ACCIDENT PREVENTION PROGRAM

For:
KEN BOBKO ELECTRIC COMPANY, INC
PO BOX 7009
TACOMA WA 98417-0009
253-756-0944  253-759-8428 FAX
www.kenbobkoelectric.com

Project:
LSG SKY CHEFS
2580 S 156TH STREET
TRANSIPLEX BLDG F
SEATAC WA 98158

POS# 18-SW1401

General Contractor:
J.R. ABBOTT CONSTRUCTION INC.
3408 1ST AVE S STE 101
SEATTLE WA 98134

March 6, 2014
<table>
<thead>
<tr>
<th>Treatment for:</th>
<th>Address</th>
<th>Telephone:</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINOR INJURIES</td>
<td>PACIFIC CLINIC AND URGENT CARE 15500 1ST AVE S STE 106A BURIEN WA 98148-1052</td>
<td>206 327-9400</td>
</tr>
<tr>
<td>SERIOUS INJURIES</td>
<td>HIGHLINE MEDICAL CENTER 16251 SYLVESTER RD SW SEATTLE WA 98166-3017</td>
<td>(206) 244-9970 911</td>
</tr>
<tr>
<td>Emergency Numbers:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Police, Fire, Ambulance: 911</td>
<td>911</td>
<td>911</td>
</tr>
</tbody>
</table>
SITE SPECIFIC SAFETY PLAN

This plan was intended to provide specific information necessary for effective site implementation of Ken Bobko Electric Company, Inc. Policy. More detailed safety information is contained in the handbook. This plan shall be completed prior to the start of each project involving three or more employees or of more than one-week duration and kept at the site.

<table>
<thead>
<tr>
<th>Date:</th>
<th>March 6, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name:</td>
<td>LGS SKY CHEFS</td>
</tr>
<tr>
<td>Project Address:</td>
<td>2580 S 156TH STREET TRANSIPLEX BLDG F SEATAC WA 98158</td>
</tr>
<tr>
<td>Project Manager:</td>
<td>Ken Bobko</td>
</tr>
<tr>
<td>Supervisor:</td>
<td>Ronald Green</td>
</tr>
<tr>
<td>Work Performed:</td>
<td>Div. 16</td>
</tr>
<tr>
<td>Safety Rep:</td>
<td>Ken Bobko</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:kbelec82@yahoo.com">kbelec82@yahoo.com</a></td>
</tr>
<tr>
<td></td>
<td>253-606-6839</td>
</tr>
<tr>
<td>Peak Manpower:</td>
<td>6</td>
</tr>
</tbody>
</table>

**FIRST AID:**
First Aid/CPR trained personnel on site:

<table>
<thead>
<tr>
<th>Name</th>
<th>Expiration Date FIRST AID</th>
<th>Expiration Date CPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ken Bobko</td>
<td>01/23/14</td>
<td>01/2016</td>
</tr>
<tr>
<td>Ronald Green</td>
<td>01/23/14</td>
<td>01/2016</td>
</tr>
<tr>
<td>Joe Alena</td>
<td>01/23/14</td>
<td>01/2016</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Instructions</td>
<td>3</td>
</tr>
<tr>
<td>Safety Policy</td>
<td>3</td>
</tr>
<tr>
<td>Responsibilities</td>
<td>4</td>
</tr>
<tr>
<td>Safety Disciplinary Policy</td>
<td>6</td>
</tr>
<tr>
<td>Procedure for Jobsite incidents</td>
<td>11</td>
</tr>
<tr>
<td>Basic Rules for Accident Investigation</td>
<td>12</td>
</tr>
<tr>
<td>Safety Training</td>
<td>13</td>
</tr>
<tr>
<td>Job Hazard Analysis (JHA)</td>
<td>14</td>
</tr>
<tr>
<td>First Aid Training, Kits and Posters</td>
<td>15</td>
</tr>
<tr>
<td>First Aid Procedures in Construction</td>
<td>16</td>
</tr>
<tr>
<td>Work Crew Safety Meetings</td>
<td>17</td>
</tr>
<tr>
<td>Construction Safety Meeting Topic Suggestions</td>
<td>18</td>
</tr>
<tr>
<td>How to Hold a Good Safety Meeting</td>
<td>19</td>
</tr>
<tr>
<td>General Safety Rules for Construction</td>
<td>20</td>
</tr>
<tr>
<td>Lighting and Illumination</td>
<td>22</td>
</tr>
<tr>
<td>Ladder Safety Rules</td>
<td>23</td>
</tr>
<tr>
<td>Fall Protection Safety Rules</td>
<td>26</td>
</tr>
<tr>
<td>Motorized Vehicles and Equipment</td>
<td>27</td>
</tr>
<tr>
<td>Material Handling Safety Guidelines</td>
<td>28</td>
</tr>
<tr>
<td>Heat Stress (Heat Illness)</td>
<td>31</td>
</tr>
<tr>
<td>Floor and Wall Openings</td>
<td>34</td>
</tr>
<tr>
<td>SUBJECT - Table of Contents continued</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Fire Protection</td>
<td>41</td>
</tr>
<tr>
<td>PPE</td>
<td>43</td>
</tr>
<tr>
<td>Scissor Lifts</td>
<td>49</td>
</tr>
<tr>
<td>Forklifts</td>
<td>52</td>
</tr>
<tr>
<td>Energized Electrical Work</td>
<td>57</td>
</tr>
<tr>
<td>Lock Out Tag Out</td>
<td>70</td>
</tr>
<tr>
<td>Acknowledgement Signature Page</td>
<td>75</td>
</tr>
<tr>
<td>Copies of First Aid Cards</td>
<td></td>
</tr>
</tbody>
</table>
GENERAL INSTRUCTIONS

