16 sq ft = 9.38 tons/sq ft

Remember: Here it is assumed that each outrigger float is carrying 25% of the total load. In all cases, this is not true. For example, moving the load over the corner outrigger concentrates a greater percentage of the load on that outrigger. The load percentage on each "corner" will vary depending on the type of crane and operating radius. A good rule to follow is to assume each corner is carrying 85% of the total load. Thus,

One 2'x 2' float = 150 tons/4 sq ft

= 37.5 x .85

= 31.8 tons per sq ft

d. Soil Stability

Bearing pressure was determined in the paragraph above. This pressure is then compared to the load-bearing qualities of the soil. For descriptive purposes, it is convenient to distinguish between three broad groups of soil:

- granular soils, including sand and gravel;
- fine grained soils, including silts and clays; and
- organic soils, including peat.

Different type soils will give different load-bearing pressure. When setting up a machine, the designated person should be able to distinguish between the three groups of soil, the appropriate mixture of each, their moisture content, and their depth. Factors such as water tables and distance to excavation which affect the soil's ability to withstand the pressure without collapsing must also be considered by the designated person.

Various tables are available which give the relative load-bearing capabilities of the soil types under static loads. Local building code departments are usually a good source for the tables.

5) Operator Qualifications and Operating Procedures:

a. Operator Qualifications:

1. Cranes and other hoisting equipment shall be operated only by the following personnel:

- a) Certified operators who have been licensed by an approved agency, agent or union and meet the requirements of Chapter 5, ANSI B30.5.
 - b) Crane operators will meet the minimum requirements with a Physical Examination on a yearly basis. No crane operator will be allowed to operate a crane until they have passed the Physical Exam conducted by a Licensed Physician.
 - c) Inspectors certified for crane inspection; or
 - d) Test and maintenance personnel when necessary.
 - e) Documentation shall be made available to JEA on request to show the Operator and or Inspection personnel meets these requirements
2. No one other than the above personnel shall be in, or on, the crane during operations. Exceptions are oilers or supervisors whose duties may require their presence.
- b. Operating Procedures:

The operator shall:

1. Not engage in any practice that may divert his attention while engaged in crane operations.
 2. Not operate the crane if physically or mentally unfit, or if taking prescription drugs that may affect judgment.
 3. Not respond to any signal that is unclear or is given by anyone other than appointed signalmen.
 4. Exception: The operator shall respond to a stop signal given by anyone.
 5. Have final responsibility and control over the crane operations. When there is any doubt as to safety, the operator shall have the authority to stop and refuse to handle the loads until safety has been assured. Any manager, supervisor or person attempting to bypass the crane operations authority on this issue will be immediately removed from the project.
 6. Shall be intimately familiar and have thorough knowledge of the crane and its care, the operators' manual, and load charts. He shall be responsible for notifying his supervisor of any needed adjustments or repairs, and for logging his findings in the crane log.
 7. Shall, upon request, demonstrate his ability to determine total load weight and its relationship to the crane load charts.
 8. Immediately shut down the crane if any part of the crane, rigging or load strikes any object. The crane will be re-inspected by a qualified person, and if damage is detected, all repairs shall be completed under the guidelines of the manufacturer. The crane must then be re-inspected by a third party agency prior to beginning operations again.
 9. Never leave the controls while there is a load on the hook.
 10. Stop the crane operation if there are any problems and notify the Contractors Project Safety Representative.
- c. Handling the Load
1. Load Weight:

- a) No crane shall be loaded beyond its rated capacity.
 - b) No crane will be used for any purpose other than its designated purpose.
2. Attaching the Load:
- a) The load shall be attached to the hook by means of slings or other approved devices.
 - b) No open hooks shall be used for lifts higher than two (2) feet. Hooks used for lifts in excess of two (2) feet shall have hook safety latches or be safety wired to prevent slings from jumping off hook.
 - c) A shackle shall be used to retain two (2) or more choker eyes on the hook.
 - d) Hooks shall not be changed, defaced or deformed in any manner. Hooks that have been exposed to excessive heat such as welding, burning, grinding, etc. will not be allowed on site.
3. Moving the Load:
- a) The operator shall determine that the crane is level to within one (1) degree and, where necessary, is properly cribbed and blocked.
 - b) The operator shall be responsible for determining that the load is properly secured and balanced before making the hoist.
 - c) The operator shall position the hook over the load in a manner to prevent load swing.
 - d) The operator shall determine that the rope is properly seated on the drum and in the sheaves; the load line is not kinked, and multiple part lines are not twisted around each other.
 - e) Shake out hook (Sliding Choker Hook) will be used only for shaking out materials.
4. During Hoisting the operator shall not:
- a) Suddenly accelerate or decelerate a moving load.
 - b) Permit the load to contact any obstructions.
 - c) Swing loads over personnel.
 - d) Permit side-loading of booms. Lifts shall be limited to freely suspended loads. Cranes shall not be used to drag loads.
 - e) Insure tag lines are in place before attempting any lift.
 - f) Insure that crane is barricaded prior to use.
- 6) Crane Heavy Lift Procedure
- a. General. This procedure provides guidance for control of lifts with cranes which are considered to be critical lifts. Lifts that fall into this category which:
 - exceed 75% of the crane's rated capacity for the crane configuration;
 - require two or more cranes to make the lift
 - are located such that the load, crane boom, or rigging could fall on electrical lines, transformers, pipe racks or pipe bridges, vessels, or operating units containing flammable, explosive, or hazardous gases or liquids, etc.; and
 - are specially engineered and designed to handle a specific load that requires the use of lifting equipment such as, but not limited to, ringers, towers, poles, cableways, etc.

- b. Interpretation. Crane configuration as used in this procedure refers to such variables of the crane as boom length, boom angle, counterweight, outriggers extended and set/tracks extended or retracted and attachments (jib, headache ball, load block, lifting devices, etc.). All above items affect the gross capacity of the crane shall be taken into consideration prior to lift.
- c. Guidelines. If when calculating the total load to be lifted, including all applicable “component weights,” it is determined the lift equals or exceeds 95% of the crane configuration capacity for the greatest radius the load will achieve during pick, swing, or set, this lift shall *not* be made. If, by changing the crane configuration within the manufacturer’s specifications, a greater gross capacity may be gained, the configuration shall be changed to keep the lift less than 95% capacity. If not, a larger capacity crane shall be obtained and used.
- d. Responsibilities. A Crane Lift Permit will be completed prior to the critical lift by the supervisor of the lift. After the permit has been completed by the supervisor, the designated project personnel will review and sign-off on the lift permit in the order listed on the permit. A copy of the permit will be placed in the cab of the lift-crane with the original permit filed in the project safety office.
- e. Other Hazards. For any electrical, chemical, or other hazard(s) involved or associated with the operations requiring a hazard permit, such a permit shall also be completed prior to the lift.
- f. Crane Heavy Lift Permit Form (see next page)

Crane Heavy Lift Permit Form

1. Enter name of the project.
2. Enter divisions and project numbers.
3. Enter date the lift will be made.
4. Enter time of day the lift will be made.
5. Indicate location of plant or construction site of lift.
6. Enter the manufacturer's name of the crane used to perform lift.
7. Enter the manufacturer's model number of the crane used to perform lift.
8. Enter the manufacturer's serial number of the crane used to perform lift.
9. Indicate the length of the main boom and the length of jib (if equipped) that will be in crane at time of lift.
10. Indicate the maximum radius the load will achieve during the lift cycle of pick, swing, and set.
11. Indicate the crane's swing direction (right or left) and degree of swing.
12. Indicate the maximum and minimum elevation, in feet, the load will be required to reach.
13. Indicate the crane's boom angle at the beginning (pick) and end (set) of the lift.
14. Check one of the boxes, "yes" or "no." If yes is checked, complete the jib length and weight spaces for the configuration of the jib. Then check one: erected or stowed.
15. Indicate the gross capacity of the crane from the manufacturer's capacity chart with the parameters as indicated in blocks 9 through 14. If the jib/boom extension will not be used to perform the lift, do not deduct its weight from the main boom capacity rating in block 15. It will be deducted as a part of block 16.
16. Indicate the crane manufacturer's recommended weight reduction of each item listed and total.
17. Describe the load to be lifted and the weight of it.
18. Enter the name of the person who determined the load's weight and how this determination was made (shipping bill-of-lading, scale, etc.).
19. Indicate the total weight of the load by adding blocks 16 and 17 together.
20. Indicate the percentage of the crane's lift capacity by dividing block 15 by block 19. If load/capacity percentage equals or exceeds 95%, ***the lift will not be made.***
21. Verify that the rigging equipment (shackles, chokers, etc.) used to perform the lift has a 5:1 safety factor. If all rigging items are determined to have a capacity rating 5 times the load supported, enter a check mark in the "yes" block. If not, enter a check mark in the "no" block.
22. Enter the size of chokers and shackles used for the lift and their physical conditions.
23. Enter a check mark in the appropriate box if a tag line will be used.
24. Enter the number of parts in the load handling line during the lift.
25. Indicate the weather conditions during the lift, with emphasis on wind velocity and direction, rain probability, etc.
26. Indicate whether any electrical hazard is within the vicinity of the lift area (pick, swing,

or set crane movements) by entering a check mark in the appropriate box. If “yes,” indicated the distance to the electrical hazard and which direction, the amount of voltage, height above ground lines, above or below ground, etc.

27. Indicate type of soil in area of lift; loose, compacted, or virgin earth; moisture content; adjacent excavations (distance from outriggers/tracks and depth).
28. Indicate whether there are any existing underground hazards in the crane set-up area. If “yes,” explain what type of hazard (water, sewage, drainage, electrical, etc.) and at what depth.
29. Indicate whether there are any other hazards located in the lift area that would interfere with the lift operations. If “yes,” state the type hazard involved and the distance to it.

7) Rigging Requirements

a. General

1. All rigging equipment shall be inspected prior to each use. Damaged or defective slings shall be immediately removed from service and destroyed.
2. All rigging devices including slings shall have permanently affixed identification stating size, grade, rated capacity and manufacturer.
3. Rigging not in use shall be removed from the immediate work area.
4. Rigging, including slings shall be hung on a rigging frame to eliminate bends and kinks.
5. Wire rope slings shall be lubricated as necessary during use. Slings shall be lubricated no less than every 4 months when in storage.
6. “Shop-made” grabs, hooks, clamps or other lifting devices are prohibited.
7. Slings shall not be left lying on the ground or otherwise exposed to dirt and the elements.
8. Eyes in wire rope bridles, slings or bull wires shall not be formed by wire
9. Clips or knots.
10. Protruding ends of strands in splices on slings or bridles shall be covered or blunted.
11. All rigging equipment shall have a safety factor of five.
12. Lifting beams, spreader bars, etc. will be certified by a Licensed Engineer as to configuration and capacity and will be cabled as to the configuration and capacity.

b. Safe Operating Practice

1. Slings shall not be shortened by knots, bolts, or other make-shift devices.
2. Wire rope slings shall be padded, or softeners used, to protect from damage due to sharp corners.
3. Slings used in a basket hitch shall have the loads balanced to prevent slippage.
4. Loads handled by slings shall be landed on cribbing or dunnage so that slings will not be pulled from under, or be crushed by the load.
5. Slings subjected to shock loading shall be immediately removed from use and destroyed.

6. Tag lines will be used with all rigging operations.
 7. Repair to rigging equipment is prohibited.
- c. Inspection and Record Keeping
1. A thorough inspection of slings in use shall be made on a regular basis as determined by:
 - a) severity of service conditions,
 - b) frequency of sling use,
 - c) nature of lifts being made, and
 - d) experience gained on the service life of slings used in similar use.
 2. Rigging equipment shall be inspected quarterly. Color coding is acceptable.
 3. A record of inspections shall be maintained and made available to JEA on request.
 - a) Inspection Criteria
 - (1) Alloy Steel Chains shall be removed from service and repaired/replaced when:
 - master links, coupling links or other components are cracked or deformed.
 - sling hooks have opened more than 0% of the normal throat opening or twisted more than 0 degrees off center.
 - stretch exceeds 0% of the original reach.
 - they have been exposed to temperatures in excess of 200 degrees.
 - the manufacturer or an equivalent entity has not repaired or reconditioned slings covered in this section and then only in accord with ANSI G.61.1 - 1968.
 - (2) Mechanical coupling links or “cold sheets,” bolts or clevis pins shall not be used for chain repairs.
 - (3) Wire Rope Slings shall be removed from service when:
 - damage to any wires are detected.
 - wear or scraping of one-fourth the original diameter of outside individual wires.
 - kinking, crushing, bird-caging or similar damage.
 - end attachments are cracked, deformed or worn.
 - exposure to temperature in excess of 150 degrees Fahrenheit (fiber-core) or 200 degrees Fahrenheit (non-fiber core).
 - corrosion of the rope or end attachments occur.
 - Stretched, destroyed or other damaged hooks shall not be used.
 - (4) Natural and Synthetic Fiber Rope Slings shall be removed from service when:
 - abnormal wear is observed.
 - powdered fibers are found between strands.
 - fibers are cut or broken.
 - there are variations in the size or roundness of strands.
 - there is discoloration or rotting.
 - there is distortion of sling hardware.

- exposed to temperatures in excess of 150 degrees Fahrenheit.

(5) Synthetic Web Slings shall be removed from service when:

- subjected to acid or caustic burns.
- melting or charring of any part of the sling surface occurs.
- snags, punctures, tears, or cuts are observed.
- stitches are worn or broken.
- fittings are distorted.
- exposed to temperatures in excess of 150 degrees Fahrenheit (synthetic web) or 150 degrees Fahrenheit (polypropylene web).

d. In Case of Disaster:

In the event that the worst happens and a crane collapses, turns over, drops a load or otherwise fails, follow these procedures:

1. Render all emergency first aid.
2. Do not allow the crane, its components, or the load to be moved, unless vital to rescue operations, until a complete, thorough investigation has been completed.
3. Contact the Contractors Project Safety Representative immediately to begin accident reporting and investigation procedures. The CPSR should then contact the JEA Project Manager and inform him of the incident.
4. JEA will take photographs of everything including overall photographs of entire scene, detailed photos of components and anything that will explain what happened.
5. Begin the interviewing process of witnesses and participants to determine what happened.
6. Assist other investigator agencies while preserving the legal rights of the involved parties.
7. Perform an investigation and submit a completed Contractors Incident Report Form to the JEA Project Manager within 24 hours. The JEA Project Manager will then forward the completed form to the JEA CSMP Program Administrator.

7) Work Platforms Suspended From Cranes

- a. Purpose and Scope: To explain the requirements as related to the use of working platforms suspended from cranes.
- b. Objective: To assure that the transporting and/or suspension of workers in a platform suspended from a crane will only be permitted as outlined below.
- c. Procedures:

Cranes may be used to hoist, lower and suspend personnel on a work platform when such action results in the least hazardous exposure to employees. Employers shall not use cranes to hoist, lower or suspend personnel on a work platform in situations where the use of other equipment is possible. The use of crane-suspended personnel platforms shall be approved, in writing, on a case by case basis. The Contractors Project Safety Representative, shall give the required approval.

All personnel involved in crane-suspended personnel platform operations shall be trained as required by OSHA. This training shall be conducted and documented by the appropriate management, and will include the requirements of paragraph (g) of OSHA 1926.550. The training shall include (a) all parts of this procedure (b) distribution and discussion of OSHA pamphlet #3100, "Crane or Derrick Suspended Personnel

Platforms” and (c) any other requirements required by the client or other governing bodies. In addition, it will cover any unusual conditions or situations which may be characteristic of this project.

Personnel required to attend this training includes, but are not limited to:

- Persons designated to approve platform use.
- Persons inspecting and certifying baskets, rigging, and cranes used in personnel hoisting operations.
- Persons authorized to witness pre-lift tests.
- Persons authorized to flag or signal cranes.

Personnel who will perform work from crane-suspended personnel platforms shall receive applicable instruction on hazards and precautions to be taken during hoisting. This instruction shall be given immediately prior to the trial lift. In unique situations where the transporting or suspension of workers by work platform is the only feasible method, the following controlled conditions shall be met:

All equipment used to hoist personnel by means of crane-suspended platforms shall comply with the requirements of OSHA.

1. Lifting bridles shall consist of four parts or legs so attached that the stability of the platform is assured. The four wire ropes shall be attached to a bullring. Thimbles shall be installed on the eyes of the slings. Shackle pins shall be secured to preclude movement.

Slings shall be long enough to insure an angle of at least 60 degrees from the horizontal.

2. The lifting bridles shall be attached by shackles to the lower lifting block or closed hooks which cannot open due to load position on the hook.
3. The platform and its components shall be capable of supporting, without failure, at least five times the maximum intended load. Workers shall be considered as weighing 250 pounds each. A load test shall be conducted prior to lifting workers.
 - a) The test lift shall carry a load of three (3) times the rated capacity of the platform.
 - b) The number of employees on the platform shall be kept to a minimum and in no case shall the total number of employees exceed two (2).
4. Safe means of ingress and egress shall be provided to the platform. If a gate is used, it shall swing inward only, and have a positive lock latching arrangement.
5. The sides of the platform shall be enclosed with one-half inch, #14 gauge wire mesh to the top guardrail. The guardrail shall be of metal angle, channel or pipe, which will withstand at least a two- hundred pound impact.
6. The floor shall be solid decking, and capable of withstanding the forces developed under loading conditions. The floor surface shall be anti-slip.
7. Where the possibility of overhead hazards exist, the top of the platform shall be covered with not less than 3/4 inch plywood or equivalent.
8. Tools, equipment and materials, not to exceed 200 pounds, shall be stored or secured in a manner to prevent hazardous displacement.
9. The platform shall not be used during high winds, electrical storms, ice, sleet, snow or other adverse weather conditions that could endanger the workers on the

platform.

10. The platform shall have a plate affixed, indicating the maximum load, and the number of persons permitted. It shall also include the tare weight, an identifying number, and when last inspected.
11. The use of any platform is prohibited until the Contractors Project Safety Representative is notified that a platform will be used to lift personnel and an inspection is made to ensure that the requirements have been met. A notification shall include the following:
 - a) Specific use and installation.
 - b) Crane manufacturer, model, serial number, and date of manufacture.
 - c) Platform I.D. number, maximum number of employees to be on platform, capacity and date of initial load test.
 - d) Sketch of platform, including all components.
12. The Contractors Project Safety Representative must be notified prior to each new use of a crane and platform, and each time a crane and platform are moved to a new location.
13. The crane used to make the lifts shall conform to the requirements set forth in the Federal and State safety regulations pertaining to construction, and shall be inspected by the employer as required.

Prior to use, the crane and platform shall be inspected by an individual qualified to perform this service on the equipment to be utilized.
14. During platform lift operations, the maximum load imposed on the crane shall not exceed 50 percent of the crane's rated safe load capacity for the radius and boom length to be used.
15. The crane hoisting equipment shall be power-operated in both the up and down directions.
16. The use of cranes having live booms shall not be permitted (a live boom is lowered by use of a brake without aid from other lowering restrictive devices). The load line on which the platform is suspended shall have controlled load lowering. Load/line "free fall" option shall not be used with suspended work platforms.
17. A firm footing, uniformly level within one percent, shall be provided for cranes. All outriggers shall be used in a suitable manner. Matting, cribbing, or blocking shall be used as required.
18. The crane shall not travel when employees are on the platform.
19. The crane operator shall be required to remain at the controls when employees are on the working platform.
20. When employees are suspended on the platform, they shall be in plain view of the operator unless voice communication (telephone or radio with independent channel-no C.B.'s) is utilized. Signals shall be discernible or audible at all times. Loss of communication shall cause immediate stoppage until communication link-up is reestablished.
21. Securing of the platform to another structure while occupied shall not be permitted.
22. Anti-Two-Block shall be required on cranes use to hoist personnel.

8) Permit/Checklist:

- a. A written permit shall be obtained for each use of a crane-hoisted personnel platform.
- b. The permit shall be initiated by the superintendent of the craft who will be performing the elevated work requiring a crane-suspended platform.
- c. The permit shall describe the work to be performed and its exact location.
- d. The permit shall be signed by the Contractors Project Safety Representative.
- e. The permit shall acknowledge all required inspections, tests and pre-lift meetings and these shall be witnessed by and signed for by (a) the crane operator, (b) rigging supervisor, (c) requesting craft supervisor responsible for the work and (d) the Contractors Project Safety Representative (e) Contractors Project Manager or designee.
- f. The person who will flag or signal the crane operator shall be noted by name on the permit.
 1. A permit is good only for lifts made from a single crane set up location. Movement (traveling), repairs, or modifications of the crane voids the permit.
 2. A copy of the permit shall remain with the crane while the personnel hoists are in progress and a copy will be placed on file at with the JEA Project Manager.

9) Pre-Lift Meeting:

- a. A pre-lift meeting shall be held after approval has been given for crane suspended personnel platform use.
- b. Attendees at this meeting shall include, but are not limited to:
 - Crane Operator
 - Rigging/Equipment Supervisor
 - Superintendent Requesting Permit
 - Contractors Project Safety Representative
 - Flagman/Signal Person (Designated)
 - Workers to be Hoisted
 - Responsible Contractors Supervisor
 - Activities to be completed at, or prior to, the Pre-Lift Meeting include:
 - Required crane, rigging, and platform inspections
 - Functional test of anti-two block device. Test lift with sample weight
 - Safety instruction for workers
 - Permit signing and issuance
 - Completion of checklist

Q. Environmental

1) Sanitation:

a. Potable Water:

1. An adequate supply of potable water shall be provided by the Contractor.
2. Portable containers used to dispense drinking water shall be sealed and equipped with a tap. Water shall not be dipped from containers.
3. Any container used to distribute drinking water shall be clearly marked as to its contents and not used for other purposes.
4. **A "common" drinking cup is prohibited. Any person observed tampering with the sealed container cover will be subject to termination.**
5. Single service cups shall be supplied and both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

b. Toilets

1. Toilets shall be provided by the Contractor for employees according to the following table:
Minimum Number of Facilities: 1 Toilet seat and 1 urinal per 50 workers
2. Washing Facilities: Adequate washing facilities shall be provided.

2) Illumination: Construction areas, ramps, runways, corridors, offices, shops, and storage areas shall be lighted to not less than the minimum illumination intensities (listed below) while work is in progress.

<u>foot-candles:</u>	<u>Area of Operation:</u>
10	General construction area lighting hallways, ramps, warehouse
15	Operations involving machinery carpentry shops
30	Offices, first-aid rooms

3) Material Use and Waste Management:

- a. Trash, Rubbish and Non-Hazardous Waste Receptacles ("dumpsters") shall be placed around the site for collection of waste materials.
- b. Contractors who create, may be expected to create or could accidentally create a material that could be classified to be hazardous waste shall provide to JEA a copy of their EPA Disposal number and other pertinent information.
- c. All hazardous waste or waste that could be considered hazardous waste, as determined by the methodology and definitions from environmental regulators, will be stored and collected in special areas and disposed of in accordance with all Local, State and Federal requirements.
- c. No material is to be abandoned on the site. If material found on the site can be traced to a Contractor, that Contractor will be responsible for all expense involved in collecting, moving, cleaning and disposal of all material in the area where the material was abandoned.
- e. No waste haulers, disposers, recyclers, or scavengers will be allowed on the site without

the permission of all JEA. It will be the responsibility of the Contractor to provide copies of all licenses, permits, and authorities to JEA.

- f. No waste may be removed from the site by any person without the authorization of JEA. No waste may be brought onto the site and disposed of using JEA's systems or facilities. Dumpsters will be inspected frequently, and any potentially hazardous material or waste will be removed from the dumpster and placed in the appropriate storage area at the expense of the responsible Contractor.
- g. No used oils, paint waste, or other type products will be allowed to accumulate or be dumped on site. All spills whether accidental or on purpose will be immediately cleaned up by the creator of this spill, to the satisfaction of the JEA.

R. Motor Vehicles and Heavy Equipment

- 1) Construction vehicles and equipment brought on site shall be inspected, tested, and certified to be in safe operating condition. The inspection, test, and certified document must be available for the JEA Project Manager to review prior to bringing such equipment to the project. All vehicles and equipment will be inspected by the Contractors Project Safety Representative prior to use on JEA sites or projects. Any vehicle or piece of equipment deemed unsafe by the Contractors Project Safety Representative and or JEA Project Manager, will be immediately removed from site until repairs are complete and equipment is re-inspected. If required by specific JEA site policy, vehicle and equipment passes will be issued by the JEA Project Manager.
- 2) All motor vehicles and equipment, when required, shall be equipped with the following equipment, in good operable condition:
 - a. Adequate brake system.
 - b. Two headlights and two tail lights.
 - c. Brake lights.
 - d. Horn.
 - e. Seat belts.
 - f. Good tires.
 - g. Windshields and powered wipers.
 - h. Defrosters and heater.
 - i. Rear-view mirrors.
 - j. Fuel caps.
 - k. Reverse warning alarm.
- 3) Only authorized, qualified, licensed, drivers shall be permitted to operate vehicles or equipment. Accidents shall be reported immediately to the Contractors Project Safety Representative and JEA Project Manager.
- 4) All cab glass shall be safety glass, or equivalent, that introduces no visible distortion affecting the safe operation.
- 5) No employee shall use motor vehicle or equipment having an obstructed view to the rear unless the vehicle has a backup alarm audible above the surrounding noise level.
- 6) No personnel shall be permitted to mount or dismount moving vehicles or equipment.
- 7) Heavy machinery, equipment, or parts thereof, which are suspended or held aloft by use of slings, hoists, or jacks shall be substantially blocked or cribbed, to prevent falling or shifting, before employees are permitted to work under or between them. Bulldozer and scraper blades, end-loader buckets, dump bodies, and similar equipment, shall be either fully lowered or blocked when being repaired or when not in use. All controls shall be in neutral position, with the motors stopped and brakes set, unless work being performed requires otherwise.
- 8) The operator shall be responsible to maintain minimum approach distance from all overhead power lines. That dimension is defined as 20 feet for all Transmission and 10 feet for all Distribution Lines.
- 9) All hauling vehicles, whose payload is loaded by means of cranes, power shovels, loaders, or similar equipment, shall have a cab shield and/or canopy adequate to protect the operator from shifting or falling materials. The operator or driver of all hauling vehicles will leave the cab and stand clear of this equipment while it is being loaded.
- 10) Engines shall be shut off during fueling, maintenance operations or when not attended by an operator.

- 11) Trip handles for tailgates of dump trucks and heavy equipment shall be so arranged so that, in dumping, the operator will be clear.
- 12) All vehicles shall be checked at the beginning of each shift to ensure that equipment and accessories are in safe operating condition and free of damage that could cause failure while in use.
- 13) **Employees transported in the back of pickup trucks must sit down inside the bed and the tailgate must be closed.**
- 14) No vehicle shall be driven at a speed greater than posted limits. Regard for weather, traffic, width, intersections, and character of the roadway, type of motor vehicle, and other existing conditions may reduce this maximum speed limit.
- 15) Only approved standard hand signals for crane, derrick, and boom equipment shall be used. A copy of these hand signals shall be posted at the operating position of each piece of equipment.
- 16) The manufacturer's specifications and limitations applicable to the operation of cranes and other hoisting equipment shall be followed. When manufacturer's specifications are not available, the limitations of the equipment shall be based on the determinations of a qualified engineer, competent in this field, and such determinations, will be appropriately stamped, posted, documented, and recorded. Attachments used with cranes shall not exceed the capacity, rating, or scope recommended by the manufacturer.
- 17) Rated load capacities, operating speeds, and special hazard warnings shall be conspicuously posted on all equipment. Instructions or warnings shall be visible to the operator while he is at his control station.
- 18) All machinery and equipment shall be inspected by a competent person prior to each use. Any deficiencies shall be repaired, and defective parts shall be replaced, before continuing use.
- 19) A thorough, annual inspection of the hoisting machinery shall be made by a Certified Agency. A record of the dates and results of inspections for each hoisting machine and piece of equipment shall be maintained and available for review.
- 20) Wire rope safety factors shall be in accordance with American National Standards Institute B30.5.
- 21) Belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts of equipment shall be guarded if such parts are exposed or otherwise create a hazard.
- 22) Accessible areas within the swing radius of the rear of the superstructure of the crane and excavating equipment, either permanently or temporarily mounted, shall be barricaded in such a manner as to prevent an employee from being struck or crushed by this equipment.
- 23) Swinging or suspended loads shall be lowered to the ground and detached from the crane prior to the crane being moved.
- 24) An accessible fire extinguisher of 5 lb. BC rating, or higher, shall be available at the operator stations or cabs of all equipment and vehicles. These units shall meet Inspection and Maintenance requirements as defined by Chapter 6, Section O. Fire Prevention and Protection, 15) a. and b. of these requirements.
- 25) Documentation of an equipment operator's qualifications to operate the equipment safely is required and records of such certification shall be available to the JEA on request.
- 26) Roll Over Protection (ROPS) as specified by OSHA is required for all equipment operated on

- the project. (Grandfather clauses will not be accepted.) Equipment with ROP must have seatbelts and be used by the operator.
- 27) Trucks with dump bodies, and other hydraulic equipment, shall be equipped with positive means of support that are permanently attached and capable of being locked in position to prevent accidental lowering of the bed or hydraulic attachment during maintenance and/or repair.
 - 28) Hooks welded (mounted on backhoe and loader buckets) will not be used for hoisting. Only closed loop (lifting eyes) mounted on buckets by the manufacturer will be used. Hoisting will only be performed with shackles and chokers attached to these lifting eyes. See Chapter 6, Section P. Cranes and Rigging, 7) Rigging Requirements for more specific requirements.

S. Protection of Employees and the Public

All necessary precautions shall be taken to prevent injury to the public or damage to property of others. Precautions to be taken shall include, but are not limited to, the following:

- 1) Work shall not be performed in any area occupied by the Owner or public unless specifically permitted by the contract or in writing by all Contractors.
- 2) When it is necessary to maintain public use of work areas involving sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways and vehicular roadways, Contractor s shall protect the public with appropriate guardrails, barricades, temporary fences, overhead protection, temporary partitions, shields, and adequate visibility.
- 3) Sidewalks, entrances to buildings, lobbies, corridors, aisles, doors or exits shall be kept clear of obstructions to permit the safe entrance and exit of the public at all times.
- 4) Appropriate warnings and instructional safety signs shall be conspicuously posted. In addition, a signalman shall control the movement of motorized equipment in areas where the public might be endangered.
- 5) Sidewalks, sheds, canopies, catch platforms and appropriate fences shall be provided when it is necessary to maintain public pedestrian traffic adjacent to the erection, demolition or structural alteration of outside walls on any structure.
- 6) A temporary fence shall be provided around the perimeter of above ground operations adjacent to public areas. Perimeter fences shall be at least eight (8) feet high. They may be constructed of wood or metal frame and sheathing, wire mesh or a combination of both. When the fence is adjacent to a sidewalk near a street intersection, at least the upper section of fence shall be open wire mesh above a point not over four (4) feet above the sidewalk and extending at least twenty-five (25) feet in both directions from the corner of the fence or as otherwise required by local conditions.

Guardrails shall be provided on both sides of vehicular and pedestrian bridges, ramps, runways and platforms. Pedestrian walkways elevated above adjoining surfaces, or walkways within twenty five (25) feet of the top of excavated slopes or vertical banks, shall be protected with guardrails.

Guardrails shall be made of rigid materials capable of withstanding a force of at least two hundred (200) pounds applied in any direction at any point in their structure. Their height shall be approximately forty-two (42) inches and the material shall be dressed wood or the equivalent. Intermediate horizontal rails at mid-height will be 2 X 4 inch wood or equivalent and toe boards at platform level may be one (1) inch by twelve (12) inch wood or the equivalent. Posts shall not be more than eight (8) feet apart.

- 7) Barricades, meeting local requirements, shall be provided where sidewalk shed or bridge, fences or guardrails are not required between work areas and pedestrian walkways, roadways or occupied buildings. Barricades shall be secured to prevent accidental displacement and shall be maintained except where temporary removal is necessary to perform the work. During the period a barricade is temporarily removed for the purpose of work, a watchman shall be positioned at each opening.
- 8) Temporary sidewalks shall be provided when a permanent sidewalk is obstructed by a Contractor 's operation. They shall be installed in accordance with the requirements listed above or local codes.
- 9) Warning lights shall be maintained for dusk to sunrise around excavations, barricades or obstructions in designated areas. Illumination shall be provided from dusk to sunrise for all temporary walkways in both Owner controlled and construction areas.

T. Roadway Work Safety

All work on, or adjacent to, existing public and job site roadways shall be performed in conformance to the requirements of: ANSI D.1-1971, Manual on Uniform Traffic Control Devices for Streets and Highways for work on the federal highway system or FDOT Design Standards for work on the state highway system. Unless otherwise provided for in these documents, the Contractor performing said work shall be responsible for the furnishing, set-up, and maintenance of any, and all, traffic control signage, permits, devices, barricades, arrow boards and flagmen.

U. Lead

1) Purpose Statement

The Occupational Safety and Health Administration (OSHA) issued its standard for Lead Exposure in Construction, 29 CFR Part 1926.62, effective June 3, 1993. The lead standard is intended to reduce construction employee exposures to metallic lead, inorganic lead compounds and organic lead soaps. Organic lead compounds are excluded.

The purpose of this program is to help ensure that all Contractors on JEA projects:

- a. Meet the letter and intent of the OSHA Lead Exposure in Construction standard;
- b. Protect their employees from the hazards of lead exposure; and
- c. Specify procedures, engineering controls, work practices and personal protective equipment for conducting construction activities in a safe and healthy manner.

2) General

This procedure provides guidance for the protection of personnel engaged in operations where the handling of lead containing materials is necessary. Strict Compliance with 29 CFR 1926.62.

3) Definitions

Listed below are definitions of terms used in the OSHA Lead Exposure in Construction standard and this compliance program:

Action level: An airborne concentration of lead, without regard to the use of respirators, of 30 micrograms per cubic meter of air ($30 \mu\text{g}/\text{m}^3$) calculated as an 8-hour time-weighted average (TWA)

Lead: Metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other inorganic lead compounds.

Competent Person: One who is capable of identifying existing and predictable lead hazards in the surroundings or working conditions and who has authorization to take prompt corrective measures to eliminate them.

Exposure Assessment: Employer is required to determine if any employee is exposed to lead at or above the action level.

Biological Monitoring: Blood sampling and analyses for lead and zinc protoporphyrin levels performed by or under the supervision of a licensed physician. The accuracy of the analyses shall be plus or minus fifteen percent ($\pm 15\%$) or six micrograms per $6\mu\text{g}/\text{dl}$, which ever is greater, with a confidence level of ninety-five percent (95%). Analyses shall be conducted by a laboratory approved by OSHA. Blood levels at or above $40 \mu\text{g}/\text{dl}$ shall require immediate action to reduce employee exposure.

Work Area: The work area is that part of the project site where construction or maintenance activities are being performed. The work area is not necessarily one contiguous area. It may be several smaller areas. Access to this area typically requires some employee indoctrination training and a minimal amount of personal protective equipment. Office space where administrative activities are performed are typically not part of the work area.

Baseline: Baseline refers to the medical condition of an employee prior to being exposed to a contaminant.

Personal Air Samples: Time Weighted Average (TWA) samples collected for at least six (6)

hours, within twelve inches (12”) of an employee’s nose. Samples must meet the quality information requirements.

Area Air Samples: Time Weighted Average (TWA) samples collected in the immediate area where activities that may produce lead aerosols are being conducted. Area samples are usually collected for the entire duration of the shift or during just one operation (e.g. welding on a vessel). Samples must meet the quality information requirements.

4) Properties of lead:

Metallic lead is a dense soft gray metal. It has numerous properties that have contributed to its use in many applications. Its properties include:

- It is durable and very workable
- Does not corrode
- Expands when water freezes, thereby preventing pipes from bursting
- Does not readily crack due to building settling

5) Sources of Lead

Major sources of lead include, but are not limited to:

- White lead (for paint)
- Red lead, litharge (used for paints and ceramics)
- Interior and exterior lead-based paints, especially green and white colors
- Soils in the immediate area below lead-based paints
- Gasoline additives
- Storage batteries
- Electrical wire and cable coverings
- Ammunition
- Mining and smelter wastes
- Milling wastes
- Solder
- Caulking

6) Health Effects of Lead Exposure

The effects of exposure to any hazardous material is dependent on the concentration of the material, the amount of time the worker remains exposed, and the chemical nature of the hazardous material. The combined effect of two or more hazardous materials can produce an effect greater than that of either alone.

There are two principle ways for lead to enter the body, inhalation and ingestion. Lead and inorganic lead compounds cannot be absorbed through the skin. Some organic lead compounds, such as lead stearate, can be absorbed through the skin.

a. Inhalation:

Only very fine particles, such as vapors or lead fumes, that are inhaled can get into the lungs. Once in the lungs, the particles are absorbed by the lungs into the blood stream. Larger particles are cleared from the upper airways, swallowed and absorbed in the gastrointestinal tract. In normal adults 30-50% of inhaled lead is retained. The amount of lead that is absorbed by the body is dependent on the size of the particles. Very small particles, such as those created by welding, that reach the lowest levels of the lungs are almost completely absorbed. This is one of the reasons why using heat on or around lead-containing materials is not recommended.

b. Ingestion:

When lead is ingested, swallowed and dissolved by the stomach acids, the gastrointestinal tract absorbs part of the lead that was ingested. For adults, about 5-15% of ingested lead is absorbed. The amount of ingested lead absorbed is also dependent on the size of the particle. Generally the smaller the particles the higher the absorption rate. Fine dusts generated by sanding or grinding are more readily absorbed than flakes of paints. In addition, fine dusts are harder to detect and control and therefore more easily ingested. Lead ingestion is probably the exposure pathway that most contributes to lead exposure. It is very important not to leave lead-containing dust in the work area. Clean all lead containing dust as soon as possible using either a wet mop or a vacuum cleaner equipped with a High Efficiency Particulate Absolute (HEPA) air filter. It is also very important that lead dust not be allowed to be carried home on employees clothes or shoes. Otherwise children and spouses may be exposed.

Remember!!! Leather shoes cannot be decontaminated. If an employee's leather shoes come in contact with lead-containing dust, the shoes must be disposed of as a contaminated waste.

c. Symptoms of Exposure to Lead

Cumulative exposures to lead, which is typical in construction settings, may result in damage to the blood, the nervous system, kidneys, bones, heart, and the reproductive system. It also contributes to high blood pressure.

1. The symptoms of lead poisoning include:

- Headache
- Poor Appetite
- Dizziness
- Constipation
- Pallor
- Excessive Tiredness
- Numbness
- A metallic taste in the mouth
- Muscle/Joint pain/soreness
- Sleeplessness
- Weakness
- Reproductive Difficulties
- Nausea
- Fine Tremors
- "Lead Line" on gums
- Hyper activity
- "Wrist Drop"

2. Permissible Exposure Limits (PEL)

There are three agencies that regulate employee exposures to hazardous materials:

- Occupational Safety and Health Administration (OSHA)
- National Institute of Occupational Safety and Health (NIOSH)
- American Conference of Governmental Industrial Hygienists (ACGIH)

Only OSHA is law. However, companies have been successfully cited and/or prosecuted for exposing employees to concentrations of hazardous materials greater than recommended by any of these agencies.

The OSHA PEL for lead is 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) calculated as an

8-hour TWA. If an employee works a shift longer than 8-hours, permissible exposure is reduced according to the following formula:

$$\text{Allowable Employee Exposure} = 400 \text{ divided by hours worked in day}$$

The NIOSH Recommended Exposure Limit (REL) for lead is 100 µg/m³. The ACGIH Threshold Limit Value (TLV) for lead is 50 µg/m³.

7) Competent Person Designation

A Competent Person is someone designated by the Contractor, in writing as capable by education and/or specialized training, of anticipating, recognizing and evaluating employee exposure to lead hazards in a construction environment. This person shall have the authority to specify necessary controls and/or protective actions to ensure worker safety and health.

The Competent Persons designated for the JEA Project are:

PRINTED NAME	TITLE

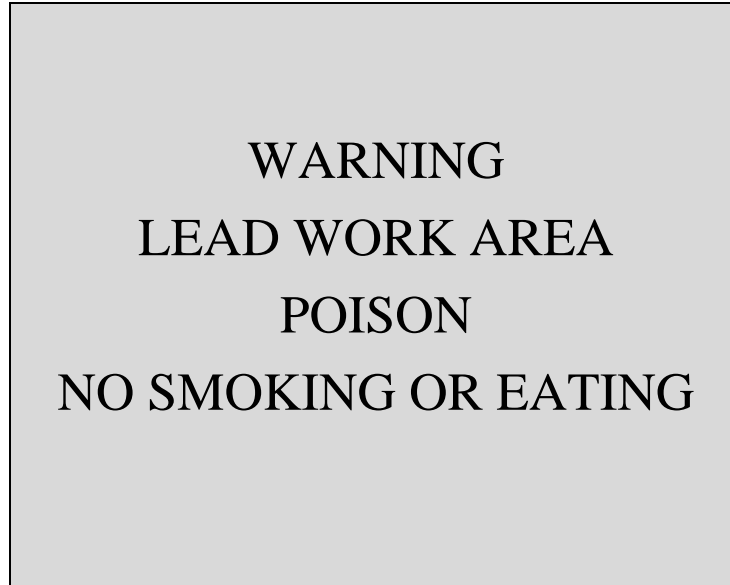
8) Training Requirements

All employees in job classifications that may be required to enter the work area shall receive training. All training shall be provided to employees before they begin tasks that may occupationally expose them to lead. Those employees who may be exposed to lead shall receive additional training on the subjects listed below in this section. A written examination shall be administered to each employee who receives this additional training. The purpose of the written examination shall be to document employee understanding of the training material and gauge the effectiveness of the training. Documentation of each employee’s participation in this training, including their exam grade, shall be maintained with the project health and safety files.