A.  Overview

Industrial injuries create a no-win situation for everyone involved. Employees experience pain, suffering and incapacitation while the company suffers from the loss of the injured person's contributions. This document is designed to assist all personnel in assuring that such an undesirable situation will not develop in this company. It provides information and guidance for the establishment and maintenance of an injury-free work environment.

B.  Procedures

This document contains guidance for safety procedures to be followed and forms to be used. Supervisors are expected to integrate the procedures into the appropriate work activity and employees are expected to apply them on the job. The sample forms are to be used if they apply to the job concerned.

COMPANY SAFETY POLICY

SAFETY AND HEALTH POLICY FOR KEN BOBKO ELECTRIC COMPANY, INC.

The purpose of this policy is to develop a high standard of safety throughout all operations of Ken Bobko Electric Company, Inc., and to ensure that no employee is required to work under any conditions, which are hazardous or unsanitary.

We believe that each employee has the right to derive personal satisfaction from his/her job and the prevention of occupational injury or illness is of such consequence to this belief that it will be given top priority at all times.

It is our intention at Ken Bobko Electric Company, Inc. to initiate and maintain complete accident prevention and safety training programs. Each individual from top management to the working person is responsible for the safety and health of those persons in their charge and coworkers around them. By accepting mutual responsibility to operate safely, we will all contribute to the well being of our employees.

Signed by:  Ken Bobko, President
RESPONSIBILITIES

Responsibilities for safety and health include the establishment and maintenance of an effective communication system among workers, supervisors and management officials. To this end, all personnel are responsible to assure that their messages are received and understood by the intended receiver. Specific safety and health responsibilities for company personnel are as follows:

A. Management Officials

Active participation in and support of safety and health programs is essential. Management will display their interest in safety and health matters at every opportunity. Management will participate in the safety meetings, incident investigations and inspections. Each manager will establish realistic goals for implementing instructions for meeting the goals. Goals and implementing instructions shall be within the framework established by this document.

B. Supervisors

The safety and health of the employees they supervise is a primary responsibility of the supervisors. To accomplish this obligation, supervisors will:

1. Assure that all safety and health rules, regulations, policies and procedures are understood and observed.
2. Require the proper care and use of all required personal protective equipment.
3. Identify and eliminate job hazards quickly through the job hazard analysis process.
4. Inform and train employees on the hazardous chemicals and/or procedures they MAY encounter under normal working conditions or during an emergency situation.
5. Receive and take initial action on employee suggestions, awards or disciplinary measures.
6. Conduct crew/leader meetings the first five minutes of each work shift to discuss safety and health matters and work plans for the workday.
7. Conduct daily walk-around safety inspections documenting findings and corrective actions.
8. Train employees (new and experienced) in the safe and efficient methods of accomplishing each job or task as necessary.
10. Attend safety meetings and actively participate in the proceedings.
11. Participate in incident investigations and inspections.
12. Promote employee participation in the safety and health program.
13. Actively follow the progress of injured workers and display an interest in their rapid recovery and return to work.
C. **Employees**

Observe the items of responsibility established in this document as well as job safety rules which may apply to specific task assignments.