The additional training topics shall include the following topics:

- a. The contents of the OSHA Lead in Construction standard and appendices
 - b. The specific nature of the operations which could result in exposure to lead above the action level
 - c. The purpose, proper selection, fitting, use, limitations and health effects of respirators
 - d. The purpose and description of the medical surveillance program, the placement of employees for medical reasons, health effects of lead with particular attention given to the reproductive and teratogenic effects of lead exposure
 - e. The engineering and work practice controls associated with each employees job classification
 - f. Relevant good work practices as described in Appendix B of 29 CFR 1926.62
 - g. The contents of this program
 - h. Instructions that chelating agents should not be used at all except under direct supervision of a licensed physician
 - i. The employee's right to access to records and documents including:
 1. A copy of this program
 2. A copy of 29 CFR 1926.62, Lead in Construction standard
 3. All other materials relating to the employee information and training program.
- 9) Signage Requirements

The Project shall post signs, illuminated and cleaned as needed, stating the following in each work area where an employee exposure to lead aerosols may be above the AL:



10) Record-keeping Requirements

- The project shall establish and maintain accurate records. The project shall make all records kept in accordance with this program available to employees, or their designated representative, upon written request. The information that must be maintained in the project files, how long it must remain with the project files, and, when appropriate, on whom the information must be kept must comply with 1926.62

(n) Record keeping.

11) Air Monitoring Requirements

Air monitoring shall be required to effectively document employee exposures to airborne lead. Air monitoring will consist of collecting air samples on employees and in and around lead dust-generating task activities. Generally, two types of air samples may be collected:

- Lead-specific, Personal Air Samples (PAS)
- Lead-specific, Area Air Samples (AAS)

Both PAS's and AAS's must be collected to meet the requirements of the OSHA Lead in Construction standard and the requirements of this program. All PAS's and AAS's shall be collected and analyzed in accordance with the National Institute of Safety and Health (NIOSH) Method 7082 for airborne lead.

When either area or air samples are collected, analyzed and found to be greater than 30 $\mu\text{g}/\text{m}^3$, the project must take additional steps to prevent future employee exposures to airborne lead and provide blood tests to employees in the associated job classification.

a. Personal Air Samples

Personal air samples (PAS) are containment-specific samples collected within an employee's breathing zone. The breathing zone is defined as the area in front of the employee and within twelve (12) inches of the employee's nose.

PAS's shall be collected on at least one (1) employee or twenty-five percent (25%) of employees, whichever is greater, in each job classification that may have occupational exposures to airborne lead above the action level.

When sample analysis results are received, the employee on which the sample was collected shall be informed of the sample results in writing within five (5) working days. The EMPLOYEE EXPOSURE NOTIFICATION-PERSONAL AIR SAMPLE form, or equivalent, may be used.

b. Area Air Samples

Area air samples are contaminant-specific samples collected to determine the quality of the ambient air in and around the lead work area where lead-generating tasks are being conducted. In general, the lead work area shall be defined as an area fully encompassing the lead dust-generating tasks being performed plus a buffer zone of ten (10) feet.

Area air samples shall be collected at least:

1. In the immediate area where lead generating tasks are being conducted
2. At the perimeter of the lead work area.

The exact location where these samples should be collected is subjective. The immediate area sample should be collected in a location that reasonably represents the air quality in the immediate area where lead dust-generating tasks are being performed. The perimeter sample is best collected at the perimeter of the lead work on the side toward the nearest standard construction tasks being conducted. The perimeter sample is meant to demonstrate that lead dusts are not migrating to affect other employees.

When area air sample analysis results are received, the sample results must be posted in a central location within five (5) working days. The EMPLOYEE EXPOSURE NOTIFICATION-AREA AIR SAMPLE form, or equivalent, may be used.

c. Observation of Monitoring

The project shall make available to employees, or their designated representative,

the opportunity to:

- Observe air monitoring conducted.
- Receive an explanation of the monitoring procedures being followed
- If requested in writing, provide a copy of the results obtained within five (5) working days of receipt

If such observations require the observer to enter an area where respirators or other PPE is required, the project shall provide that PPE if, and only if, the observer is medically fit to wear the PPE and has complied with all other applicable safety and health procedures

d. Management of Change

Whenever there has been a change of equipment, process, control, personnel or a new task proves necessary that may result in employee exposure at or above the action level, an EEA shall be conducted encompassing any new tasks and/or job classification.

12) Initial Determination Procedures

For the purposes of this program, the initial determination shall be defined as the process of determining whether or not the OSHA Lead in Construction standard is applicable to a given project and if it is applicable to what extent.

Every initial determination shall begin with a letter sent to JEA asking for information about lead-containing materials in our designated work area. The sample letter shown in **Figure 6-1** may be used as a guide in composing your letter. If JEA knows with certainty that there is or is not lead in the designated work area, then place copies of the documentation detailing this information in the appropriate appendix of this program. If lead is known to be present, an Employee Exposure Assessment must be conducted. If JEA does not know, with certainty, then a competent personal shall be used to test all surface coatings that may be:

• Abraded	• Blasted
• Cleaned	• Cut
• Filed	• Ground
• Heated	• Rivet busted
• Sanded	• Sawed
• Scraped	• Welded, or
• In some other way caused to become airborne dust.	

If the test results indicate **any lead** is present in the paint, then an Employee Exposure Assessment must be conducted pursuant to 1926.62 (d) on those employees who will be working with or around those materials.

(See Sample Form Letter – next page)

Sample Form Letter

Dear Client/Owner:

The Occupational Safety and Health Administration has issued a set of requirements for the management of occupational exposures to lead, inorganic lead compounds, and organic lead soaps. The Standard 1926.62 requires JEA to perform a determination, utilizing objective data, of the presence or absence of lead, inorganic lead compounds, and organic lead soaps in JEA's designated work area.

Our first step in the determination is this request for information. JEA requests written information about the materials used and/or air samples collected to determine the presence of lead, inorganic lead compounds, or organic lead soaps in JEA's designated work area. Examples of the type of information we are seeking include but are not limited to:

Material Safety Data Sheets for existing paints, coatings, or other materials found in the designated work area;

Construction material specifications or as-built drawings stating material specification information;

Area or personal air sample results, logs, and methodologies followed to determine the presence or absence of nuisance dust or lead aerosols;

Results of laboratory analyses or paint chips and other material coatings for the presence of lead; or

Results of portable field instrumentation survey(s) conducted to determine the presence of lead, such as with an XRF analyzer.

Any information provided will be maintained as confidential. The information is for the sole use of JEA's Project Safety and Health Management in determining appropriate personal protective equipment needs and meeting the requirements of the Standard. As is required by the Standard, copies of appropriate information shall be maintained with the project safety and health files for thirty (30) years. It is critical that we receive this information from (client/owner). If JEA can be of assistance in determining actions to take in putting this information together, please contact (JEA S&HS Manager) for assistance.

Yours truly,

(Site Manager's Name)

(JEA Project Managers Name)

Figure 6-1

13) Employee Exposure Assessment Procedures

If the determination indicates the presence of lead in designated work areas, an employee exposure assessment (EEA) shall be conducted. The EEA shall consist of using the Employee Exposure Assessment Lead form to document:

- A written record of:
 - Each and every job classification on a project,
 - Date the initial determination was made for each job classification and a listing of the objective data, if any, used in making the determination,
 - Name and social security number(s) of each employee in that job classification, and
 - The date, sample number(s), and result(s) of personal air samples collected on that employee;
- Gathering objective data, observations, other information or performing calculations which would indicate employee exposure;
- Obtaining copies of any previous measurements of airborne lead concentrations collected while performing similar operations under similar conditions;
- Reviewing employee complaints of symptoms which may be attributable to exposure to lead; and
- Reviewing available and feasible engineering work practice controls which may reduce employee exposures.

The EEA shall be conducted for each job classification performing tasks, or requiring prolonged proximity to tasks, which may create lead aerosols.

A record of objective data used in assessing employee exposure shall be kept in the appropriate appendix throughout the project and for thirty (30) years after project completion.

a. Positive EEA Results

If the EEA results indicate that job classifications are likely to be exposed to airborne lead levels above the action level, appropriate controls, as specified in the Methods of Compliance Sections of this program shall be used to reduce potential employee exposures.

b. Inconclusive EEA Results

Information gathered during the EEA can be inconclusive either due to insufficient relevancy or quality.

If the EEA is inconclusive for job classifications performing any of the following tasks where lead is present:

- Manual demolition of structures;
- Manual scraping or sanding;
- Heat gun applications;
- Cleaning power tools equipped with dust collection systems; or
- Any other task that may generate aerosols

The following shall be provided for affected employees:

- Half-face, air purifying, negative pressure respirators equipped with high efficiency particulate absolute (HEPA) filter cartridges. If the lead is causing eye or facial skin irritation, a full face piece respirator shall be required. If additional contaminants are also involved in the tasks, appropriate compound filter cartridges shall be used;
- Appropriate coveralls or similar full-body work clothing;

- Appropriate gloves, hats, and shoes made of a non-permeable material or disposable shoe coverlets.

NOTE!!! LEATHER SHOES CANNOT BE DECONTAMINATED. IF THEY ARE WORN DURING THESE TASKS WITHOUT COVERLETS, THEY SHALL BE DISPOSED OF ALONG WITH THE OTHER LEAD-CONTAMINATED WASTES;

- Clean change areas equipped with separate storage facilities for protective work clothing and for street clothing which prevent cross contamination;
- Hand washing facilities;
- Baseline biological monitoring; and
- Training in accordance with the training portion of this APS.

NOTE!!! FULL FACEPIECE PAPR's SHALL BE PROVIDED TO EMPLOYEES, IF APPROPRIATE, IN LIEU OF HALF MASK RESPIRATORS UPON REQUEST.

If the EEA is inconclusive for job classifications performing any of the following tasks where lead is present:

- Using lead-containing mortar;
- Lead burning
- Rivet busting
- Cleaning power tools not equipped with dust collection systems;
- Cleanup activities where dry expendable abrasives were used; or
- Removal or moving of abrasive blasting enclosures;

All items previously described shall be provided for affected employees, except for:

Minimum respiratory protection shall be either:

- Loose fitting hood or helmet powered air purifying respiration (PAPR) with HEPA filter cartridges; or
- Loose fitting hood or helmet supplies air respirator operated in continuous-flow mode.

If the EEA is inconclusive for job classifications performing any of the following tasks where lead is present:

- Abrasive blasting;
- Welding;
- Cutting or sawing;
- Torch burning

All items previously described shall be provided for affected employees, except for:

Minimum respiratory protection shall be either:

- Full face piece air purifying respirator with HEPA filter cartridges;
- PAPR with HEPA filter cartridges
- Half mask or full face piece supplied air respirator operated in continuous-flow mode; or
- Full face piece self-contained breathing apparatus (SCBA) operated in demand mode.

Respiratory protection shall be used until at least two (2) consecutive personal air samples, collected at least seven (7) days apart, are analyzed and found to be below the action level.

Collection of personal air samples shall be collected first on those employees reasonable believed to have the highest potential exposure. If the first consecutive personal air samples are found to be below the action level, further samples shall only be collected if there is no objective data to indicate that other tasks present lower exposure potential.

c. Negative EEA Results

Where objective data is available to indicate that a job classification cannot be exposed to airborne concentrations of lead at or above the action level, the data will be kept with the project files for thirty (30) years.

d. Employee Notification

Within five (5) working days after completion of the EEA, the project shall notify each employee, in writing, of the results of the EEA for that employee's job classification.

14) Medical Surveillance Procedures

Medical examinations, in accordance with 1926.62(j), shall be provided to all employees who may be exposed above the action level for more than thirty (30) days in any twelve (12) month period. The project shall promptly notify an employee of the right to seek a second medical opinion after each examination or consultation. Payment by the project for the second medical condition is conditioned upon:

- The employee information project management, in writing, of his/her intent to seek a second opinion; and
- The employee initiating steps to make an appointment with the second physician.

Both of these actions must be completed within fifteen (15) days of receipt of the initial physicians written opinion or employee receipt of the aforementioned notification, whichever is later.

The project shall assure that any person retained, employed, supervised, or otherwise controlled does not engage in prophylactic chelation except under the direct supervision of a licensed physician with all appropriate monitoring. Employee shall be informed, in writing, prior to any therapeutic or diagnostic chelation.

a. Biological Monitoring

Biological monitoring shall be made available for employees who may be exposed to lead aerosols at or above the action level. Employees who may be exposed for less than thirty (30) days shall receive baseline biological monitoring only.

Employees who may be exposed for more than thirty (30) days shall be placed in a medical surveillance program. The project, also, shall make biological monitoring available every two (2) months for the first six (6) months and once every six (6) months thereafter until the employee no longer has a potential lead aerosol exposure.

b. Employee Placement for Medical Reasons

Remove from work which may present an exposure to lead aerosols each employee whose:

- Periodic and a follow-up blood sampling tests indicate blood levels at or above 50 µg/dl – monthly blood sampling required during removal period - or;
- Medical examination or written physician's opinion indicated that the employee has a detected physical condition which places the employee at increased health risk to exposure.

Where a medical examination or written physician's opinion recommends special

protective measures, or limitations on an employee, implement appropriate additional engineering controls, work practices or PPE that meets the intent of the recommendation.

c. Return to Work Criteria

Where an employee was removed from work for high blood lead levels, the employee may return to his/her former job classification when two (2) blood sampling tests indicate that the employee's blood lead level is below 40 µg /dl.

Where an employee was removed from work for a detected physical condition which places the employee at increased health risk to exposure, the employee may return to his/her former job classification when a subsequent medical examination or written physician's opinion finds that the employee no longer has the condition which placed the employee at an increased risk.

Where a detected physical condition placed the employee at an increased health risk, the employee may return to his/her former job classification when a subsequent medical examination or written physician's opinion finds that the special protective measures, or limitations are no longer needed.

15) Methods of Compliance

Methods used to reduce potential employee exposure to lead shall be implemented in the following order of priority:

- 1st Engineering controls;
- 2nd Work practice controls, and then, if after all feasible engineering and work practices controls that have been instituted are not sufficient to reduce employee exposure
- 3rd Respiratory protection, as a supplement only, to the engineering and work practice controls.

Respiratory protection alone shall not be an optional method for reducing potential employee exposures.

a. Engineering Controls

According to OSHA regulation, engineering controls must be applied first, to the extent possible, before either work practice controls or personal protective equipment can be used.

There are numerous engineering controls that can be used either alone, or in combination to reduce potential employee exposures. These include, but are not limited to:

- Dust collection devices on power tools;
- Dust collection devices with HEPA-filters on power tools;
- Use of barriers; or
- HEPA-filtered local exhaust ventilation systems.

b. Work Practice Controls

Work practice controls may be used alone or in addition to either engineering controls or personal protective equipment. Work practice controls to consider include, but are not limited to:

- Use of encapsulants;
- Minimizing the number of employees potentially exposed;
- Using hand tools instead of power tools
- Using lead abatement professionals to remove lead from affected areas; or

- Use of surfactants;
- Strict hand and face washing protocols;
- Strict and frequent air monitoring.

c. Personal Protective Equipment

Personal Protective Equipment (PPE) shall only be used after all feasible engineering and work practice controls have been applied. Possible PPE includes, but is not limited to:

- Air purifying respirators;
- Supplied-air respirators;
- Disposable coveralls;
- Disposable boot covers;
- Hair covers;
- Disposable gloves; or
- Use of face shields.

d. Housekeeping

Housekeeping is particularly important in work areas where lead dust-generating activities are being conducted. Lead is a very dense metal and therefore will tend to accumulate on horizontal surfaces near to where it is being generated. On floors, this lead dust can be traced on shoes to other areas of the project, potentially exposing other, less protected employees. Projects shall take all feasible measures necessary to control dust generation and prevent the accumulation of lead dust. Accumulated lead dust shall be cleaned up either by wet methods or by use of HEPA filter equipped vacuum cleaners. Vacuum cleaners not equipped with HEPA filters shall not be used to clean up lead soot under any circumstances.

16) Employee Hygiene Facilities

This section applies to all employees in job classifications where exposure to airborne lead is or may be greater than the PEL, without regard to the use of a respirator. For these employees the project shall provide the following:

- Clean change area;
- Clean shower facilities, where feasible;
- Remote eating/break areas; and
- Hand and face washing facilities.

At all times the project shall ensure that no employee leaves the work area without following proper hygiene procedures.

a. Change Area

A change area shall be an area remote from lead dust-generating work areas. The change areas shall provide separate storage facilities for protective work clothing and street clothing that will prevent cross contamination. The project shall ensure that no employee leaves the site wearing protective clothing. If applicable, project shall accommodate employees of both genders either by providing separate change areas, enforcing change shifts, or another system allowing prudent modesty.

b. Shower Facilities

Wherever feasible, shower facilities shall be provided for employee use. When showers are provided, the project shall ensure that all employees conducting lead dust-generating tasks shower at the lunch break and at the end of the shift. Shower supplies, including

shampoo, soap, and disposable towels shall be provided by the project. Only potable water in accordance with 29 CFR 1926.51 may be used for showering.

If applicable, project shall accommodate employees of both genders by providing separate shower facilities, enforcing shower shifts, or another system allowing prudent modesty.

c. Eating/Break Areas

The project shall provide eating/break areas removed from the lead dust-generating work areas. These areas shall remain as free as feasible of potential lead dust contamination. Under no circumstances shall employees be allowed to enter the eating/break areas while wearing protective clothing and/or prior to showering or washing hands and face.

d. Hand and Face Washing Facilities

The project shall provide adequate facilities to allow employees to thoroughly wash hands and face. The project shall ensure that all employees conducting lead dust-generating tasks wash both hands and face at all breaks and, if shower facilities are not supplied, at the end of the shift. Hand and face washing supplies including soap and disposable towels shall be provided by the project. Only potable water in accordance with 29 CFR 1926.51 may be used for washing.

**Acknowledgement of Refusal to Participate in Lead-Related
Medical Surveillance Program**

Dear Employee Name:

The purpose of this letter is to document that you have refused to participate in JEA's "medical surveillance program" on the JEA Project. In order to demonstrate compliance with the law, JEA must have a signed copy of this form in its project files to document that you have freely chosen to refuse participation in its "medical surveillance program." Before you sign this form, please read the information section and the statement carefully.

INFORMATION

The Occupational Safety and Health Administration (OSHA, 29 CFR 1926.62) has issued a set of requirements for the management of occupational exposures to lead, inorganic lead compounds, and organic lead soaps. OSHA requires JEA to maintain a "medical surveillance program." Employees who may potentially be exposed to airborne lead at or above the action level on any one day must be offered "medical surveillance" at no cost to the employee. The medical surveillance consists of periodic blood sampling and medical evaluation for the purpose of detecting lead and zinc protoporphyrin levels only. The frequency of blood sampling and medical evaluations is determined by the results of previous blood samples and evaluations.

You are strongly encouraged to participate in this monitoring program. This service is required by OSHA to be provided at absolutely no cost to JEA employees. Participation in the testing performed as a result of your program will not be used for any purpose other than monitoring lead exposure. If you have any questions about the medical surveillance program, please contact your JEA Site Safety Manager or Occupational Nurse at

(Telephone) _____ or _____

You are not required to participate in the program.

If you still choose not to participate, please read the statement and then sign below:

STATEMENT:

I have read the information section above. I understand that participation in the JEA SITE SPECIFIC Project medical surveillance program is free of charge and that the testing performed will be for lead exposure only. I voluntarily choose not to participate.

Signature: _____

Print Name: _____

SS#: _____

GUIDELINES FOR MANAGING LEAD-BASED PAINT ON CONSTRUCTION MANAGEMENT PROJECTS

On Tuesday, May 4, 1993, the Occupational Safety and Health Administration (OSHA) promulgated their Lead Exposure in Construction standard; 29 CFR 1926.62. This standard is significantly different from the Housing and Urban Development (HUD) guidelines for managing lead-based paints. The HUD guidelines are intended to protect children living in public housing. The OSHA regulation is intended to protect construction workers while performing construction activities.