1. Immediately report unsafe equipment, hazardous conditions, and unsafe acts to your Foreman or Supervisor. Your company’s management is responsible for maintaining safe and healthy conditions on the project.

2. KBE Construction duties require the 100% use of: Hard Hats, Gloves, Eye Protection and Boots for Personal Protective Equipment (PPE). Additionally, when supplemental Personal Protective Equipment is specified such as: face protection, hearing protection, respirators, etc., its use is MANDATORY.

3. A Job Hazard Analysis (JHA) shall be completed for each construction activity and signed by the individuals performing that activity.

4. Do not use compressed oxygen to blow dust or dirt from clothing, skin, or work surfaces. This may cause serious injury and/or create a serious fire hazard.

5. Electrical cords, hoses, and leads must be protected or elevated. They must be kept clear of walkways and other locations where they may be exposed to damage or create tripping hazards.

6. Obey all warning signs and safety tags (such as “Keep Out”, “No Smoking”, “Caution/Danger”, “Hot Work”, “Hole”, etc.).

7. Clothing, jewelry, and hair must not hang loose to the point where it can be caught in moving parts of machinery.

8. Pants must be full-length. Cut-off shorts and other such apparel are not permitted.

9. Tank tops, net shirts, cut-off shirts, or sleeveless shirts may not be worn.

10. Keep the work area clean of debris and tools. Do not leave materials and scrap where they will be hazardous to others.

11. Firearms are forbidden on the project.

12. The possession and/or use of drugs and alcohol or being under their influence are prohibited while on the project.

13. Fighting or horseplay will not be tolerated.

14. Do not take shortcuts. Use provided ladders, ramps, stairways, and walkways. Never cross through a closed or barricaded area.

15. Equipment will be shut off when lubricated, refueled, or adjusted.

16. Only qualified, trained, personnel shall operate aerial lifts, forklifts, or motorized equipment and machinery.

17. Properly prepare physically and mentally for the workday by participating in stretching exercises.
Safety Disciplinary Policy

Ken Bobko Electric Company, Inc. believes that a safety and health Accident Prevention Program is unenforceable without some type of disciplinary policy. Our company believes that in order to maintain a safe and healthful workplace, the employees must be cognizant and aware of all company, State, and Federal safety and health regulations as they apply to the specific job duties required. The following disciplinary policy is in effect and will be applied to all safety and health violations.

1. Defining “The Plan”
   a) The object of this matrix is to consistently and effectively control safety hazards such as unsafe acts, and unsafe conditions that lead to injuries of employees, the general public, or that cause property damage.
   b) The matrix also provides a basis for Ken Bobko Electric Company, Inc. by standardizing how safety infractions committed by those employees will be handled.
   c) All employees of Ken Bobko Electric Company, Inc., subcontractor, sub tier contractor, vendor, or tenant are covered under this matrix regardless of classification.
   d) Damage to equipment or property due to unsafe act or using damaged equipment.
   e) Individuals observed by Ken Bobko Electric Company, Inc. management shall be disciplined under this matrix.
   f) Individuals observed by the Port of Seattle management shall also be subject to disciplinary action. POS management shall immediately contact Ken Bobko Electric Company, Inc. management or provide written information to Ken Bobko Electric Company, Inc. management as to violation, time, date, employer, and employee.
   g) Ken Bobko Electric Company, Inc. Safety Manager shall perform the act of documenting and distributing the “Written Violation Notice.”

2. Defining “Violation”
   a) Violations are defined as:
   b) “General Violations” are considered to be those infractions that may not cause serious injury or illness to an individual but are still violations of written safety policies and procedures. Examples include housekeeping, unregulated ACM incidents, property damage, mushroomed tools, etc. “General Violations” do not necessarily require a written warning unless they become classified as “Repeat Violations.”
   c) “Serious Violations” are those violations that if left uncorrected could cause serious injury or illness to an individual. Examples include employees exposed to fall or impalement hazards or serious bodily harm.
d) “Imminent Danger” are violations/situations that will most likely cause permanent disability or death to an individual. Examples can include falls, electrical, or trenching hazards and unsafe equipment.

e) “Repeat Violations” are situations that arise as a result of a previously identified infraction not being abated in the time frame required or numerous violations of the same classification. “Repeat Violations” can also be defined as a situation where one supervisor has multiple employees working under their direction who are in violation of a written Federal, State, project, or company policy.

f) Violations are not limited to the examples listed above.

NOTE: An “employee” may be removed from the project at any time for a safety violation that endangers his life or the life of a fellow employee.

3. Defining “Employee”

a) As mentioned earlier, all employees of Ken Bobko Electric Company, Inc., subcontractor, vendor, or tenant are included in this program.

b) Job title classifications can include but are not limited to trades person, foreman, supervisor, superintendent, etc.

c) Any person (s) directly reprimanded for their own actions or inactions, regardless of their position, shall be reprimanded as a “Worker.”

4. Defining the “Procedure”

a) Individuals observed committing infractions of written Federal, State, site, or company safety policies will be brought to the attention of the Ken Bobko Electric Company, Inc. management.

b) Ken Bobko Electric Company, Inc. will in a timely manner, notify the identified employee(s) that they are in violation of written safety rules or procedures and shall abate the hazard.

c) In the event of “Imminent Danger or” a “Serious Violation”, Ken Bobko Electric will immediately notify and remove the employee(s) from the hazardous situation.

d) Ken Bobko Electric Company, Inc. will provide timely written warning to the identified individual(s), as well as the direct supervisor and superintendent of that individual(s). The supervisor’s names shall be recorded on the “Written Violation Notice.”

e) To discourage “Repeat Violations” or supervisor apathy, the supervision is subject to disciplinary action as stated in the matrix.
5. Defining the “Results”

a) Personnel (including supervisors) receiving a Written Violation Notice will be retrained in the appropriate standard or procedures. When working on a POS project, said training shall be documented in writing and submitted to the POS Construction Representative.

b) Written Violation Notices received will remain in force for the duration of the project.

c) Removal from the project of an “employee” for a minimum of 3 working days.

d) Removal of an “employee” from any Port of Seattle project for one year.

e) Written notice sent to the appropriate corporate president.

f) When working on a POS project Copies of all “written violation notices” are to be submitted to the POS Construction Representative with a copy forwarded to the POS Manager of Construction Safety Services within 24-hours of issuance of notice.
## DISCIPLINARY ACTION MATRIX

<table>
<thead>
<tr>
<th>FOCUS POINT /INCIDENT</th>
<th>1ST VIOLATION</th>
<th>2ND VIOLATION</th>
<th>3RD VIOLATION</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worker</td>
<td>Verbal &amp; Written Notice</td>
<td>3 Days Off</td>
<td>Removed from POS Projects for one year</td>
<td>3 Worker Lay-offs = removal from POS project for one year</td>
</tr>
<tr>
<td>Worker’s Direct Foremen</td>
<td>Written Notice</td>
<td>Written Notice</td>
<td>3 Days Off</td>
<td>3 Worker Lay-offs = removal from POS project for one year</td>
</tr>
<tr>
<td>Worker’s Direct Superintendent</td>
<td>Written Notice</td>
<td>Written Notice</td>
<td>Written Notice to sub/ Ken Bobko Electric Co, Inc. Superintendent and President of sub/company</td>
<td>3 Worker Lay-offs = 3 days off for superintendent</td>
</tr>
<tr>
<td>Ken Bobko Electric Co, Inc. Superintendent</td>
<td>Written Notice</td>
<td>Written Notice</td>
<td>Written Notice to President of Ken Bobko Electric Company, Inc.</td>
<td>3 Worker Lay-offs = 3 days off for superintendent</td>
</tr>
</tbody>
</table>
DISCIPLINARY ACTION MATRIX
WRITTEN VIOLATION NOTICE

Project Name: ____________________________ Project #: ____________________________
Contractor: ________________________________________________________________
Employee being reprimanded: ________________________________________________
Date ____________________________ Time: ____________________________

Violation:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Task being performed:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Corrective action/training required:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Witness: ____________________________
Foreman: ____________________________
Superintendent: ____________________________
GC Superintendent: ____________________________
First Notice: ___________ Second Notice: ___________ Third Notice: ___________
Employee Lay Off or Removal Required (Yes/No): ____________________________
Written Notice to Company President Required (Yes/No): ____________________________
Issued By: ____________________________
Procedure for jobsite incidents

A. **Lead person immediately takes charge**

1. Supervise and administer first aid as you wish (Good Samaritan Law applies).

2. Arrange for transportation (ambulance, helicopter, company vehicle, etc.), depending on the seriousness of the injury. Protect the injured person from further injury.