In general, the OSHA lead regulation requires an employer, such as JEA, to assume that operations that may cause lead to become airborne will expose employees conducting those operations to airborne lead above the action level until we prove otherwise. Proof usually means two sets of valid air sample results collected at least 7 days apart. Each individual Contractor on a project must meet this requirement of the lead regulation for their operations.

In JEA's experience, we have identified a number of tasks that are likely to expose employees above the action level for airborne lead:

- Torch cutting metal objects with lead-based paint.
- Grinding, abrading, filing, sanding, or otherwise mechanically causing to become airborne lead-based paint.
- Using powder-actuated tools indoors in areas with limited ventilation.
- Sand blasting operations; including blasting operations using materials other than sand; and,
- Welding on metal objects covered with lead based paint.

There are three principle methodologies for construction management projects that will require Contractors, or Sub-Contractors, to perform any of the above operations, or other operations, which may disturb lead-based paints.

- The client may choose to remove all the lead-based paint from the impacted work areas prior to any construction activities. This option is usually very expensive. Clients should be informed of the fact that there is no regulatory mandate to remove lead-based paints. Lead is NOT the same as asbestos. There is little, if any, safety and health risk to employees from lead-based paints in industrial facilities. In addition, depending on the methodology used to remove the lead-based paints, wholesale removal of the paint may create more of a health hazard than leaving the paint in place and maintaining it in good condition.
- The client, through the construction manager, may hire a reputable lead abatement company to perform spot removal in advance of the construction activities. In this method, the construction manager asks each Contractor to identify the EXACT locations where operations that will disturb the lead-based paint are to be conducted. The construction manager then has the lead abatement company remove the lead-based paint. This option is usually cost effective, but coordination between the construction manager and the Contractors and the lead abatement company usually adds time to the overall schedule. The principle advantage to this option is that less experienced Contractors, who do not have written lead exposure control and respiratory protection programs as required by OSHA, will not be forced to write the somewhat complicated programs and then train their employees in the usage and care of respirators.

- The construction manager informs each Contractor of the potential presence of lead-based paint in the work area and then requires each Contractor to submit written copies of the required programs in full compliance with the applicable OSHA regulations prior to ANY construction activities. Smaller or less experienced Contractors almost never have these programs or if they do, they do not meet OSHA requirements. In addition, there is a training requirement in the applicable OSHA regulations which also adds time to the schedule.

Ultimately, the preferred option is dependent upon the client's long term plans for the facility to be constructed or demolished; the client's desire to work with local, smaller Contractors; the time schedule for the completion of the project, and the amount of lead-based paint that will be disturbed by the scope of work.

****** NOTICE TO CONTRACTORS ******

JEA

Jacksonville, Florida

This notice is intended to notify Contractors on the JEA Project that painted surfaces in the designated work areas may contain lead or inorganic lead compounds. Any task, operation, job, procedure, or technique that may disturb or cause the paint on these surfaces to become airborne is regulated by the Occupational Safety and Health Administration's (OSHA) Lead in Construction regulation, 29 CFR 1926.62. Strict compliance with the requirements of this regulation, and all other applicable OSHA regulations, shall be enforced on this project. Failure to comply with these requirements may be considered a violation of the terms of your contract.

The following written documents and/or documentation shall be submitted to JEA by each Contractor whose scope of work is regulated by 29 CFR 1926.62 one calendar week (several calendar days) before any construction activities at the project site begin:

- Name of Contractor's "Competent Person" as defined by OSHA 29 CFR 1926.62(b). This personal shall be on site at least once each working day.
- A copy of Contractor's compliance program as defined in OSHA 29 CFR 1926.62(e)(2). This compliance program shall include at least the following:
 - A description of each activity in which lead may be emitted.
 - A description of the specific means that will be employed to achieve compliance with OSHA 29 CFR 1926.62.
 - If Contractor believes their methodology of conducting their scope of work does not expose their employees above the action level for lead, provide copies of results of air samples collected during similar operations and similar facilities. Two air sample results minimum. Without appropriate air sample results, all Contractor operations that may disturb painted surfaces containing lead shall be assumed to expose employees above the action level for lead.
- A detailed schedule for implementation of Contractor's compliance program.
- A description of work practices to be followed while completing your scope of work.
- A schedule of frequent, documented inspections.
- A statement to the effect that a copy of the compliance program shall be on site at all times and is available for review by any project employee upon request.
- If respirators are to be used, provide a copy of the Contractor's written respiratory protection program that complies with OSHA 29 CFR 1926.103, 29 CFR 1926.62(c)(3), 29 CFR 1926.62(e)(1), and 29 CFR 1926.62(f).
- Location and usage requirements of Contractor's hand washing facilities.
- Housekeeping requirements and/or procedures.
- A description of the Contractor's medical surveillance program in compliance with 29 CFR 1926.62(j).
- A statement to the effect that employees shall be given a copy of and explanation of the results of all air samples collected in their work area.

V. Asbestos

1) General: This procedure provides guidance for the protection of personnel engaged in operations where the handling of asbestos or asbestos-containing materials is necessary. Strict compliance with 29 CFR 1926.1101 is required.

2) Definitions:

Asbestos: A naturally occurring mineral fiber with any of the following names:

- Chrysotile
- Amosite
- Crocidolite
- Fibrous Tremolite
- Fibrous Anthophyllite
- Fibrous Actinolite

Asbestos Fiber: Asbestos which is five (5) micrometers or longer with the length at least three (3) times the diameter.

Cemented Asbestos: Asbestos which is tightly bound with tar, Portland cement, or other material.

Friable Asbestos: Asbestos which can be crushed, pulverized, or reduced to dust with hand pressure.

Regulated Area: An area established by the employer to demarcate areas where airborne concentrations of asbestos or asbestos-containing materials exceed or can reasonably be expected to exceed the permissible exposure limit.

Time Weighted Average (TWA): Concentration for a normal 8-hour workday and a 40-hour work week, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect.

Permissible Exposure Limits (PEL): 0.1 fibers/cc, 8-hour Time Weighted Average (TWA).

3) Requirements:

Wherever feasible, establish negative pressure enclosures before commencing removal, demolition, and renovation operations.

A "Competent Person" is someone who has successfully completed a state or federally approved asbestos abatement supervisor's course and required annual refresher training or is a certified industrial hygienist knowledgeable in asbestos control. "Competent Person" also means one who is capable of identifying existing asbestos, tremolite, anthophyllite, or actinolite hazards in the workplace and who has the authority to take prompt corrective measures to eliminate them as specified in OSHA 29 CFR 1926.1101.

A Competent Person shall supervise:

- setting up the enclosure;
- the integrity of the enclosure;
- entry to and exit from the enclosure;
- all employee exposure monitoring;
- ensuring that employees working within the enclosure wear protective clothing and respirators;
- ensuring that employees are trained in work practices, personal protective equipment, and engineering controls;
- ensuring that employees use the hygiene facilities; and
- ensuring that engineering controls are functioning properly,

Small scale, short duration operations such as pipe repairs, valve replacement, installing electrical conduits, installing or removing drywall, roofing, and other general building maintenance or renovation, do not require the employer to comply with the above requirements. However, projects involving pipeline asphalt wrap and roof flashing coated with bituminous or resinous compounds must have a competent person determine material is intact and will likely remain intact.

Employees who are exposed at or above the permissible exposure level (0.1 fibers/cc, 8-hour TWA) for 30 or more days per year, even if they are not working directly with the asbestos, shall have the following:

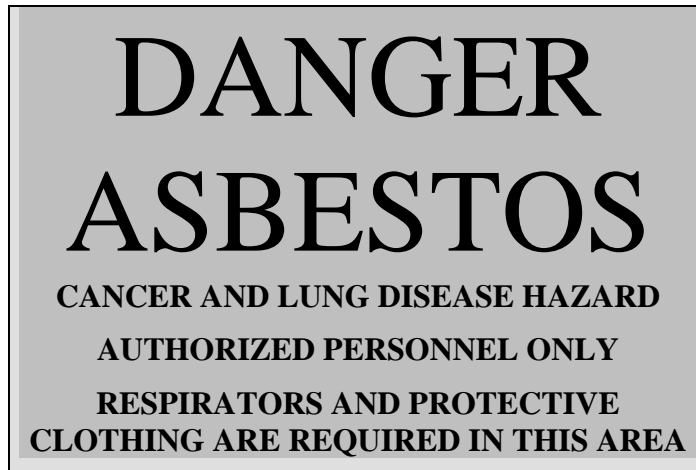
- A medical examination
- Respirator training and respirator fit testing.
- A respirator as shown below:

Asbestos Concentration	Minimum Respirator Required
Not to exceed 1 fibers/cc (10XPEL)	Half-mask air-purifying respirator equipped with high efficiency filters.
Not to exceed 5 fibers/cc (50XPEL)	Full face piece air-purifying respirator equipped with high efficiency filters.
Not to exceed 10 fibers/cc (100XPEL)	1. Air supplied respirator with continuous flow or pressure-demand regulator. 2. Any powered air purifying respirator equipped with high efficiency filters.
Not to exceed 100 fibers/cc (1000XPEL)	Full face piece supplied air respirator operated in pressure demand mode.
Over 100 fibers/cc or unknown concentrations (>1000XPEL)	Full face piece supplied air respirator operated in pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus.

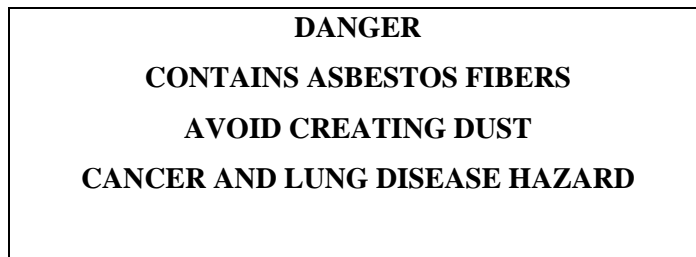
- Full body covering that will prevent contamination of the employees' skin or clothing.
- Wash facilities to remove asbestos from the face, hands, and any other part of the body not protected by clothing.
- A place to store and to consume food, beverages, and tobacco products so that these items will not be contaminated by asbestos.
- Procedures for changing into and removing protective clothing to prevent asbestos contamination of other facilities, such as eating area, shops, tool rooms, and offices.
- Annual or pre-job training which will include:
 - Routine and emergency procedures to be following while working with asbestos;
 - The health effects of smoking and asbestos exposure;
 - A review of this standard; and
 - A review of applicable exposure monitoring.

4) Engineering Controls and Work Practices

- a. Friable asbestos shall be saturated with wetting agents before removal, unless approved by applicable regulatory agency.
- b. Enclosures will be used when friable asbestos must be removed without wetting, and a filtered exhaust system will be used to remove fibers from the enclosure.
- c. Removed asbestos shall be bagged, labeled, and stored or disposed of daily in a way which will prevent release of fibers.
- d. For work which will release fibers from cemented asbestos, such as sawing, grinding, or drilling, the tools will be equipped with a local exhaust system or area shall be enclosed with HEPA filtered exhaust.
- e. Barricades will be used to prevent unauthorized entry into work area.
- f. Work areas which have been barricaded or enclosed shall have signs posted at all entrances which indicate:



- g. Each enclosed or barricaded area shall be cleaned at the end of each work day with a HEPA vacuum cleaner, by wet sweeping, or other effective means of fiber cleanup.
- g. Insulation which contains greater than one (1) percent asbestos shall neither be installed nor re-installed.
- h. Disposal areas and asbestos containers shall be labeled:



NOTE!!! The letters and label shall comply with 1910.1200 (f).

- i. The state or federal EPA must be notified within 10 working days by the Contractor before asbestos removal unless that agency allows the client to do the notifying or there is a genuine emergency.
- 5) Record-keeping
- a. A list containing the names of those employees exposed to asbestos shall be maintained at the project.

- b. Records of training shall be maintained 1 year after termination, records of exposure shall be kept for 30 years after date of exposure and medical surveillance records shall be maintained for 30 years after date of termination.
 - c. All records will be forwarded to the JEA when the project is complete.
- 6) Hazard Communication
- a. Contractor shall inform other employers of the nature of work and requirements pertaining to regulated areas.
 - b. Contractor shall notify affected employees of the monitoring results.

W. Heat Stress

- 1) General: Heat stress generally describes the effect of heat, from any source, on the organs of the body and the person as a whole. The stresses of heat on the body manifest themselves in five common ailments: heat exhaustion, heat cramps, heat stroke, heat syncope, and heat rash.

Different parts of the country and world have different environmental conditions which affect this generic standard. Local practices, average temperatures, and common working habits should be considered when addressing this standard.

- 2) Responsibilities: once heat levels become higher than 95°F (35°C) for whatever reason (natural weather conditions or mechanical heat sources), the Contractor shall instruct his/her Project Safety Representative to develop a heat stress management plan for the project.

The plan should include the following data:

- a. Temperatures expected to be found in the work place based upon environmental factors such as air temperature, relative humidity, air velocity, and thermal radiation.
- b. Based upon temperatures found, a ratio of work time versus rest periods, with work periods reducing while rest periods increase as temperature rises.
- c. A medical monitoring program for those people exposed to heat stress and those highly susceptible to heat stress (the obese, un-acclimatized workers, workers with cardio circulatory diseases, and employees who may be taking medications or the heavy use of alcohol).
- d. The plan should include a cooler than ambient temperature rest location, delivery of iced drinking water, and a plan for replenishment of salt within the body.
- e. An emergency plan for handling heat stroke and severe heat exhaustion.
- f. A plan to engineer out the sources of heat by shielding insulation or mechanical methods of reducing heat or increasing air velocity.

X. Radiation

- 1) General: This procedure establishes the necessary requirements and controls used in x-raying or radiographic work.
- 2) Definition – Radiation: The emission of atomic particles or electromagnetic radiation from the nucleus of an atom.
- 3) Requirements:
 - a. Prior to beginning work, the Contractors Construction Manager must verify with design that radiography is required.
 - b. All phases of industrial radiography, both gamma and x-ray, must be performed by trained radiographers and assistant radiographers licensed for the state in which the work is being performed.
 - c. The Contractors Construction Manager is responsible for all radiographic work. The Contractor Construction Manager must get the approval of the JEA Project Manager or designee prior to the beginning of any radiation work.
 - d. All sources must be checked for leaks at least every six (6) months.
 - e. Caution must be used to ensure that radioactive sources in instruments (e.g., level gauges) are in the “off” or shielded position prior to allowing employees to work on associated equipment or vessels.
- 4) Radiographic Personnel:
 - a. The radiographic personnel must have the following available at the project:
 - A copy of license to handle radiographic sources
 - Emergency and operating procedures
 - Year to date radiation exposure records of the employees who perform the radiography and their training certification records.
 - The type of radioactive source to be used for the project and the activity of the source.
 - Make and model of the survey equipment and their calibration records.
 - The type of camera or source-handling facilities to be used and the leak test records on the source and container.
 - b. Radiographic personnel must consult appropriate Contractor and JEA personnel to inform them of the location, date, and time of work, and type of source. A valid work permit must be maintained.
- 5) Barricade and Signs
 - a. All work areas must be barricaded with caution signs reading “Caution – Radiation Area” or “Caution – Radiography in Progress.” These signs must have magenta letters and symbols on a yellow background.
 - b. The radiographic personnel must erect a barricade so that doses do not exceed specific limits.
 - c. Unauthorized personnel are prohibited inside the barricade while the source is exposed.
 - d. At a minimum, all personnel entering the barricaded area must wear a radiation monitoring badge and a self-reading dosimeter.
 - e. The Contractor Construction Manager or designee must maintain a continuous patrol outside the barricade.

6) X-ray Equipment:

- a. X-rays are generated by electrical current and can be turned on and off unlike radio isotopes which emit radiation continuously. Radiation coming from an X-ray machine is much greater than radioactive isotopes.
- b. X-ray machines must be registered with the state and are often licensed under a different license than radioactive sources.

7) Emergency Operating Procedures – Radioactive Sources

- a. General: In the event of an emergency which may involve a radiographic sources, the following sections shall be strictly adhered to.

The Radiographer in charge has total emergency action responsibility. He/She will have complete and absolute responsibility until such time as the Contractors Project Manager and Contractors Project Safety Representative arrive on the scene and have been fully apprised of the entire situation. The Contractors Project Manager or Contractors Safety Representative may then relieve the Radiographer-in-charge of the emergency responsibility.

Some of the emergencies most likely to occur are:

- Theft or loss
- Malfunction of Equipment
- Fire
- Accidental damage
- Vehicular road accident
- Unauthorized or accidental entry to restricted area
- Human error

In the event of the occurrence of any accident, the Radiographer-in-charge must first establish a restricted area and then contact the Contractors Project Manager and Contractors Project Safety Representative and obtain instructions as to continuing procedures to be followed. The Contractors Project Manager shall contact the JEA Project Manager at this time to inform him of the condition.

Note!!! The most important thing to remember when an emergency situation exists is to keep very calm and to avoid excitement and fear. Excitement frequently leads to incorrect action and fear may cause the hazard to increase.

Keep the area under constant visual surveillance to prevent access by anyone not properly authorized to be there. As long as the restricted areas are maintained, any possible overexposure will be minimized, and probably eliminated.

The following special precautions shall be followed in any emergency or potential emergency:

- Always move quickly to and from the exposure device.
- Utilize survey meter before and after each exposure.
- Utilize any available shielding when approaching device.
- Lock any unit and conduct survey after each exposure.
- Constantly check dosimeter pencil for accumulation of radiation.
- Do Not move device to other locations without locking device.
- Restricted Area must be properly posted with warning signs.
- Do Not conduct operations with inoperable survey instrument.
- Be ALERT at ALL TIMES.

- b. Specific Procedures

In the event of a plant emergency such as fire or an accident involving plant personnel which occurs in an area adjacent to a radiographic device, immediately do the following:

1. Return source to shielded position in device and lock. Do not move device to other locations without locking
2. Perform physical survey of device to assure that the source is in the shielded position.
3. Remove source guide tube and insert safety plugs. Detach drive cable, lock cover plate into position on back of projector.
4. Remove device from danger area and, if possible, return to storage vault.
5. Notify the JEA Project Manager.
6. If a radiographic device cannot be removed from the danger area, set up a restricted area, under constant visual surveillance. The JEA Project Manager shall consult with the JEA Safety and Health Services Manager to determine further course of action.

In the event of an accident to the source or device, immediately do the following:

1. Return the source to the device, if possible, and lock device.
2. Notify the JEA Project Manager.
3. In the event the source cannot be returned to the device, immediately do the following:
 - i. Set up and post restricted area, using a survey instrument to determine the perimeter of the area.
 - ii. Do not allow anyone to enter this area.
 - iii. Continue to restrict entry into this area.

In the event of an accident involving the radiation exposure of non-monitored personnel, immediately do the following:

1. Set up restricted areas, as specified in the procedures. Use a survey instrument to determine the perimeter of the area. Record the names and phone numbers of non-monitored personnel involved.
2. The Radiographer checks the restricted area and prevents admittance to the area.
3. Notify the JEA Safety and Health Services Manager and the JEA Project Manager.
4. The Contractors Project Safety Representative shall be responsible to obtain all pertinent facts involving the accident and shall determine the future course of action. Such actions will be coordinated with the JEA Project Manager

In the event of a lost source:

1. Notify the JEA Project Manager, and State agencies.
2. The following steps shall be performed by the Contractors Project Safety Representative or his/her alternate:
 - i. Obtain all the information at the last known location of the source.
 - ii. Check area with survey meters and rope off restricted area.
 - iii. Locate the source using survey meters. Triangulate the exact position of the source. Do not enter into the high radiation area without extensive planning for retrieval.

- iv. Devise a plan for recovery of the source. Record significant points of the plan. The primary concern must be minimum exposure to any personnel.
- v. Carefully retrieve source and replace in device or shielded container. Never handle an unshielded device with bare hands.

Vehicular Accident:

1. In the event of a vehicular accident involving by-product material, a restricted area must be established as specified in these procedures.
2. Do not rely on a possible damaged meter. Assume that the source is in the exposed position inside the vehicle. In case of a minor accident where it can be visually determined that the source is safely stored in its container, its proper position shall be checked with a survey meter before the device is handled. If the survey is satisfactory, a restricted area may not be needed.
3. After a minor accident, an apparently operable meter may provide totally erroneous information and need re-calibration. A backup meter should be used to determine if a radiation hazard exists or else a site survey team may be called before the device or vehicle is moved.
4. In any case, immediately after establishing the restricted areas, notify the JEA Project Manager.