3. When working on a POS project, immediately notify POS Manager of Construction Safety for any incident involving off-site medical treatment. For all other incidents, notify in a timely manner.

4. Do not move anything unless necessary, pending investigation of the incident.

5. Accompany or take injured person(s) to doctor, hospital, home etc. (depending on the extent of injuries).

6. Remain with the injured person until relieved by other authorized persons (manager, EMT, doctor, etc.).

7. When the injured person’s immediately family is known, the owner or supervisor should properly notify family members, preferable in person, or have an appropriate person do so.

B. **Documentation**

1. After the emergency actions following an incident, an investigation of the incident will be conducted by the immediate supervisor and any witness to determine the causes. The findings must be documented on the appropriate POS incident form.

2. Major injuries – fatality or hospitalizations: Top management must see that the Department of Labor and Industries is notified as soon as possible, but at least within 8 hours of the incident. Call or contact in person the nearest office of the Department or call the OSHA toll free central number (1-800-321-6742). Top management will then assist the Department in the investigation.

3. The findings must be documented on our incident investigation report form and recorded on the OSHA 300 log, if applicable.

C. **Near Misses**

1. All near-miss incidents (close calls) must be investigated.

2. When working on a POS project, document the finding on the appropriate POS incident form.

3. Review the findings at the weekly safety meetings or sooner if the situation warrants.
Basic Rules for Accident Investigation

- The purpose of an investigation is to find the cause of an incident and prevent future occurrences, not to fix blame. An unbiased approach is necessary to obtain objective findings.

- Visit the incident scene as soon as possible – while facts are fresh and before witnesses forget important details.

- If possible, interview the injured worker at the scene of the incident and “walk” him or her through a re-enactment. Be careful not to actually repeat the act that caused the injury.

- All interviews should be conducted as privately as possible. Interview witnesses one at a time. Talk with anyone who has knowledge of the incident, even if they did not actually witness the mishap.

- Consider taking the signed statements in cases where facts are unclear or there is an element of controversy.

- Graphically document details of the incident: area, tools, and equipment. Use sketches, diagrams, and photos as needed, and take measurements when appropriate.

- Focus on causes and hazards. Develop an analysis of what happened, how it happened, and how it could have been prevented. Determine what caused the incident itself (unsafe equipment/condition, unsafe act, etc), not just the injury.

- How will you prevent such incidents in the future? Every investigation should include an action plan.

- If a third party or defective product contributed to the incident, save any evidence. It could be critical to the recovery of the claim costs.
Safety Training

Safety Orientations

All Ken Bobko Electric Company, Inc. employees and subcontractor employees working on construction projects will receive a site safety orientation prior to commencing work.

In addition, Ken Bobko Electric Company, Inc. will orientate employees and sub-tiered contractor employees to the specific rules found in their site specific safety & health plan.

Asbestos Awareness

All Ken Bobko Electric Company, Inc. employees and subcontractor employees will be current in asbestos awareness training when the scope of the work can reasonably anticipate the potential presence of asbestos containing material being in the work area.
Job Hazard Analysis

Job Hazard Analysis

Ken Bobko Electric Company, Inc. will complete a written Job Hazard Analysis (JHA) for work to be performed, outlining the equipment to be used, the identified hazards that may exist or be created, and what procedures or safety equipment will be used to eliminate or reduce those hazards. Completed JHA’s are to be reviewed with the workforce and will contain their signatures as an acknowledgement. It is the responsibility of Ken Bobko Electric Company, Inc. to ensure subcontractors and sub-tiered contractors are completing written JHA’s.

SAFETY BULLETIN BOARD

A. Purpose: To increase employee’s safety awareness and convey Ken Bobko Electric Company, Inc. safety message. If a proper place can be found for a bulletin board, this is a good tool.

B. The following items are required to be posted:

1. WISHA poster (F416-081-00) (required)
2. Industrial Insurance poster (F242-191-000) (required)
3. Wage and hour laws (F700-053-000) (required)
4. Citation and Notice
   If a Citation and Notice is received, it must be posted until all violations are abated.

5. Emergency Telephone Number Posted (as appropriate)
6. OSHA 300 Summary (required February 1 thru April 30 of each year)
FIRST AID TRAINING, KITS, AND POSTER

A. **Purpose:** To afford the employees immediate and effective attention should an injury result, Ken Bobko Electric Company, Inc will ensure that a certified first aider(s) will be available.

1. To meet the above objectives, the following procedures will be followed:
   a. All supervisors or persons in charge of crews will be first aid trained.
   b. Other persons will be trained in order to augment or surpass the standard requirements.
   c. Valid first aid cards are recognized as ones that include both first aid and cardiopulmonary resuscitation (CPR) and have not reached the expiration date.

2. First aid training, kits, and procedures will be in accordance with the requirements of the general safety and health standards (WAC 296-800).
   a. First aid kit locations at this jobsite include: ____________________________
   b. Manager is designated to ensure that the first aid kits are properly maintained and stocked.

3. Posters listing emergency numbers, procedures, etc., will be strategically located, such as on the first aid kit, at telephones, and in other areas where employees have easy access.
FIRST AID PROCEDURES IN CONSTRUCTION

We have first aid qualified workers here but we do not have “designated” first-aiders. First aid at the job site is done on a Good Samaritan basis.

If first aid trained personnel are involved in a situation involving blood, they should:

1. Avoid skin contact with blood/other potentially infectious materials by letting the victim help as much as possible, and by using gloves provided in the first aid kit.

2. Remove clothing, etc. with blood on it after rendering help.

3. Wash thoroughly with soap and water to remove blood. A 10% chlorine bleach solution is good for disinfecting areas contaminated with blood (spills, etc.).

4. Report such first aid incidents within the shift to supervisors (time, date, flood presence, exposure, names of others helping).

Hepatitis B vaccinations will be provided as soon as possible but not later than 24 hours after the first aid incident.

If an exposure incident occurs, we will immediately make available appropriate:

1. Post exposure evaluation

2. Follow-up treatment

3. Follow-up as listed in WAC 296-823, Occupational Exposure to Bloodborne Pathogens.
WORK CREW SAFETY MEETINGS

We believe that hard work and perseverance are required for the prevention of injuries and illnesses, with the crew leader being the key to a successful result.

A. **Purpose:** To assist in the detection and elimination of unsafe conditions and work procedures.

B. **Procedures:**

The following guidelines will be followed:

a. These meetings are held at the beginning of each job and at least weekly thereafter, according to the various circumstances involved or when necessary to clear working procedures. No set pattern will suit all cases. It is important that the crew leader talk daily on injury prevention and immediately upon witnessing an unsafe act.

b. The attendance and subjects discussed will be documented and maintained on file for one year.

c. Copies of the minutes will be made available to the employees by posting or other means.

d. All-hands safety meetings will be completed on a monthly basis.

C. **Scope of Activities:**

1. Conduct in-house safety inspections with supervisor concerned.
2. Investigate incidents to uncover trends.
3. Review incident reports to determine means or elimination.
4. Accept and evaluate employee suggestions.
5. Review job procedures/JHA’s and recommend improvements
6. Monitor the safety program effectiveness.
7. Promote and publicize safety.

D. **Documentation:** The sample form in the Appendices is available to assist in documenting activities of crew/leader meetings.
Construction Safety Meeting Suggestions

Twelve good topics for construction safety meetings:

1. Fall protection/fall prevention
2. Personal protective equipment
   a. Hard hats
   b. Eye protection
   c. Gloves
   d. Hearing protection
   e. Footwear
   f. Safety harness/belts
   g. Respiratory protection
3. Housekeeping
4. Tool inspection
5. Emergency procedures
6. Electrical safety
7. Ladder safety
8. Scaffold safety
9. Fire prevention/fire extinguishers
10. Reporting injuries and unsafe conditions
11. Confined spaces
12. Lock-out procedures
13. Heat Stress
How to hold a good safety meeting

1. Be certain everyone knows the time and place of the next meeting. You may use the sample form on the next page if you wish.

2. Insist that everyone attend. Before the next meeting, remind those who were late or failed to attend that attendance is not optional.

3. Pick an appropriate topic. If you can’t think of an appropriate topic, use one from the attached list (these usually apply to all projects).

4. Start the meeting on time.

5. Don’t waste time – give the meeting your undivided attention.

6. Discuss the topic you have chosen and prepared. Don’t wait until the meeting to choose your topic.

7. Use handouts or posters to illustrate your topic.

8. Discuss current job site safety events, injuries and close calls.

9. Encourage employees to discuss safety problems as they arise. Do not save safety concerns for the meeting. Allow some time for employee questions or input at the end of the meeting.