Possible Overexposure

In the event any incident occurs and causes or threatens to cause overexposure to personnel, the Contractors Project Safety Representative shall be responsible to assure that the following is/was performed:

1. Remove personnel involved from radiographic operations area immediately.
2. Post area properly if hazard exists.
3. The Contractors Project Safety Representative then assures the TLD exposure film badges are sent to nearest testing laboratory for immediate processing. In case unauthorized personnel are involved, get the name, address, and telephone number of the person or persons suspected and gather all facts pertaining to the cause of the exposure.
4. Have the person or persons complete a statement of facts on how the exposure occurred and send the report to the JEA Project Manager.
5. Upon receipt of all facts and exposure results, the Contractors Project Safety Representative will determine what action must be taken before the person or persons can return to normal radiographic operations.
6. The Contractors Project Safety Representative compiles a complete and comprehensive written report of all elements which have transpired. The report is to be presented to the JEA Project Manager within 24 hours of the incident.

If any of the above incidents occur, the Contractor Project Supervisor shall be responsible to insure a Contractor Incident Form Report is completed and submitted to the JEA Project Manager within 24 hours of the occurrence. The JEA Project Manager shall forward the form to the JEA CSMP Program Administrator.

Y. Barricade Tape Program

Three (3) types of barricade tape approved for use on JEA projects 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.

1) Listed below are three types of barricade tape and their proper usage.

a. Yellow/Black Barricade Tape (CAUTION)

This type of barricade tape shall serve as a caution to indicate to employees that a potential hazard exists. Employee may enter without permission from Contractor. This barricade tape shall be used for, but not limited to, the following:

- Excavation less than four (4) feet in depth.
- Identification of trip hazards, low hanging objects, etc.
- Material storage on the site.

b. Red Barricade Tape (DANGER)

This type of barricade tape shall indicate “DANGER” and that potential serious hazard may be present. NO EMPLOYEE, other than that craft assigned to work inside a RED barricade may enter without first obtaining permission from that Contractor. This barricade tape shall be used for, but not limited to, the following:

- Overhead work.
- Live electrical components.
- Scaffold under construction.
- Around swing radius of equipment with a rotating superstructure.

c. Magenta (Purple)/Yellow (RADIATION)

This barricade tape shall be used to indicate “DANGER – RADIATION” and that possible exposure may be present. This barricade tape is to be considered as an equal to red in that NO EMPLOYEES ARE ALLOWED to enter this area. This color is representative of X-ray work being performed.

Signs must also be posted to protect areas where radiation operations are in progress.

2) Barricade Erection

Each foreman or Contractor performing work that requires barricade tape to be erected shall:

- a. Erect the tape to enclose the specific area to be protected only. Do not block passageways or access ways unless entirely necessary. If passageways or access ways must be blocked, contact the JEA Project Manager for coordination with other crafts and/or possible alternatives.
- b. Erect tape in a secure and neat manner that will maintain a height of between 40” and 45” from the floor or ground surface. A second strand shall be placed half the distance between the top strand and the ground.

The only employees allowed to enter a RED barricade area will be that craft assigned to tasks by that foreman responsible for the barricade.

Note 1: The barricade tape must be removed by the Contractor or craft person whom erected the barricade tape.

Note 2: All barricades shall have an approved Barricade Tag attached to identify the

specific hazard and who erected the barricade.

Z. TRANSMISSION & DISTRIBUTION

This chapter covers the operation and maintenance of electric power generation, control, transformation, transmission, and distribution lines and equipment, including tree trimming operations. **The standards identified in this section shall be applied for use by Qualified High Voltage Personnel**

1) Precautions for Approach

- a. When exposed grounded lines, conductors, or parts are in the work area, they shall be guarded and/or insulated with insulating protective equipment.
- b. Rubber gloves rated for the voltage involved must be used when in the vicinity of energized conductors or parts, supplemented by one of the two protective methods:
 1. The employee shall wear rubber insulating sleeves, insulated for the voltage involved, in addition to the rubber gloves when working voltages in excess of 300 volts.
 2. All exposed energized lines or parts, other than those temporarily exposed to perform work and maintained under positive control, located within extended reach of the employees work position shall be covered with insulating protective equipment.
 3. Employee shall wear rubber gloves when opening any pad mount.

Table R-6. - AC Live-Line Work Minimum Approach Distance

Nominal voltage in kilovolts phase to phase	Distance			
	Phase to ground exposure		Phase to phase exposure	
	(ft-in)	(m)	(ft-in)	(m)
0.05 to 1.0	(4)	(4)	(4)	(4)
1.1 to 15.0	2-1	0.64	2-2	0.66
15.1 to 36.0	2-4	0.72	2-7	0.77
36.1 to 46.0	2-7	0.77	2-10	0.85
46.1 to 72.5	3-0	0.90	3-6	1.05
72.6 to 121	3-2	0.95	4-3	1.29
138 to 145	3-7	1.09	4-11	1.50
161 to 169	4-0	1.22	5-8	1.71
230 to 242	5-3	1.59	7-6	2.27
345 to 362	8-6	2.59	12-6	3.80
500 to 550	11-3	3.42	18-1	5.50
765 to 800	14-11	4.53	26-0	7.91

Footnote(1) These distances take into consideration the highest switching surge an employee will be exposed to on any system with air as the insulating medium and the maximum voltages shown.

Footnote(2) The clear live-line tool distance shall equal or exceed the values for the indicated voltage ranges.

Footnote(3) See Appendix B to this section for information on how the minimum approach distances listed in the tables were derived.

Footnote(4) Avoid contact.

2) Personal Protective Rubber Equipment

a. When applying rubber protective equipment the employee shall always protect the nearest and lowest levels first. The protective equipment shall extend past the employees anticipated work position or extended reach distance. In removing rubber protective equipment the reverse order shall be maintained.

b. Rubber protective equipment shall be put on before entering the work area when energized conductors or apparatus may be reached and shall not be removed until employee is completely out of reach of this area.

c. When not in use, rubber protective equipment shall be protected from mechanical or chemical damage and shall always be stored in the containers provided.

d. Rubber gloves, line hoses, sleeves, and rubber blankets shall be visually inspected before each days use, and immediately following any incident that can be reasonably be expected of causing damage.

e. Insulating equipment found to have other defects that might affect its insulating properties shall be removed from service and returned for testing. Insulating equipment with any of the following defects may not be used:

1. A hole, tears, puncture, or cut
2. An imbedded object
3. Ozone cutting or checking (The cutting action produced by ozone on rubber by mechanical stress creates a series of interlacing cracks).
4. Any of the following texture changes (swelling, hardening, or becoming sticky or inelastic).

f. Flexible protective equipment shall be stored in compartments on trucks and elsewhere so that tools and other equipment will not damage them. All rubber protective equipment shall be dry before storing.

g. To avoid corona or ozone damage, rubber equipment shall not be allowed to remain in place on energized conductors more than a workday period Unless needed to isolate a piece of equipment. All rubber protective equipment shall be stored where not exposed to sun rays, light, or excessive heat.

h. Flexible rubber blankets shall not be used on the ground without protecting them from physical damage and moisture by means of tarp's, canvas, or protective mats.

i. Rubber Gloves and Sleeves

1. Rubber gloves shall be used when operating manually controlled gang operated switches and, when opening and closing manually operated oil circuit breakers.
2. Rubber gloves must be used while working near telephone or other communication circuits that are subject to induced voltages from energized high voltage circuits, unless such circuits to be worked are adequately grounded. Note: Telephone lines can generate up to 90 volts.
3. Rubber gloves and sleeves shall never be worn inside out. They shall be exchanged at any time they become damaged or the employee to whom they are assigned becomes suspicious of their condition.
4. Leather protectors shall be worn over rubber gloves at all times. Leather protectors shall not be used as work gloves.
5. Rubber gloves shall be given a visual inspection and air or water test each time before use. If gloves are used steadily, they shall be tested at least twice daily.
6. Rubber gloves and sleeves when not in use shall be kept in canvas bags or approved containers

and stored where they will not become damaged from sharp objects or exposed to direct sunlight. They shall never be folded nor shall other objects be placed on them.

7. Rubber gloves and sleeves shall be placed cuffs down to permit drainage and better ventilation and to reduce the possibility of damage.

8. Two pairs of gloves must never be worn at the same time in an effort to increase rated protection

9. Rubber gloves shall be dielectric tested monthly for class 3 & 4 gloves. See table in this section for testing intervals.

Refer to 29 CFR 1910.137 and 29 CFR 1910.269 for additional rubber glove requirements.

j. Rubber Blankets

1. Rubber blankets cannot be folded without damaging the surface. They shall be rolled and stored in blanket cans to prevent damage

2. Because of the flexibility of rubber blankets, they can be applied to irregular shaped line parts. Special pins are provided for keeping blankets in place. Vinyl tape is not permitted to secure rubber blankets.

3. Orange rubber blankets (class 4) shall not be used on voltages exceeding 46kv phase to phase.

4. Testing of rubber blankets shall be conducted every year.

k. Other Rubber Protective

1. Rubber line hose and hoods shall be put in compartments and laid so no part is strained or distorted.

2. Rubber line hose shall be tested annually.

3. Plastic line guards shall not be used on voltages higher than 46kv.

4. Four foot bakelite handles or hot sticks shall be used when installing plastic line covers

5. Plastic line guards shall be stored very carefully to prevent cracking, splitting, or any other damage.

6. Plastic pole guards shall be used for temporary insulation while setting a pole in the vicinity of energized conductors.

7. Pole guards shall be preinstalled on replacement poles prior to setting in the vicinity of energized conductors.

8. Pole guards shall not be used with voltages exceeding 46kv.

9. Pole guards shall be stored carefully to prevent cracking, splitting and other surface damage.

10. Rubber overshoes should be furnished to the employees requesting them.

TABLE - RUBBER INSULATING EQUIPMENT TEST INTERVALS

TYPE OF EQUIPMENT	WHEN TO TEST
Rubber insulating line hose	Upon indication that insulating value is suspect
Rubber insulating covers	Upon indication that insulating value is suspect
Rubber insulating blankets	Before first issue and every 12 months thereafter
Rubber insulating gloves	Before first issue and 1 month thereafter
Rubber insulating sleeves	Before first issue and every 12 months thereafter

3) Electrical Wiring and Apparatus

a. All work shall be done by personnel familiar with code requirements and qualified to do the work.

b. Energized conductors or equipment shall be guarded to protect all persons or objects from harm.

c. Transformer banks or high voltage equipment shall be protected from unauthorized access.

Entrances not under constant supervision will be kept locked. Signs warning of high voltage and prohibiting unauthorized entrances shall be posted at all entrances. Metallic enclosures shall be

grounded.

d. Electric wires passing through the work area shall be covered or elevated to at least 8 feet to protect them from damage from foot traffic, vehicles, sharp corner, projections or pinching.

e. Before work has begun the person in charge shall be certain by inquiring, direct observation, or by instruments whether any part of an electric power circuit, exposed or concealed, is so located that the performance of work may bring any person, tool, or machinery into physical or electrical contact. Whenever possible, all equipment as well as circuits to be worked on shall be de-energized before work is started and personnel protected by lockout / tag out energy control procedures and grounding.

f. At least two employees shall be assigned to work on energized conductors, in substations and power plants where wiring is congested, where the work is remote or isolated, at night, during inclement weather, or when handling energized conductors or apparatus. One person, trained to recognize the electrical hazards, shall be delegated to watch the movements of the other personnel doing the work so they can warn the other employee if he / she gets too close to live conductors or perform other unsafe acts and assist in case of an incident.

g. Temporary power conductors, switch boxes, receptacle boxes, metal cabinets, and enclosures around equipment shall be marked to indicate maximum operating voltage.

h. Insulation mats or platforms of substantial construction, and providing good footing shall be placed on floor or on the frames of equipment having exposed live parts so that the operator or persons in the vicinity cannot touch such parts unless standing on the mats, platforms, or insulated floor.

i. Suitable barriers or other means shall be provided to ensure that work space for electrical equipment shall not be used as a passageway when energized parts of electrical equipment are exposed.

j. No over current device or disconnect shall be placed in any permanently grounded conductor, except where the device simultaneously opens all the conductors in the circuit.

k. When fuses are installed or removed with one or both terminals energized, special tools insulated for the voltage shall be used.

l. Where different voltages, frequencies, or types or current (A/C or D/C) are to be supplied, plugs and receptacles shall be designed so they are not interchangeable.

m. Only insulated tools shall be used while working in energized breaker panels, switchgear, or buses, etc.

n. Flexible cord shall be used only in continuous lengths without splices, except molded or vulcanized splices may be used when made by a qualified electrician. The insulators shall be equal to the cable being spliced and wire connections be soldered.

o. Patched, oil soaked, worn or frayed electrical cords or cables shall not be used. Extension cords or cables shall not be fastened with staples, hung from nails, or be suspended from bare wire.

p. Extension cords shall be of the heavy duty three-wire type. Extension cords and flexible cords shall be designed for hard or extra hard usage with no less than 12 gauge AWG wire.

q. For circuits under 600 volts where disconnect switches are used, the disconnect switch door shall be closed before operating.

4) Material Handling and Storage

- a. An employee shall obtain assistance in lifting heavy objects in excess of 50 lbs. or use power equipment.
- b. When two or more employees carry a heavy object that is to be lowered or dropped, there shall be a prearranged signal for releasing the load.
- c. When two or more employees are carrying an object, each employee, if possible, should face the direction in which the object is being carried. Employees shall not attempt to lift beyond their capacity. Caution shall be taken when lifting or pulling in an awkward position.
- d. The right way to lift is the easiest and safest. Crouch or squat with the feet close to the object to be lifted; secure good footing; take a firm grip; bend at the knees; keep the back vertical; and lift by bending at the knees and using the leg and thigh muscles.
- e. Employees should avoid excessive twisting or bending when lifting or setting loads down.
- f. When moving a load horizontally, employees should push the load instead of pulling it.
- g. When performing a task that requires repetitive lifting, the load should be positioned to limit bending and twisting. The use of lifting tables, pallets, and mechanical devices should be considered.
- h. When using such tools as screwdrivers and wrenches, employees should avoid using their wrists in a flexed position for long periods of time. Employees should maintain their wrists in a neutral position.
- i. When gripping, grasping, or lifting an object such as a pipe or board, the whole hand and fingers should be used. Not using this technique should be avoided.
- j. In areas not restricted to qualified employees only, materials and equipment may not be stored closer to energized conductors or exposed energized parts of equipment than the following distances plus the maximum sag and side swing of all conductors.
 1. For conductors and equipment energized at 50 kv or less, the distance is 10 ft.
 2. For conductors and equipment energized at more than 50 kv, the distance is 10ft plus 4 inches for every 10 kv over 50 kv.
- k. Materials stored near energized conductors or equipment must not be stored within the working space around energized conductors or equipment.

5) Work Area Protection Equipment

- a. Only those signs, standards, barricades, flags, and cones that conform to state and local codes shall be used.
- b. All state and local traffic codes shall be followed when providing work area protection.
- c. Traffic control devices shall be installed at the beginning of construction or maintenance operation and shall be properly maintained and operated during the time such special conditions exist.

d. When operations are performed in stages, there shall be in place only those devices that apply to those conditions present. Signs that do not apply to the existing conditions shall be removed, covered or turned so as not to be readable to oncoming traffic.

e. Barricade and sign supports shall be constructed and erected in a workman like manner.

f. During night operations or in periods of reduced visibility, special precautions shall be taken. Adequate warning equipment, which may include flashing lights, flares, or area illumination, shall be used.

g. Warning devices and equipment shall be removed as soon as the hazard is eliminated.

h. Warning devices and equipment not in use shall be stored in a proper manner or shall be removed from the work area.

6) Hand Tools

a. All tools and safety equipment, regardless of ownership, shall be of an approved type and maintained in good condition. Tools are subject to inspection at any time. The foreman has the authority and responsibility to remove any broken tools from service.

b. Defective tools shall be tagged to prevent their use and they shall be removed from the jobsite.

c. Employees shall always use the proper tool suitable for the job performed. All tools shall be in good repair.

d. Hammers with metal handles, screwdrivers or knives with metal continuing through the handle, brass bound rulers, hand lines or tapes having metal wires, strands woven in the fabric, metallic measuring tapes or other tools that can provide any voltage path to ground shall not be used when working on or near energized electrical circuits or equipment.

e. Tools shall not be thrown from place to place or person to person; tools that must be raised or lowered from one elevation to another shall be placed in tool buckets or firmly attached to hand lines.

f. Tools shall never be unsecured on elevated places when work is being done overhead. Tools not in use shall be secured and placed in holders.

g. As impact tools such as chisels, punches, drift pins become mushroomed or cracked, they shall be dressed, repaired, or replaced before further use.

h. Chisels, drills, punches, ground rods, and pipes shall be held with suitable holders or tongs before being struck by another employee

i. Shims shall not be used to make a wrench fit.

j. Wrenches with sprung or damaged jaws shall be removed from service or tagged "do not use".

k. Pipe cheaters shall not be used to extend a wrench handle for added leverage unless wrench was designed for such use.

l. Tools shall be used only for the purposes which they have been approved

m. Tools with sharp edges shall be stored and handled so they will not cause injury. They shall not be

carried in pockets.

n. Wooden handles that are loose, cracked, or splintered shall be replaced. The handle shall not be taped or lashed with wire.

o. All cutting tools such as saws, wood chisels, draw knives, or axes shall be kept in suitable guards or special compartments.

p. Tools shall not be left lying around where they may cause a person to trip or fall.

q. Each employee shall use and handle tools properly and see that they are returned to their proper place in good condition.

r. When working on or above open grating, a canvas or other suitable covering shall be used to prevent tools from dropping to a lower level where other employees may be present, or the area shall be barricaded or guarded

s. The insulation on hand tools shall not be depended on to protect users from shock.

t. Only non sparking tools shall be used in locations where sources of ignition may cause fire or explosion.

7) Hauling Poles, ladders, or materials

a. The trailing end of a load of poles shall be marked with red flags or illuminated flashing red lights at all times while poles are being transported. As an additional precaution warning flags or lights may be placed in the center of long loads. An escort vehicle shall be used to control traffic in the lanes of traffic affected by the pole's movement.

b. Equipment and material, other than poles, shall have warning devices installed on each protruding end that extends more than 4 feet beyond the front or back of the truck or trailer. During the day, red flags may be used. During night time operations or periods of poor visibility flashing red lights must also be used.

c. Materials shall be fastened to prevent shifting.

d. When vehicle hauling poles must enter, or exit public roadways, congested roadways, or in heavy traffic, escort vehicles displaying suitable warning signs shall be used.

e. The wheels of the transporting vehicle shall be chocked and securely locked prior to unloading poles.

f. Poles loaded on a trailer or truck must be fastened in at least two places.

g. Employees shall not remain on pole pile while poles are being loaded.

h. Employees shall not ride on pole dollies, trailers, or poles.

i. If it becomes necessary to store poles at location that they are to be set, they shall be placed so they do not interfere with traffic.

j. If poles are left on or near streets, highways, or walkways overnight create a hazard, they shall be

safeguarded by red lights or well lit warning signs or road cones.