10. Invite managers or owners to speak. Ask fellow employees to speak on a safety topic.

11. If you prevented one injury, it is time well spent. Your topic may be one that some employees have heard many times, but there may be one person who is new or has never been told of the safety requirement for that topic. Repeating topics several times during the course of a project is beneficial as long as it applies to the work being done.

12. Follow up on employee concerns or questions and get back to them with the answer before the next meeting.

13. Be certain to document the attendance and the topics discussed.
General Safety Rules for Construction

1. Always store materials in a safe manner. Tie down or support piles if necessary to prevent falling, rolling, or shifting.

2. Shavings, dust scraps, oil or grease should not be allowed to accumulate. Good housekeeping is a part of the job. Hoses and electrical extension cord sets are to be kept in an organized manner so not to create trip and fall hazards. Hoses and cord sets are to be picked up when not in use. Cord sets will be adequately protected from damage. This includes running cord sets where subject to damage by vehicles or equipment, and running through doorways/wall openings.

3. Trash piles must be removed as soon as possible. Trash is a safety and fire hazard.

4. Remove or bend over the nails in lumber that has been used or removed from a structure.

5. Immediately remove all loose materials from stairs, walkways, ramps, platforms, etc.

6. Do not block aisles, traffic lanes, fire exits, gangways, or stairs.

7. Avoid shortcuts – use ramps, stairs, walkways, ladders, etc.

8. Standard guardrails must be erected around all floor openings and excavations must be barricaded. Contact your supervisor for the correct specifications.

9. Do not remove, deface or destroy any warning, danger sign, or barricade, or interfere with any form of protective device or practice provided for your use or that is being used by other workers.

10. Get help with heavy or bulky materials to avoid injury to yourself or damage to material.

11. Keep all tools away from the edges of scaffolding, platforms, shaft openings, etc.

12. Do not use tools with split, broken, or loose handles, or burred or mushroomed heads. Keep cutting tools sharp and carry all tools in a container.

13. Know the correct use of hand and power tools. Use the right tool for the job.

14. Know the location and use of fire extinguishing equipment and the procedure for sounding a fire alarm.

15. Flammable liquids shall be used only in small amounts at the job location and in approved safety cans.

16. All Chemicals are to be stored in covered secondary containment.

17. Proper guards or shields must be installed on all power tools before use. Do not use any tools without the guards in their proper working condition. No “homemade” handles or extensions (cheaters) will be used!

18. All electrical power tools (unless double insulated), extension cords, and equipment must be properly grounded.
19. All electrical power tools and extension cords must be properly insulated. Damaged cords must be replaced.

20. Do not operate any power tool or equipment unless you are trained in its operation and authorized by your firm to do so.

21. All electrical power equipment and tools must be grounded or double insulated.

22. Use tools only for their designed purpose.

23. A Ground Fault Circuit Interrupter (GFCI) is required whenever plugging into any power source.

24. The Contractor shall inspect and maintain the GFCI system. Documented inspections shall be monthly or more frequent as conditions dictate.

25. Temporary power supplied by the Contractor shall utilize GFCI.

**NOTE:** Surge Protectors do not function the same as a GFCI. Most surge protectors will continue to function as a power strip even after the surge mechanism fails due to previous surges. This presents two possible dangers: Subsequent surges could damage electrical equipment; and/or, if sufficient voltage passes through the surge protector due to a second power spike, a resistant short may occur, allowing overheating and a fire to ignite.
Lighting & Illumination

1. Adequate lighting shall be provided throughout the building and in all work areas throughout the project, particularly passageways and stairways, and wherever necessary to avoid a hazard due to a lack of light.

2. The minimum level of task lighting for all indoor activities shall be an average of 10 foot candles measured 30 inches above the floor or the task.

3. The minimum level of task lighting for all outdoor activities shall be an average of five foot candles measured 30 inches above the floor or the task.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Minimum acceptable average lighting level in an area: (Foot-candles)</th>
<th>Any one single measurement used to determine the average lighting level* cannot be less than: (Foot-candles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor Task</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Outdoor Task</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Non-task activities for both indoor and outdoor</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

*Lighting levels must be measured at thirty inches above the floor/working surface at the task.

4. Areas requiring the continuous use of temporary lighting shall be inspected regularly and defective lamps replaced.

5. Temporary lighting shall be equipped with guards to prevent accidental contact and breakage of bulbs.

6. In addition to providing the required illumination intensities, consideration should be given to the selection and placement of lights so as to provide minimum glare, eliminate harsh shadows and provide adequate illumination to work effectively.