8) Inspection of Equipment

The driver shall complete the applicable portion of the daily vehicle inspection (Pre-Trip / Post-Trip) form each day as required by the Federal Motor Carrier Safety Regulations prior to operation of a commercial vehicle.

a. Derrick Trucks (Pin-on Buckets)

1. Only derricks with boom tip controls will be used as an aerial lift utilizing a pin on bucket.
2. Derricks with pin on buckets shall have a current dielectric test. When used as an aerial lift, the fiberglass portion of the boom shall be cleaned, waxed, wiped down regularly to prevent electrical tracking of the boom. The insulated portion of the boom and hydraulic oil shall be dielectrically tested annually.
3. If a pin-on bucket is available for use or installed on the derrick boom, the boom must have a current dielectric test.
4. Only qualified employees shall be authorized to operate in a bucket which is attached to a derrick truck. Special care must be taken in using these buckets as there is a greater potential for contact with energized conductors.
5. Metal components at the tip of the third stage fiberglass boom must never be able to bridge the gap between two energized conductors or between an energized conductor and a grounded pole, wire, or hardware.
6. Upper and lower controls shall be tested each day prior to use to ensure the controls are in safe working condition.
7. The truck brakes shall be set, wheel chocks properly placed against the wheels, and all outriggers with pads lowered.
8. Upon entering a bucket, the operator shall secure himself with a full body harness having a safety lanyard that is secured to the fiberglass section of the derrick boom. The body harness shall not be removed until the bucket is lowered to a safe position.
9. When using a derrick in or near energized conductors, the operator must insure that the vehicle is grounded.
10. The pole guides must be stored in a fully upright position before extending the third stage. Failure to do so will result in damage to pole guides of fiberglass boom.
11. The fiberglass section of the boom shall be extended to its full length before working on energized conductors. No exceptions!
12. The fiberglass section should always be extended first and retracted last. When additional movement is necessary, the second stage of the boom shall be used.
13. The winch lines shall be removed from the fiberglass section before working on or near energized conductors.
14. Derrick trucks with pin-on buckets shall not be used to work on voltages above 25kv when used as an aerial device.
15. The pin-on bucket must be equipped with a brake, which shall be locked to keep it from swinging freely when in the work position.

b. Aerial Devices

1. Aerial devices include both aerial and scissor lifts. The distinction OSHA makes with regards to aerial and scissor lifts are whether the entire boom mounted platform can be positioned outside the wheel base. If it can it is considered an aerial lift, if not, it falls into the scissor lift category.
2. Aerial lifts include the following types of vehicle mounted aerial devices used to elevate employees to job sites above the ground.
3. Only authorized employees who are properly trained and qualified shall use or operate aerial

- devices. All employees working on the ground or around aerial devices shall be trained to operate both upper and lower boom controls.
4. The operation and instruction manual issued by the manufacturer shall be with the equipment and followed.
 5. There are two types of aerial devices. A material handler and personal lifts. Personal lifts are to lift employees to a working elevation. Material handlers are to lift personnel and material not exceeding the lifting capacity recommended by the manufacturer.
 6. Loads are to be lifted up and down; side loading will damage rotation gears.
 7. Aerial devices shall not be "field modified" unless modification is certified by the manufacturer. The insulated portion shall not be altered in any manner.
 8. As with the derrick trucks, the aerial devices shall be clean and waxed on a regular basis and di-electrically tested annually.
 9. As required by 29 CFR 1926.556 the required minimum checks shall be made daily:
 - i) All control mechanisms work properly
 - ii) Check all safety devices for malfunction
 - iii) Deterioration or leakage in air or hydraulic systems.
 - iv) Hooks, Hoist lines, Slings, and load attachment lines.
 - v) Fire Extinguisher (5 lb. BC or larger)
 - vi) Three triangle reflectors are used
 10. If any cracks, dislodged pins, or bolts, or any other unusual conditions are found during the inspection, the unit shall not be operated until properly repaired.
 11. The aerial lift shall be operated through a complete raising and lowering cycle using the lower controls daily prior to operating with an employee in the bucket. Malfunctions or any unsafe operational conditions shall be reported and equipment shall not be used until repaired and tested again.
 12. The operator shall park the truck properly upon arriving at the work area, set the brakes, and wheel chocks, and immediately set up the proper traffic control devices. Every attempt shall be made to position the truck so no additional movement will be needed to reach work area.
 13. Some bucket trucks are equipped with a ground cable to ground the vehicle. The grounding cable shall be attached to a grounded facility whenever the truck is located in the vicinity of energized conductors or have the potential to become energized.
 14. Aerial booms are designed as personnel carriers. Upper and lower platforms shall have controls clearly marked as to their functions. Lower controls shall not be operated unless permission has been obtained from the employee in the lift, except in the case of an emergency.
 15. The truck shall not be moved unless the boom is lowered, the basket cradled and secured, and the outriggers retracted.
 16. Employees shall not ride in buckets while the truck is traveling.
 17. Outriggers shall not be extended or retracted outside the clear view of the operator unless all employees are outside the range of possible equipment motion. Before lowering outriggers all employees must be clear. Outrigger pads must be used under each outrigger. On uneven terrain additional cribbing may be required to obtain stability of the vehicle. All installed outriggers must be used.
 18. The bucket should never be set up in a slope exceeding 5 degrees. Every effort shall be made to work off the high side of the truck.
 19. Rope, conductors, and other material shall not be pulled over or allowed to rub against or around an aerial bucket or boom in such a manner as to possibly cause damage.
 20. When a boom must be maneuver over a street or highway, necessary precautions shall be taken to avoid accidents to pedestrians or high profile vehicles.
 21. The operator shall always face in the direction in which the boom is moving and shall see that the path of the boom is clear when being moved.
 22. Employees shall not sit or stand on the edge of the basket. Ladders shall not be placed in basket. Employee's feet shall remain on the floor of the basket the entire time they are in it.

23. Climbers shall not be worn while in bucket.
24. When two employees are in one bucket, one employee shall be designated to operate the controls. Extreme care shall be taken to avoid contacting poles, cross-arms, and other live or grounded equipment while the second employee is working on equipment with a difference of potential.
25. In no case shall more than one conductor be worked at one time.
26. The aerial lift, together with the employee in the bucket and all tools and equipment, shall maintain proper clearances from unprotected energized conductors. Refer to the table R-6 at the beginning of this section for clearance requirements.
27. The following tools shall not be allowed in an aerial bucket while working on or near energized conductors:
 - i. Metal coffering hoists
 - ii. Electric tools or lights that use an electric cord.
 - iii. Wire hooks over the edge of the bucket.
28. When using pneumatic or hydraulic tools in the bucket, the operator shall be sure that all hoses and lines do not become entangled in the operational controls.

For additional information concerning aerial lifts refer to OSHA standards 29CFR 1910.67, 1910.269, or 1910.453.

9) Working on or near energized conductors and equipment

- a. Only qualified employees and trainees working under their direct supervision may work on exposed energized conductors or equipment.
- b. For employee protection, the use of a circuit hold tags shall be used for energized work with voltages in excess of 600 volts.
- c. Circuit hold tags are required anytime setting or pulling of poles where the work will extend above the system neutral.
- d. The upstream automatic re-closer system device must be physically placed on non-automatic operation and tagged except for a remote control device (SCADA). Refer to JEA'S switching and tagging manual for further instructions.
- e. The conditions not requiring a hold tag are as follows:
 1. While working transformers, secondary and services that allow 5 ft working clearance for personnel and equipment from all energized primary conductors, including primary jumpers and primary transformer leads, and the transformer fused cut-out and arrester and can be cleared from the energized conductor by use of rubber gloves or hot stick.
 2. When energizing and de-energizing a transformer using rubber gloves or switch sticks.
 3. When energizing or de-energizing primary cut-out switches using rubber gloves or switch sticks.
 4. When performing rubber glove work below the neutral.
- f. When two or more employees are working in close proximity or within extended reach of each other, they shall only work on or contact the same conductor at one time.
- g. No employee may approach or take any conductive object without an insulating handle closer than 5 feet unless the employee is insulated from the energized part or the energized part is insulated from the employee and other conductive object at a different potential.

- h. Employees may not work on conductors or equipment in any position from which a shock or slip will tend to bring the body toward exposed energized conductors or equipment.
- i. In connecting de-energized conductors or equipment to an energized circuit by means of conducting wire or device, employees shall first attach the wire to the de-energized part. While disconnecting, employees shall remove the source end first. Loose conductors shall be kept away from exposed energized parts.
- j. Employees shall report any defective line, apparatus, or tool, which in their judgment may be dangerous either to persons or property, or likely to interrupt or delay service.
- k. Electrical conductors and equipment shall always be considered live or energized unless they are positively known to be de-energized and grounded. Before starting work, preliminary inspection or test shall be made to determine what conditions exist. Care shall be taken in handling neutral conductors as if they energized conductors.

For information concerning working on or near energized conductors or equipment and for overhead transmission and distribution requirements refer to OSHA standard 29 CFR 1910.137 and 29 CFR 1910.269.

10) Live Line Maintenance

Live line maintenance has been made possible by the development of special tools and procedures for such work. The type of tools and procedure used are determined by the voltage of the line worked. Live line wires with the potential of 15kv phase to phase or less may be worked off an insulated work platform (Baker Board) with rubber gloves and sleeves. Live line wires with the potential of 26 kv phase to phase or less shall be worked out of an aerial bucket with rubber gloves and sleeves. All transmission voltage (greater than 26kv) shall be worked de-energized and grounded.

a. Working on Poles

1. All poles and structures shall be carefully inspected before climbing to assure that they are in a safe condition for the work to be performed and that they are capable of supporting the additional or unbalanced stress which they will be subjected to. The types of abnormalities that should be checked are general condition, cracks, holes, shell rot, decay, knots, and depth of setting, soil conditions, and burn marks. Acceptable inspections for poles are hammer tests, rocking tests, and a through visual inspection.
2. If poles or structures are determined to be unsafe for climbing, they shall not be climbed until made safe by guying, bracing, or other adequate means.
3. Wires or cables shall not be attached or removed from a pole or structure until it is determined the pole or structure will withstand the altered strain.
4. Poles, except new poles shall be thoroughly tested before they are climbed. If a pole is not strong enough to sustain a lineman's weight by reason of its condition, it shall be guyed or otherwise secured throughout the time any work is being done. If the pole to be climbed is being replaced by a new pole set adjacent to it, the poles may be lashed together in lieu of guying.
5. When poles are deemed unsafe to climb, alternate methods must be used such as an aerial device to gain access.
6. Employees shall not trust their weight to guy wires, pins, braces, or other hardware that may prove to be unstable.
7. When two or more employees are to work on the same pole at the same time, each shall reach the work position before the other employee begins climbing. They shall descend the pole one at a

time.

8. The Lineman's pole strap (safety) shall not be put around the pole above the uppermost pole attachment position. Pole safeties shall not be used on pole steps, cross arm braces, insulators, or conductors. When a lineman's safety lanyard must be attached to a cross arm, it shall never be placed beyond the outside cross arm attachment. It shall be placed so that it will not be cut by line equipment or twisted by material that may give way under strain.

9. Employees shall not work on an elevated pole or structure without first securing their climbing safety strap.

b. Working on energized conductors and equipment from a pole

1. Employees are required to use rubber gloves with protectors, sleeves, and fire retardant shirt when working from a pole or within extended reach of energized parts or parts that potentially may become energized.

2. Only poles with de-energized conductors and equipment that are isolated or properly locked out or tagged out from all energized sources and effectively grounded may be worked without rubber gloves and sleeves.

c. Working on energized conductors with live line tools

1. Only fiberglass tools having a manufacturer certification to withstand 100,000 volts per foot of length for 5 minutes shall be used.

2. Planned work with live line tools shall not be started during unfavorable weather.

3. Before live line work begins, the system dispatcher having jurisdiction shall be notified. If an interruption of service happens during live line tool work, the dispatcher shall be notified.

4. A careful check shall be made to see that the condition of the structure and lines at the point of work is that such job may be performed safely. In addition, the adjacent spans and structures shall be carefully inspected for defects.

5. Under no circumstances shall an employee depend on another employee to hold an energized conductor for him.

6. When moving heavy conductors, blocks or hoists shall be used on live line tools so they can be moved slowly and carefully.

7. While live line work is in progress, no work shall be performed on the same pole or structure.

8. All live line tools, when not in use, shall be kept in canvas bags or waterproof boxes provided for that purpose and such containers shall be placed in a dry and possibly warm place.

9. Live line tools shall never be laid directly on the ground or against sharp objects. Special tool holders shall be used for this purpose.

10. All live line tools shall be inspected daily before each use. Tools shall be wiped clean and if any hazardous defects exist, such tools shall be removed from service.

11) Stringing Adjacent to Energized Conductors

a. All pulling and tensioning equipment shall be effectively grounded.

b. A traveling ground shall be installed between the tensioning reel set-up and the first structure.

c. The traveling ground shall be effectively grounded to the system neutral or pole ground.

d. When crossing over energized conductors, line hoses, blankets or other methods of guarding shall be installed. The automatic re-closing feature of the circuit for the energized conductors shall be made inoperative.

e. If employees are required to stand on the ground (earth) surface while operating tensioned or pulling equipment they shall stand on insulated rubber blankets /mats. All employees on or near stringing equipment shall wear rubber protective gloves.

12) Substation Entry (JEA Course L-315)

a. All individuals entering a JEA Substation to work shall report their presence and a description of the work to be performed to PSO (Power System Operator) Phone number: (904) 665-7152.

b. All employees entering a JEA Substation must complete a JEA substation entry course. Training course provides training on the hazards encountered when entering and working in JEA Substations in accordance with OSHA Regulation 29 CFR 1910.269. Contact JEA's Technical Utility Training Services Department – Andy Motsiger 665-7243 or Allen Jones 665-8899 for class schedule and registration.

c. Individuals shall always have on their possession a means of communication while performing work in the substation.

d. Individuals must report any gates or doors that were not locked to PSO (Power System Operator).

e. Individuals who have been authorized to enter JEA Substations shall wear all PPE and comply with all other JEA procedures.

f. All individuals shall comply with all applicable requirements as stated in this Contractor Safety Manual.

g. The Power System Operator (PSO) shall be notified of any emergency or abnormal situation.

h. When leaving the substation all personnel shall notify (POS) Power System Operator and be sure all gates and doors are locked before leaving.

13) Hold Card Procedures & Communication Techniques (JEA course # M-051)

Note: For work being performed behind fuses for de-energized work.

a. Yellow plastic card shall be placed at isolation points by field personnel while working behind fuse(s) or fuse disconnects on the underground system or working behind fuse disconnects on overhead laterals. The Dispatcher shall not issue or maintain **Hold tags** associated with **Personal Hold cards**. No work on de-energized circuits shall be done until direct communication has been established between each crew member.

b. For underground work, the yellow plastic card shall be placed through the operating eye of the elbow in the transformer or attached to the barrier board inside of the fusing cabinet. For overhead work, this yellow plastic card will be placed on or near the fuse disconnect(s) at the top of the pole. This card will show the following information:

- i. Radio number, Cell phone number, or Pager number.
- ii. Crew number
- iii. Date the card was placed

c. On radial feeds, such as overhead laterals, cards shall be placed at fuse cutout or source.

- i. On loop feeds it will be necessary to install Personal Hold Cards at two or more locations, at open points, or any location that can become energized affecting the work area.
- ii. This card shall only be removed by the crew installing the card or his / her Supervisor.

Note: When the card is issued to tree crews, the crew shall obtain verbal permission from their designated Forester before it is removed.

14) Directional Drilling

- a. Employees shall not wear loose fitting clothing that may become entangled in the drill and shall restrain long hair to keep it away from moving parts. All employees shall remain clear of drill while drilling is in progress.
- b. Location of underground facilities - The contractor shall contact the Sunshine State One-Call of Florida (800 432-4770) service and request the location of underground utilities and other services prior to starting drilling operations.
- c. Set-up procedures for drilling activities
 - i. Supervisors shall review jobsite hazards, safety and emergency procedures, and individual responsibilities with all personnel before work begins.
 - ii. All drilling equipment shall be barricaded to keep the general public out of the work area.
 - iii. A ground rod shall be driven and securely connected to the drilling machine by a heavy-duty cable. If feasible, the ground rod should be driven at least 6 ft away from drill rig.
 - iv. Warning decals and operating instructions shall be present, clean and visible per manufacturer recommendations.
- d. Strike detection system
 - i. Each drill rig shall have a strike detection system that includes a voltage detection stake, voltage limiter, and an electrical strike indicator. The electrical strike indicator should consist of dual detection sensors, reset feature, and self test circuit.
 - ii. Electronic strike sensing systems shall be tested prior to each use.

15) General

- a. Contractors shall comply with OSHA standard 29CFR 1910.269 as a minimum with the exception of paragraph (e). Contractors shall enter all confined or enclosed spaces by permit system only, all other provisions of this standard shall apply. If JEA or contractor's requirements are more stringent, they shall be followed.
- b. Material handling equipment and storage shall remain at least ten (10) feet away for lines and equipment energized at 50kV or less in areas not restricted to qualified persons only. Add four (4) inches for every 10 kV of 50kV.

CHAPTER 7 OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION

7.1 Purpose and Scope: Project compliance with OSHA.

7.2.1 OSHA Part 1926:

This portion of OSHA is applicable specifically to construction work. Copies of Part 1926 as well as other pertinent portions or the entire OSHA provisions may be obtained as indicated in paragraph 7.3.4 below. A helpful publication for use of job supervisors is the "Construction Industry OSHA Safety & Health Standards" - OSHA 2202 of June, 1974. OSHA 2202 is a digest of basic applicable standards and it is required that Contractors provide their job supervisors with copies.

7.2.2 OSHA Part 1910:

OSHA Part 1926 is applicable specifically to construction, as such, it does not address itself to the entire spectrum of accident prevention. Areas of safety on this project not dealt with directly in the Construction Standards (Part 1926) may be covered in the General Industry portion of OSHA Part 1910. An example of this overlapping coverage is in the area of Occupational Health affected by asbestos dust. Asbestos dust is referenced in 1926.55(c), Page 22810 but the reader is directed to Part 1910.93(a) for the required details.

7.2.3 OSHA Title 29:

The 1970 OSHA, of which Sections 1926 and 1910 are parts, republished June 24, 1974, contains two basic requirements of specific interest to this project.

- A. General Duty Clause - Section 5(a)(1) of OSHA states that EACH EMPLOYER:
 "Shall furnish to each of his/her employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his/her employees."
- B. OSHA Poster - Part 1903 of OSHA requires that each employer must post, in a prominent location, the "Safety and Health Protection on the Job" poster. The poster briefly states the intent and coverage of the Act. Failure to post this document is a citable offense under the Act.
- C. Recordkeeping requirements include OSHA Form 300 Log of Work-Related Occupational Injuries and Illnesses, OSHA 300A Summary of Work-Related Occupational Injuries and Illnesses and OSHA Form 301 Work-Related Injuries and Illnesses Incident Report.

7.3 Federal OSHA Regulations (General):

Each Contractor is required to be familiar with the Federal Occupational Safety and Health Act (OSHA) as it pertains to their work responsibility.

All fatality cases and/or incidences in which three (3) or more persons are injured in any one incident shall be reported to Federal OSHA within 24 hours from the time of occurrence.

Additional copies of the Occupational Safety and Health Act of 1970 and related information on standards, education and training programs may be secured from the offices listed below:

U.S. Department of Labor, Occupational Safety and Health Administration, 14th Street and Constitution Avenue, NW, Washington, DC 20210 Phone: (202) 393-2420

It is obvious from the above that should the standards not address a specific procedure or hazard, the employer is still charged with the employee's general safety. The employer's failure to discharge their responsibilities is a citable offense.

ALL COST TO JEA FOR FEDERAL, STATE OR LOCAL CITATIONS, FINES, PENALTIES AND/OR SUMMONS RESULTING FROM THE CONTRACTOR/SUBCONTRACTOR'S OPERATIONS SHALL BE BACKCHARGED TO THAT CONTRACTOR/SUBCONTRACTOR.

CHAPTER 8

HAZARDOUS COMMUNICATIONS - RIGHT-TO-KNOW PROGRAM

8.1 Purpose and Scope: To provide a uniform method of communication regarding hazardous chemicals between on-site Contractors and between the site and local agencies.

8.2 Information Which Contractors Must Maintain

A. Hazardous Substance List: Must contain the following information:

- 1) The chemical name or the common name used on the M.S.D.S. or container label.
- 2) The quantity usually stored on-site in the following ranges:
 - a. Class A for quantities of less than 55 gallons 500 pounds.
 - b. Class B for quantities between 55 and 550 gallons or 500 and 5,000 pounds.
 - c. Class C for quantities between 550 and 5,500 gallons or 5,000 and 50,000 pounds.
 - d. Class D for quantities greater than 5,500 gallons or 50,000 pounds.
- 3) The area where the chemical is stored and to what extent it may be stored at altered temperature or pressure.

The hazardous substance list may be prepared for each work area or for the work site as a whole. The list will be updated within 30 days of the addition removal of a hazardous chemical or whenever the quantity stored changes sufficiently for it to be placed in a different class on the list.

B. Material Safety Data Sheets (MSDS):

In addition to maintaining the hazardous material list, Contractors shall maintain the most current material safety data sheets including log provided by manufacturers and distributors. Should the Contractor not receive an MSDS from the manufacturer or distributor, he shall request one in writing.

C. Container Labels:

Contractors will ensure that existing labels on incoming containers are not removed or defaced and that such containers are clearly marked as hazardous.

D. Distribution:

- 1) Each Contractor shall submit two (2) copies of their list with logs, within 10 days of site mobilization, to the JEA Project Manager. Each Sub-Contractor shall also submit two (2) copies of their list with logs, through Contractor, and these logs will be immediately updated whenever new materials are brought on site, to the JEA Project Manager.
- 2) A copy of each MSDS should be available on the project site for review on request by the JEA.

- 3) On receiving and forwarding this information, JEA does not imply acceptance of responsibility, nor does the JEA guarantee completeness or accuracy of Contractor submittals.
- 4) For further information, Contractors not familiar with the Federal Hazardous Chemicals Right to Know Act, are encouraged to contact the local OSHA office.

8.3 Hazard Communications:

8.3.1 Purpose and Scope: To ensure that all on-site Contractors have a means of informing employees of the chemical hazards associated with the work they perform.

8.3.2 Objective: To ensure that all on-site personnel are trained in the recognition and avoidance of hazards, and further trained in the use of Personal Protective Equipment to be used in association with the use of these chemicals/hazardous materials.

8.3.3 Procedures: Each Contractor shall establish a written, comprehensive hazard communications program which includes:

A. Provisions for container labeling.

Labels: Each container shall be labeled, logged, or marked with the identity of hazardous chemicals contained therein, and shall show hazard warnings appropriate for employee protection. The hazard warning can be any type of messages, words, pictures, or symbols that convey the hazard. Labels shall be legible, in English (plus any other language required), and prominently displayed and meets OSHA and DOT requirements.

B. Material Safety Data Sheets

Beyond the identity information, the Material Safety Data Sheets shall provide information on:

- 1) The physical and chemical characteristics of the hazardous chemicals.
- 2) Known acute and chronic health effects and related health information.
- 3) Exposure limits.
- 4) Whether the chemical is considered to be a carcinogen.
- 5) Precautionary measures, emergency and first-aid procedures.
- 6) The name of the organization responsible for preparing the sheet.

Copies of the Material Safety Data Sheets with log are to be at the work site and readily accessible to employees in that area.

C. Employee training program.

- 1) Employee Information and Training:

Contractors shall establish a training and information program for personnel exposed to hazardous chemicals in their work area at the time of initial assignment and whenever a new hazard is introduced into their work area.

The discussion topics shall include, at least:

- a. The existence of this hazard communication standard and the requirements of the standard.
 - b. The components of the hazard communication program in the work place.
 - c. Operations in their work area where hazardous chemicals are present.
 - d. Where the Contractor will keep the written hazard evaluation procedures, communications program, lists of hazardous chemicals, and the required material safety data sheets with log.
- 2) Training, as a minimum, shall focus on the following:
- a. How the hazards communication program is implemented on site, how to read and interpret information on labels and MSDS, and how employees can obtain and use the available hazard information.
 - b. The hazards of the chemicals in the work place.
 - c. Measures employees can take to protect themselves from the hazards.
 - d. Specific procedures put into effect by the Contractor to provide protection such as work practices and the use of personal protective equipment (P.P.E.).
 - e. Methods and observations, such as visual appearance or smell, workers can use to detect the presence of a hazardous chemical they may be exposed to.

The Contractor shall ensure his Sub-Contractors compliance with this section.

For further information, Contractors not familiar with the Federal Hazard Communication Program are encouraged to contact the local OSHA office.

D. A list of hazardous chemicals in the work place.

Hazardous Chemicals:

Contractors shall be solely responsible for the safe use, storage and disposal, in accordance with all applicable laws, of any chemicals or other materials used in the performance of the work. Contractor's shall be required to provide to the JEA Project Manager a list of all chemicals or materials used in the performance of the Contractor's work and a copy of the Material Safety Data Sheet ("MSDS") and log for each chemical. The receipt of any such list or MSDS by JEA shall not relieve the Contractor from requiring its lower-tier Sub-Contractors, employees, agents and all other persons performing work the exclusive responsibility for the aforesaid safe use, storage and disposal of such materials.

Each Contractor agrees that it will require its Sub-Contractors, lower-tier Sub-Contractors, material men, agents, employees or other persons performing work, not use a substitute chemical without written approval of the JEA Project Manager. All chemicals brought on a project by Contractor, Sub-Contractor, or its lower-tier Subcontractors, lower -tier Sub-Contractors, material men, employees, agents and all other persons performing work, shall bear a label stating the identity of the chemical, any hazards associated with it, and the name of responsible party bringing such chemical onto the site.

All waste, in any form, which results from work shall be properly disposed of by the Contractor, lower-tier Subcontractors, and material men performing work. JEA shall not be considered the generator, or owner of, any hazardous substances, pollutants, or contaminants encountered or handled in the performance of the work. The Contractors shall be responsible for, and have ownership of, any hazardous substances, pollutants, or contaminants they may bring onto the work site or which are generated as a result of their performance of work.

Any other hazardous substances, pollutants, and contaminants encountered or generated from soils or facilities in place prior to commencement of this project or from portions of the project already completed by "other" Contractors ("other hazardous substances, pollutants, and contaminants") in the performance of the work shall be the responsibility of the other Contractors, or the Owner, and shall be disposed of as directed by the Owner in accordance with all applicable Laws. The Contractor shall immediately notify JEA if any such other hazardous substances, pollutants and contaminants are encountered on the work site or the premises.

The Contractor shall be required to keep accurate records of the types and quantities of all waste, including but not limited to, hazardous wastes and the facilities in which the wastes are treated, incinerated or disposed. The Contractor or Subcontractor shall provide JEA with copies of all such records. No liquids (including muddy water) or chemicals of any kind shall be pumped or allowed to flow into any sewer. Each Contractor or Subcontractor will not be permitted to clean their equipment or change lubrication/pneumatic fluids in areas that are not equipped with spill contaminant and control facilities.

E. Written respirator and training program.

The Contractor and its Sub-Contractor(s) shall have a comprehensive written Respirator Program that meets OSHA 1910.134 Standards. When appropriate, the Contractor, Sub-Contractor shall develop work site specific procedures to address unique hazards. These procedure shall be available for review on request by the JEA.

9.1 Purpose and Scope: To assist in improvement of incident prevention which will reduce number and degree of occupational illnesses, injuries, and allow steps to be taken to remove causes, eliminate future incidents, and to reduce workmen compensation, public liability insurance, property damage and increase production.

9.2 Incident Investigation:

Any incident resulting in a doctor case, lost-time injury, fatality, damage to property or equipment or a "near-miss" is to be investigated. Investigation shall begin promptly after incident.

NOTE: Incidents which involve fatalities or three (3) or more hospitalized injuries are required to be reported by law within twenty four (24) hours of occurrence to the nearest OSHA office.

Results of investigation, including signed Witness Statements, photographs, First Report of Injury Forms, complete analysis, sketches, drawings (used to pinpoint distance and location, etc.) shall be documented and signed. A complete copy shall be submitted to Project Designated Safety Representative.

Photography: Photographs shall be taken in conjunction with investigations of incidents involving serious personal injury, all non-project personnel injuries, substantial property damage, equipment or material failure, and all incidents that may, even remotely, involve third party action. Photographs shall be sufficient in number to adequately reflect the general area as well as pertinent details from a variety of angles. Photographs shall be taken as soon as possible following the incident.

Each print shall be identified as follows: Name of injured (if equipment damage, type; if property damage, location); date of incident; photographer's initials, and time photographs were taken (date if different from occurrence); direction facing; and brief description of photograph.

This investigation and report shall be made immediately. However, distribution of the report shall not be made until all similar investigations and reports required by the applicable agencies are complete. The Contractors Project Safety Representative will be the focal point for all gathered information and will be responsible for required distribution.

Any and all information to the media shall be the responsibility of JEA.

If an incident occurs, the Contractor shall be responsible to ensure a completed Contractor Incident Report Form is submitted to the JEA Project Manager within 24 hours of the occurrence. The JEA Project Manager will forward the form to the JEA CSMP Program Administrator.

CHAPTER 10 CONFINED SPACE ENTRY PROCEDURES

10.1 Purpose: To establish a procedure which governs the identification and control of confined space entries; required training for entries and emergency rescue; and provide assurance that all mechanical, physical, electrical and chemical hazards have been controlled and/or monitored. All confined spaces will require a permit system for entry.

10.2 Responsibilities:

- A. Contractor requiring entry is responsible for insuring adherence to the elements of this procedure where confined space entry may be required. More specifically, those elements are to include the following:
- 1) Identification of tasks that may involve worker entry into a confined space and ensures all proper permits are obtained as contained with this procedure.
 - 2) Ensuring that maintenance of a current classification file of all confined spaces which may be potentially occupied throughout the course of the project will be accomplished.
- B. Contractors Project Safety Representative: The designated safety representative and the Contractor's supervision are responsible for the overseeing of the technical aspects of this procedure with support provided by JEA and the Project Designated Safety Representative. The technical elements to which these individuals are to be held accountable include the following:
- 1) Trains supervisors and competent persons relative to their responsibilities and duties in connection with the confined space entry program.
 - 2) Reviews and approves the selection of all safety personnel protective equipment and instrumentation.
 - 3) Audits confined space entry program execution.
- C. Confined Space Entry Supervisor: One who is capable of identifying existing, and predictable, hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. The responsibilities assumed by the competent person are those related to the actual execution of the task. As such, this individual's principal duties include the following:
- 1) Prior to entry, evaluates each confined space for existing or potential hazards.
 - 2) Monitors the atmosphere of the confined space with an acceptable analyzer. Ensures that instruments are properly maintained and calibrated.
 - 3) Notifies the Contractors Project Safety Representative of any tasks to be performed within a confined space that could create a hazardous atmosphere.
 - 4) Obtains an entry permit.
 - 5) Reviews provisions of the entry permit with employees entering the confined space prior to entry.

- 6) Instructs employees and directs the execution of the confined space entry according to established procedures.
 - 7) Ensures that required personal protective equipment is provided, and used, as required.
 - 8) Designates a trained attendant for each confined space.
 - 9) Trains all personnel involved in confined space entry and emergency rescue.
 - 10) When the entry has been completed, verifies that all personnel and equipment have been removed from the confined space and signifies that the space may be prepared for return to service.
- D. Contractors/Sub-Contractors and employees are responsible for adherence to the provisions of the procedure. Additional responsibilities include:
- 1) Never enter a confined space without proper authorization.
 - 2) Use all safety and personal protective equipment in accordance with the training provided.
 - 3) Follow all JEA confined space requirements in addition to any specific project safety requirements that may be in place.

10.3 Definitions:

- A. Attendant: An attendant is the person assigned to remain immediately outside the entrance of the confined space during the time the space is occupied. This person is to maintain visual and/or voice contact with persons in the confined space at all times. The attendant must also have an immediate, and direct, means of communication by which rescue or other emergency assistance may be summoned. The attendant is not to enter the confined space unless appropriately trained and equipped and another qualified attendant is present. The attendant will be currently certified in CPR/First Aid. The attendant will have no other duties and will not leave his duty station unless relieved.
- B. Confined Space: A confined space is considered to be any enclosure that (a) is not designed for normal occupancy by humans, (b) contains an actual or potential safety and/or health hazard, and (c) restricts egress to such an extent that personnel would have difficulty in escaping in the event of an emergency. EXAMPLES of spaces fitting this description include the following this list is only an example:
- Reactor vessels
 - Tanks and bins
 - Air Handling Units
 - Vats
 - Piping
 - Boilers
 - Duct
 - Vaults

- Trenches
- Manholes
- Sumps and open-top pits having a depth in excess of three feet.

No authorization is to be given for entry into confined spaces that are considered immediately dangerous to life and health (IDLH) or where the potential exists for the generation of such.

- An area where there is a potential of a hazardous atmosphere.
- An area where there is a potential of an engulfment by loose particles, bulk materials or liquids.
- An area where there is a potential of an explosive, flammable, or toxic atmosphere.
- An area where an entrance and/or exit are restricted (limited access or egress),
- An area where work generated hazards such as welding, cutting, burning, painting, chemical handling, or any type of work which would create a toxic or hazardous atmosphere which could create a hazard, shall constitute a confined space.

10.4 Entry Permit

The confined space entry permit provides a checklist of pre-entry precautions that shall be taken. Documentation of monitoring and authorization of entry shall then be provided by the Confined Space Entry Supervisor. A copy of the permit shall be conspicuously posted at the site of entry. The permit shall provide a record of the date of entry, monitoring requirements, relative location of entry and a description of the work to be performed.

10.4.1 Entry Requirements:

Preparation prior to entry of a confined space permit requires that the following be accomplished (NOTE: ALL confined spaces will be entered by permit system only unless approved as a Non-Permitted Entry by the CSMP Program Administrator)

- Determine any unusual conditions which may require special procedure unique to the area or the task to be conducted i.e., welding.
- Purge, drain and/or evacuate process materials, chemicals and air.
- Isolate the confined space from all external piping, process systems, affluent systems, utilities, and ducts that could cause materials to enter the confined space. This may be accomplished by inserting blanks and skillets, disconnection and capping of lines, double blocking and bleeding valves and/or physical disconnection of equipment.
- Immobilize all mechanical services such as agitators, mixer paddles, fan blades, etc., through recognized lockout procedures and/or through physical disconnection of the drive mechanism from the power source.

PROVIDE VENTILATION FOR THE CONFINED SPACE BY USING FORCED AIR SUPPLY (BREATHING AIR QUALITY) AND/OR AIR EXHAUST EQUIPMENT. VENTILATION IS TO CONTINUE AS LONG AS PERSONNEL ARE IN THE CONFINED WORK-SPACE.

- E. Once the area has been opened and the ventilation initiated, the following parameters are to be evaluated:
- Oxygen level - at least 19.5% but not greater than 23.5%
 - Lower explosive level (LEL) - potentially explosive vapors and dust shall be at 0% before personnel may enter the proposed work area, insuring the appropriate PPE is being worn.
 - Toxic material concentrations - the atmosphere within the confined space shall not contain concentrations of toxic materials which exceed established exposure levels. Every effort shall be made to reduce airborne concentrations of hazardous materials to levels that are lower than established exposure limits.
 - Continuous monitoring - the need for continuous monitoring of these parameters shall be determined on a case-by-case basis by the Contractors Project Safety Representative.
 - Next shift monitoring - in the event that the work in the confined space is to continue past the initial shift, the atmosphere shall be rechecked at the beginning of each subsequent work shift.
- F. The following safety equipment may be required, and noted on the permit, to be used during confined space entry:
- Body harnesses with attached connections for chain or rope hoist.
 - Self Contained Breathing Apparatus (SCBA), two units minimum. (Hazard will determine quantity of equipment.)
 - 20 lb. ABC fire extinguisher when flammable materials are involved.
 - Emergency escape breathing apparatus. Requirements for use shall be determined on a case-by-case basis.
 - Equipment (hoist, hand lines, etc.) for removing an incapacitated individual during an emergency.
 - Access Ladder.
 - Calibrated, 4 gas, direct reading air monitoring instrumentation.
- G. When the use of special protective equipment (respirators, gloves, clothing, eye protection, etc.) is required, their use shall be specified in the entry permit and all associated training requirements shall be met.

10.4.2 Requirements and Procedures for a Permit Entry into a Confined Space:

- A. No person shall enter a confined space until all the preparations for entry have been completed, the permit has been approved, all conditions of this Standard Operating Procedure have been met, and the entry is authorized.

- B. No person shall enter a confined space until an attendant is at the entry. The attendant shall maintain visual and/or voice contact at all times with personnel in the confined space.
- C. In the event of an emergency, the attendant shall summon assistance and shall not enter the confined space unless he/she has received emergency rescue training and another trained attendant is present.
- D. All personnel entering confined spaces and all attendants for such entries shall receive confined space entry training and emergency rescue training at least annually.
- E. Personnel using monitoring equipment shall be trained in its use and calibration.
- F. All electrical shock hazards shall be attenuated by use of low voltage systems and/or ground fault protection.
- G. Explosion-proof electrical equipment shall be required for entry into those spaces where the potential for fire and/or explosion exists.
- H. When all of the above conditions have been met, protective equipment specified for the job, the access ladder secured, lock-outs verified, and the permit completed, the Contractors Project Supervisor and Confined Space Entry Supervisor shall sign the permit, which shall be posted in a conspicuous location at the site of entry.
- I. Whenever conditions in the confined space change, personnel shall be removed, the changes investigated, lock-outs re-verified, and the area re-monitored.
- J. In the event that the work in the confined space is to continue past the initial shift, JEA and the competent person on the next shift shall sign the permit, re-verify the lock-outs, re-monitor the atmosphere and record the data on the permit, verify that all other requirements of this procedure have been met, and inherit all of the responsibilities associated with the entry. This process shall be repeated at the beginning of each subsequent shift.
- K. When the job has been completed, the competent person shall verify that all personnel and equipment have been removed from the confined space. The competent person signifies that the work is completed and that the confined space may be prepared for return to service by signing the permit in the appropriate place and returning it to all Contractors Project Safety Representative. The completed permit is then retained by the Contractors Project Safety Representative for the duration of the project.

The responsibility for issuing confined space entry permits is that of the Contractor. The emergency plan of the project, when initiated will automatically cause all permits to be null and void and will require all personnel in the confined space to immediately evacuate the work area.

Contractors, Sub-Contractors and their employees, shall abide by the requirements of OSHA, this procedure and all provision specified by the Confined Space Entry Permit.

L. PROCEDURE:

- 1) No one will enter a confined space without having a permit. Violations will be cause for dismissal and employees being forbidden re-entry on the project. The Contractor Project Safety Representative shall identify all confined spaces by sign, placard, or other appropriate means. He will also identify person(s) as necessary to be the permit issuer, hereafter referred to as the Confined Space Entry Supervisor. Only an authorized permitter may issue a permit. The

permitter will personally inspect, examine and evaluate the confined space before entry and will assure himself that all hazards have been identified before allowing entry. Before entry is allowed by the permitter, he will quiz all involved to ensure they are knowledgeable of (a) what is to take place inside the confined space, (b) who will be entering, (c) who will be standing by, (d) what will be taken inside, (e) what will be necessary in case of an emergency, and (f) how to report an emergency.

- 2) The permitter will discuss with all personnel involved the following:
 - a. What will happen if an emergency occurs.
 - b. What the emergency - standby person must do.
 - c. All permits are null and void in case of an emergency.
 - d. How to request a re-check of the permit.
 - e. What the permit authorizes and does not authorize.
 - f. The duration of the permit - one shift (or the duration of the entry, whichever, is shorter).
 - g. The posting of the permit.
- 3) The permitter shall ensure the posting and distribution of the permit as follows:
 - a. The original - at the point of entry.
 - b. The second copy - Contractor's Project Supervisor.
 - c. The third copy - Contractors Project Safety Representative.
- 4) The Contractor, at the end of the work shift or at the completion of the entry, shall:
 - a. Collect the original and middle copy of the permit,
 - b. Complete the all clear portion on both permits and
 - c. Return the permit to the Contractors Project Safety Representative. A new permit shall be issued for further entry. Any and all equipment required by the permitter and/or the Project Designated Safety Representative shall be available for use.
- 5) Equipment that may be required includes, but is not limited to, the following:
 - a. Lifelines
 - b. Full Body Safety Harness
 - c. Self-Contained Breathing Apparatus
 - d. Airline Respirators
 - e. Rescue Harness and Ropes
 - f. Ropes, Pulleys, and other Rescue Equipment
 - g. Horns, Whistles, Telephones, Radios, etc. for communication

- h. Fire Fighting Equipment
- i. Explosion Proof Lighting and Electrical Equipment

M. The confined space may be continuously monitored by monitoring equipment. The Contractor is solely responsible for providing the care and protection of this equipment while in use and expressly accepts liability for the damage or loss of the equipment, including replacement of the equipment. The Contractor further understands that the permitter may stop work at anytime he suspects the permit is being violated, conditions have changed inside the confined space, or:

Conditions have significantly changed outside the confined space. The Contractor is responsible for the safety and health of his employees and shall not allow his employees to enter any confined space he or his employees feel is unsafe.

The cost of any additional inspection, evaluation, or consultation provided by JEA for the benefit of the Contractor concerning the safety of the confined space, shall be borne by the Contractor. JEA Project employee, engineer, architect, visitor, vendor or other person who enters a controlled confined space shall abide by this procedure. All Contractors or persons under their control shall abide by JEA confined space requirements when entry is made in a confined space under JEA control.

Additional monitoring equipment shall be available as determined by the Contractors Project Safety Representative. Every Contractor shall ensure that all employees, visitors, vendors, consultants or other persons under control or assisting them are thoroughly trained and orientated to these requirements before they are allowed to enter a confined space. Any person required to wear, use or in any way be involved with, respiratory protection shall be properly trained in the wearing of the respiratory equipment and shall be covered by a respirator program.

N. The Contractor Project Safety Representative or permitter shall stop all work, including confined space entry, during an emergency and shall not allow re-entry until the emergency is over.

The Contractor and the permitter shall determine all sources of power, fluids, gases, ventilation and other means of disturbing the work area within the confined space. The Contractor is responsible to lock, tag and secure these potential disturbances prior to allowing entry. All Contractors shall be able to identify the location of any purge gas release and where the gas is being vented. At no time shall purge gas be vented inside a building or into a confined space. Hearing protection shall be provided if the noise level inside the confined space is greater than 85 dB.

CHAPTER 11

SUBSTANCE ABUSE POLICY

11.1 Purpose

In order to maintain a safe, healthful and efficient work environment, and to minimize absenteeism and tardiness, JEA requires that all Contractors/Sub-Contractors (herein after the “Contractor”) implement a Substance Abuse Policy (herein after the “Policy”) meeting the minimum criteria set forth herein.

11.2 Fundamental Prohibition

Contractor shall develop, promulgate, and enforce a Policy which prohibits the possession, distribution, promotion, manufacture, sale, use, or abuse of illegal and unauthorized drugs, drug paraphernalia, controlled substances, and alcoholic beverages (herein after “Drugs”) by any category of Contractor employee, agent, or any person otherwise under the control of Contractor, including employees and agents of Sub-Contractors and consultants (herein after “Employees”), while on any JEA premises, including the work site, or while otherwise working on the Project. Further, employees shall be prohibited from reporting to the Premises under the influence of Drugs which affect their working ability or safety, including but not limited to their alertness and coordination.

The Policy will apply to all categories of employees, including but not limited to regular, part-time, probationary, casual and contract employees as well as to employees and agents of Contractors, Subcontractors and consultants shall take whatever legally permissible steps are necessary or appropriate to enforce compliance with this Policy.

Employees governed by the Policy may possess a prescription medication in its original container and prescribed for current use of the person in possession by a authorized medical practitioner; providing that the Contractor shall provide a mechanism to ensure that Employees taking prescription medicine inform the project medical person about potential side effects of medication which may affect their work ability, particularly their alertness and coordination, safety and the safety of others.

11.3 Drug Testing Policy

JEA requires that the Contractor shall require that all employees undergo a pre-employment drug screen test to determine the presence or use of any illegal or unauthorized drugs or substances (“Testing”) as a condition of assignment to the Project (initial hire) or continued assignment to the Project. Test must be conducted with 30 days prior to initial hire or assignment to the project. The Contractors shall conduct testing under the following circumstances:

11.3.1. Incidents or Safety Violations

Following an occupational injury requiring treatment by a physician, a potentially serious incident involving rules or safety violations, damage to equipment or property, unusually careless acts or in instances where the incident was due to a failure to wear prescribed protective equipment while working on the Project or on JEA Premises.

11.3.2. Reasonable Suspicion of Illegal Drug Use

Where reasonable suspicion exists that an employee exhibits signs of intoxication, drug influence or other behavior causing a prudent and reasonable person to have concern for the safety of such employee, other employees or the general public.

11.3.3. Suspicious Incidents and Occurrences

Where there is a reasonable suspicion based on demonstrable information, such as an unusual number of post-accident positive test results, incidents of theft, lost productivity, unexplained personal behavior or other facts, that specific employees or other designated work groups, including but not limited to entire crews, work sites, shifts or sensitive job classifications, are under the influence of drugs.

11.3.4. Discovery of Illegal or Unauthorized Drugs or Drug Paraphernalia

Where an employee is found in possession of drugs or when any drugs are found in an area controlled or used exclusively by such employees.

11.3.5 Random Testing

Includes all employees in positions where unsafe work behavior, performance or error in judgment caused by drug abuse may affect the safety of operations or the well-being of employee, other personnel or the general public. The JEA's contractor random substance abuse policy is available for review at www.jea.com/business/services/contractor/safety.asp. Each contractor (including sub-contractors) employee in a safety sensitive position or performing a safety sensitive task is subject to, and required to participate in random substance screening. For the purposes of this requirement, random shall be defined as monthly. If a Contractor fails to comply with this requirement or provide necessary documentation of monthly random testing, that Contractor will be required to participate in a JEA-sponsored random substance abuse screen. "Safety-sensitive" positions are those, including supervisory or management positions, in which a drug or alcohol impairment would constitute an immediate and direct threat to safety or public health. Likewise, "safety sensitive" tasks are those that, if performed with a drug or alcohol impairment, would constitute an immediate and direct threat to safety or public health. With the exception of those few contractor employees, if any, whose jobs are not safety-sensitive and who perform no safety sensitive tasks, contractor employees at work on JEA job sites are recognized as being in safety-sensitive positions or performing safety sensitive tasks due to the hazards of such job sites. JEA will provide a third party administrator and Medical Review Officer (MRO) to supervise its random screening program. All contractors are required to provide employee information in order to be included in the JEA program. JEA will, at a minimum, test 10% of the contractor employees or 10% of those non compliant Contractors on active sites monthly. *In accordance with JEA's zero tolerance program, any contractor employee who tests positive or refuses to take the test is to be immediately removed from the project and will be thereafter shown as not illegible to work on any JEA project.*

11.4 Testing Guidelines

In instances when testing is conducted, Contractor must require that employees produce a urine sample at the testing site and such sample shall be tested for at least the following substances: cocaine metabolite, methaqualone, opiates, phencyclidine, amphetamines, barbiturates,

benzodiazepines and cannabinoids. Samples will be collected, sealed and monitored by professional collection specialists and transported to an approved laboratory for actual testing using immunoassay (sensitivity test). All first-test specimens which are initially identified as positive shall be confirmed by a second test using gas chromatography/ mass spectrometry (GC/MS) techniques (specificity-type methodology).

11.5 Enforcement

Contractor will discipline employees appearing on the premises under the influence of drugs, by permanent removal from the premises and/or undertaking appropriate legal action.

Contractor shall obtain all appropriate permission so that employees entering, departing or on the premises shall, upon request of Contractor, undergo a search of their person, locker, desk or property under their control, including employee's personal effects and automobile located on the premises, for drugs where a reasonable basis exists to suspect employee's work performance or on-the-job behavior may have been affected by drug use or that employee has sold, purchased, used or possessed drugs on the premises.

11.6 Additional Grounds for Being Barred from the Premises

In addition to providing for the barring of an employee from the premises and the project for a confirmed positive test, the policy shall include legally permissible provisions by which employees may be barred from JEA fixed facilities and or project sites. Such provision shall include:

- A. Employees who produce a confirmed positive drug or alcohol test will be permanently prohibited from entering JEA Facilities, Premises and Projects. A failed Breath Alcohol Test (BAT) is .04% or higher.
- B. Refusal to submit to a search or inspection, urine drug or breathalyzer when requested by Contractor.
- A. Degrading, diluting, switching, altering, or tampering with a testing sample.
- B. Using, manufacturing, distributing, dispensing, while on the premises, any illegal or unlawful drug.
- C. Any employee's off-duty possession, use, sale, manufacture or abuse of any illegal drug, whether or not resulting in criminal charges or conviction.

CHAPTER 12

SECURITY PROGRAM

- 12.1 Purpose and Scope: To establish a coordinated project security program, and to assign specific Contractor/Sub-Contractors, (hereafter “Contractor”) with employer and employee security responsibilities at existing/established JEA facilities and upon substantial completion of new facilities.
- 12.2 Objectives:
- A. To direct all project security activities toward the single goal --no breaches, thefts or vandalism.
 - B. To ensure effective coordination and communication of all project security activities with JEA Security
- 12.3 Responsibilities:
- A. General:
 - 1) No Contractor personnel are to enter JEA property, building, facility or attempt at any time entry into buildings without proper identification. At a minimum, such identification will include clearly legible hard hat decals and/or labels identifying the individual’s name and employer.
 - 2) Only designated site roads and gates are to be used for entry or exit.
 - 3) An ID badge may be issued that provides access to a secured facility or site. Employees failing to display their ID badge shall be denied entry or removed from the site. The JEA Project Representative, in conjunction with JEA Security, determines the need for ID badges.
 - 4) On-site parking for Contractor employees, if any, shall be in designated areas ONLY, and shall display the appropriate Contractor issued permit.
 - The JEA Project Representative, in conjunction with the Contractor, will designate the areas(s) in which parking will be allowed.
 - The Contractor shall provide parking permits in such a manner as to allow the immediate identification of the employee to whom a parking permit is issued.
 - 5) Unauthorized vehicles and/or vehicles parked in areas other than designated, shall be towed. Towing and storage charges, as well as any damage to the vehicle, will be the vehicle owner's responsibility.
 - 6) All vehicles on JEA facilities or projects are subject to search without prior notice. Refusal to permit a search shall result in the vehicle and employee being removed and barred from the site.
 - 7) Reckless and/or irresponsible or unsafe operation of vehicles and/or machinery operations shall result in the revocation of parking permits and other punitive measures deemed appropriate by the JEA Project Representative and JEA Security..

- The maximum speed limit on all JEA property is ten (10) miles per hour.
 - The speed limit in any work zone is five (5) miles per hour.
- 8) All visitors shall be escorted by an authorized Contractor's representative at all times. Visitors shall sign a visitor waiver form.

B. Contractors:

- 1) Contractor shall provide on-site JEA security personnel at any time the facility's perimeter is unsecured. Examples include, but are not limited to: alarms disabled, fences or gates down, traffic flows that require gates to be opened repeatedly and/or for more than one hour of the work day.
 - **NOTE:** Short-term or intermittent (less than one cumulative hour of the work day) opening of gates and/or other breaches of the facility's perimeter must be monitored continuously by a Contractor's employee assigned solely to that responsibility if on-site security personnel are not scheduled or available.
 - Security personnel shall be scheduled through JEA Security. A minimum of three business days' notice is required, except in the case of emergency, as determined at the sole discretion of the JEA Project Representative, in conjunction with JEA Security. JEA Security will bill the cost internally, directly to the project.
 - Security costs shall be borne by the Contractor.
- 2) Where existing lighting is disabled or otherwise impacted by the work, Contractor shall provide temporary lighting equal to or exceeding the existing.
- 3) Where additional security measures are instituted, Contractor shall advise all employees of any alarm or other security devices.
 - Contractor shall notify JEA Security of any alarms or other security devices installed by the Contractor.
- 4) Contractor shall provide the JEA Project Representative with an up-to-date list of supervisory personnel (name and telephone number) available during non-work periods to assist in the event of a security breach or event.
- 5) Contractor shall advise employees and suppliers of site speed limits and security measures.
- 6) Contractor shall identify all equipment and machinery by I.D. tag or Contractor's name painted in a prominent location.
- 7) Contractor shall disable all motorized machinery, e.g., front-end loaders, back-hoes, dozers, etc., during non-work hours to prevent unauthorized operation.
- 8) Contractor shall ensure readily accessible proof of required insurance for all vehicles to be used on site.
- 9) Contractor shall escort employees that leave the work zone during the work day to the parking area.
- 10) Contractor shall ensure that all employees wear required identification at all times while on site.

C. Contractor's Employees:

- 1) Employees shall display required identification and vehicle parking permits at all times while on site.
- 2) Employees shall park in designated areas only.
- 3) Employees shall operate vehicles and/or machinery in a safe manner while on-site and while entering and leaving the site.
- 4) Employees shall lock or otherwise secure personal property and vehicles.
 - Note: Neither Contractors nor JEA implies or assumes any responsibility for fire, theft or other damage to any vehicle or property.

12.4 General Project Security Rules and Regulations

- A. All work prior to 6:00 a.m. and/or after 6:00 p.m., or at any time on weekends and/or JEA-recognized holidays shall be coordinated with the JEA Project Representative and communicated by the Representative to JEA Security.
- B. The Contractor shall issue a hard hat bearing the Contractor's identifying decal or label and safety glasses to all employees and visitors prior to their entering the site.
- C. The Contractor shall provide a supervisor-level escort to any employee whose employment is terminated for any reason to ensure that the employee immediately leaves JEA property.
 - The Contractor shall ensure that all identification and parking permits are returned to the Contractor by the terminated employee.
 - Such action will be immediately reported to the JEA Project Representative and JEA Security.
- D. All deliveries shall be made in accordance with documented project procedures or those specific to the JEA facility.
 - JEA Security policies and procedures shall prevail in the event of a conflict with project procedures.
- E. Work hours for the project shall be communicated to JEA Security by the JEA Project Representative.
- F. All Contractors and their employees shall be responsible for ensuring that all equipment, gang boxes, machinery, storage areas, tools, trailers, vans, vehicles, etc., are properly secured at the end of each work day.
- G. Contractors and their employees are prohibited from entering and/or using any and all JEA facilities, including, but not limited to: break rooms, employee parking areas, fitness centers, food service areas, medical facilities, restrooms, telephones, warehouses or other buildings without proper prior authorization from the JEA Project Representative and communicated to JEA Security. Violations may, at the sole discretion of the JEA Project Representative, in conjunction with JEA Security, result in the individual being immediately removed and permanently barred from the site.
- H. Loitering on the job site before or after the assigned shift is prohibited. Violations may, at the sole discretion of the JEA Project Representative, in conjunction with JEA Security, result in the individual being immediately removed and permanently barred from the site.
- I. No harassment, including, but not limited to: sexual, physical or verbal harassment, of JEA or any Contractor's employees or other personnel will be tolerated on the premises. Violations may, at the sole discretion of the JEA Project Representative, in conjunction with JEA Security, result in the individual being immediately removed and permanently barred from the site.

12.5 Enforcement:

- A. JEA reserves the right to enforce all requirements of the safety, security and other regulations and requirements as set forth in the Project Safety Guideline. Enforcement methods include, but are not limited to: removal of Contractor's employees from the site, prosecution, civil action and termination of contracts. The intent of these regulations and requirements are to ensure that all Contractors and individuals associated with the project are aware of the need to work individually and together to provide a safe, secure work place.

13.1 The Safety Task Assignment Process is a micro activity.

This procedure provides guidelines for all supervisors who assign work to employees. Additionally, it takes into consideration all aspects of the task to be performed with emphasis on safety.

A. General

- 1) Safety Task Assignment (STA) is showing or explaining to each employee the safety application that pertains to the job he/she is to do.
- 2) It is the responsibility of management down through the foreman to give STA assignments to all employees, either individually or in a group before they actually begin any assigned task. The STA may only require a few words, but in many cases, it could require an actual demonstration of how the job can be done safely while pointing out any hazards that may be encountered in any task.
- 3) Supervisors can manage their business safely by assuring that every employee understands thoroughly every STA given to him/her on every job that he/she is to perform.

B. Procedure

- 1) Each foreman must daily analyze each project site or task for specific hazards before work begins. This will enable him/her to give accurate instructions for each job that his/her employees will be engaged in during that work shift.
- 2) The magnitude of the task will generally determine the extent of the STA. Some tasks will require only a few words of STA and others may take a more detailed explanation or other preparation for employees. All employees involved must be checked to ensure that they understand what they are expected to do to safely perform their task.
- 3) Each foreman is responsible for giving STA's every day per group of employees. The STA should include any specific hazard that group may encounter, safety equipment, and any personal protective devices that may be needed.
- 4) Each foreman will assign each employee to be alert to a designated hazard that may be encountered during the course of his or her work activities. These employees will report any hazard observed to the foreman for correction.

It is the responsibility of the foreman to initiate corrective action to the greatest degree necessary to achieve abatement of the hazard following notification by his employee.

- 5) The STA Roster (Exhibit A) should be posted in a conspicuous place near the work area. This will enable the employees to review the STA during the course of the day.

The STA roster should be turned in at the end of each shift, so it can be reviewed by the Contractors Project Safety Representative.

CHAPTER 14

DISCIPLINARY PROGRAM

14.1 PURPOSE AND SCOPE: Compliance with the rules and regulations set forth in JEA Contractor Safety Requirements and Contractor Orientation Program as well as all applicable OSHA standards, and JEA Safety, Industrial Hygiene, Environmental Standards and Security Protocols is a condition of employment and a contractual obligation. Individuals who do not conform to the aforementioned requirements will be escorted from the project.

14.2 DISCIPLINARY PROGRAM

- A. Contractor/Sub-Contractor: A Contractor/Sub-Contractor found to be in noncompliance with the project safety requirements, which are a part of the contract documents, will result in stoppage of work, supervisor and/or employee dismissal and any willful or repeated noncompliance will result in Contractor/Sub-Contractor dismissal.
- B. Contractor/Sub-Contractor's manager, supervisor, foreman or other person in charge of the work being performed who requires, requests, asks, threatens with their job, allows or condones employees to work in/or around unsafe acts or conditions shall be immediately and permanently removed from the project.
- C. Any employee, supervisor or manager who openly exhibits disregard, defiance or disrespect for the safety program will be immediately and permanently removed from the project.
- D. Any employee, supervisor or manager who knowingly falsifies any investigative documents or testimony involving an investigation will be immediately and permanently removed from the project.
- E. All parties involved in violent physical encounters (fighting) or threats of violence, theft or destruction of property will be immediately and permanently removed from the project.
- F. Employees who violate established safety rules, regulations or codes that endanger themselves or other employees will be immediately and permanently removed from the project.
- G. Each project employee, whether manager, supervisor or craft person, will receive their first warning at orientation. Additional warnings will be at the JEA Project Managers or designees discretion.

The following forms, permits, and reports are required forms for project use. To assist you, these forms are available electronically at www.jea.com/business/services/contractor.safety.asp JEA Contractor Safety Information – Forms and Permits. Contractors and Sub-Contractors may already have these forms or can develop their own. It is not mandatory that a Contractor or Sub-Contractor use the actual forms in this manual, but recommended. The Contractor, Sub-Contractor may use their own forms providing they are equivalent to those referenced in these requirements.

- 15.1 Contractors Incident Form: Use this form to report each and every incident and/or damage of equipment or property.
- A. The form shall be prepared from information as a result of investigation or direct reports of the person(s) involved or responsible.
 - B. The report is to be furnished promptly.
 - C. The form shall be prepared by the Contractor, who shall retain the original, and submit copies to all Contractors/General Contractor.
 - D. All incidents involving damage to property, including raw materials or equipment; installed equipment; motor vehicles and heavy equipment are reportable.
 - E. Alleged damage to public or private property must also be reported.
 - F. Distribution shall be as follows:
 - 1) Original - Contractor
 - 2) Copy – JEA Project Designated Safety Representative
 - G. The form will be submitted to the JEA Project Manager within 24 hours of an occurrence.
- 15.2 Cutting Welding and Hotwork Permit: Use this permit when cutting welding and hotwork are to be performed on JEA fixed facilities or otherwise directed by JEA Project Manager.
- A. Where required, this permit will be used to identify cutting, welding and burning operations.
 - B. The permit will be issued by JEA's Project Manager or his designee.
 - C. A copy will be posted at the point of operation.
 - A. This permit is only good for one shift.
- 15.3 Scaffold Tag/Permit: This form will be issued for scaffolding, after it is erected under the supervision of a competent person, and prior to scaffold use. Tag/Permits to address three (3) levels of erection conditions are addressed, 1) OK 2) CAUTION, and 3) DANGER.
- A. This permit will be attached to every scaffold after it has been erected and inspected by a competent person.
 - B. Each employee will be trained to read the tag prior to using scaffolding and to comply with the special instructions. Further, employees will be trained not to use scaffolding

without permits.

- 15.4 Confined Space Entry Permit: This permit will be issued and posted at all confined space locations, after air has been monitored. Available in electronic format from JEA.
- A. The confined space will be tested by a competent person using a OSHA accepted instrument that has been calibrated.
 - B. A copy of the permit will be posted at the confined space entry location prior to entry.
 - C. This permit is only good for one shift.
- 15.5 Excavation Permit:
- A. This permit will be provided JEA's Project Manager or his designee in charge of the work to be done.
 - B. No excavation or trenching will commence until the permit is completed, signed by all required parties, and the equipment operator has a copy in his possession.
- 15.6 OSHA 300 Log: Use this form to maintain recordable OSHA injuries/illness. It is to be maintained by the employer. Available on OSHA's website (www.osha.gov).
- A. This log will be maintained by each employer and shall be up-to-date within four (4) days of any recordable injury/illness to their employee.
 - B. This log will be posted on the job site, the month of February, in accordance with OSHA requirements.
- 15.7 Safety Task Assignment Process Form: Contractor/Sub-Contractor management will complete this form to analyze the hazards connected with each task that is assigned to his/her employees. This form is available in Spanish also from JEA.
- A. Contractor /Sub-Contractor will retain original for training purposes and file.
 - B. A copy of the STA shall be attached to all incident reports (injury, property, or near miss).
- 15.8 Fall-Arresting Equipment Form: Contractor, Sub-Contractor will use this form or an equivalent form to document required quarterly inspection of Fall-Arrest System equipment. A copy of this document shall be made available by the Contractor, Sub-Contractor on request by JEA.
- 15.9 Check List Assured Equipment Grounding Conductor Form: Contractor, Sub-Contractor will use this form or an equivalent form to document required quarterly inspection of electrical equipment. A copy of this document shall be made available by the Contractor, Sub-Contractor on request by JEA.
- 15.10 Rigging Equipment Inspection Report Form: Contractor, Sub-Contractor will use this form or an equivalent form to document required quarterly inspection of rigging equipment. A copy of this document shall be made available by the Contractor, Sub-Contractor on request by JEA.
- 15.11 Ladder Inspection Guide Form: Contractor, Sub-Contractor will use this form or an equivalent form to documents required quarterly inspection of ladders. A copy of this document shall be made available by the Contractor, Sub-Contractor on request by JEA.

15.12 Crane Heavy Lift Permit: Contractor, Sub-Contractor will use this form or an equivalent form to document procedures when required. See Chapter 6, Section P. Crane and Rigging. A copy of this document shall be made available by the Contractor, Sub-Contractor on request by JEA.