7. Empty exposed light sockets and broken bulbs shall not be permitted.

8. High intensity task lighting shall not be left on after the work shift has concluded.
Ladder Safety Rules

General:

- Inspect before use for physical defects.
- Ladders are not to be painted except for numbering purposes.
- Do not use ladders for skids, braces, workbenches, or any purpose other than climbing.
- When you are ascending or descending a ladder, do not carry objects that will prevent you from grasping the ladder with both hands.
- Always face the ladder when ascending and descending.
- If you must place a ladder over a doorway, barricade the door to prevent its use and post a warning sign.
- Only one person is allowed on a ladder at a time.
- Do not jump from a ladder when descending.
- All joints between steps, rungs, and side rails must be tight.
- Safety feet must be in good working order and in place.
- Rungs must be free of grease and/or oil.

Stepladders

- Do not place tools or materials on the steps or platform of a stepladder.
- Do not use the top two steps of a stepladder as a step or stand.
- Always level all four feet and lock spreaders in place.
- Do not use a stepladder as a straight ladder.
• **Straight type or extension ladders**

  • All straight or extension ladders must extend at least three feet beyond the supporting object when used as an access to an elevated work area.

  • After raising the extension portion of a two or more stage ladder to the desired height, check to ensure that the safety dogs or latches are engaged.

  • All extension or straight ladders must be secured or tied off at the top and bottom.
• All ladders must be equipped with safety (non-skid) feet.

• Portable ladders must be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is about one-quarter of the working length of the ladder.
Fall Protection Safety Rules

Falls from elevation are a major cause of injuries and deaths in the construction industry. We at Ken Bobko Electric Company, Inc. are committed to eliminating injuries caused by fall hazards by instituting a program of 100% fall protection for all fall hazards 4 feet or greater. (All work sites with fall hazards of 10 feet or more will have a site-specific fall protection work plan completed before any employees begin work.)

The employees on that specific job will be trained in the fall hazards and the method used to implement fall protection. The attached training guide will be used to train employees in the inspection and maintenance of their fall protection equipment, as well as fall protection selection criteria. All employees will use fall protection when there is exposure to a fall hazard of 4 feet or more. Employees who fail to follow this policy are subject to disciplinary action, up to and including dismissal.

The evaluation of the jobsite and the completion of the fall protection work plan will be done by a designated “competent person,” who has an understanding of WISHA fall protection requirements, the fall protection systems available for use, and has the authority to take corrective action to eliminate employee exposure to fall hazards.

Fall protection will be provided either through the use of a fall arrest system or a fall restraint system as described in the fall protection work plan.
Motorized vehicles and equipment

1. Do not ride on motorized vehicles or equipment unless a proper seat is provided for each rider.

2. Always be seated when riding authorized vehicles (unless they are designed for standing).

3. Do not operate any motorized vehicle or equipment unless you are specifically authorized to do so by your supervisor.

4. Always use your seat belts in the correct manner.

5. Obey all speed limits and other traffic regulations.

6. Always be aware of pedestrians and give them the right-of-way.

7. Always inspect your vehicle or equipment before and after daily use.

8. Never mount or dismount any vehicles or equipment while they are still in motion.

9. Do not dismount any vehicle without first shutting down the engine, setting the parking brake and securing the load.

10. Do not allow other persons to ride the hook or block, dump box, forks, bucket or shovel of any equipment.

11. Each operator must be knowledgeable of all hand signals and obey them.

12. Each operator is responsible for the stability and security of his/her load.
Materials Handling Safety Guidelines

General material storage safety:

- Make sure that all materials stored in tiers are stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling, or collapse.
- Post conspicuously the maximum safe load limits of floors within buildings and structures, in pounds per square foot, in all storage areas, except for floor or slab on grade. Do not exceed the maximum safe loads.
- Keep aisles and passageways clear to provide for the free and safe movement of material handling equipment or employees. Keep these areas in good repair.
- Do not store materials on scaffolds or runways in excess of supplies needed for immediate operations.
- Use ramps, blocking, or grading when a difference in road or working levels exists to ensure the safe movement of vehicles between the two levels.
- Do not place materials stored inside buildings under construction within 6 feet of any hoistway or inside floor openings, or within 10 feet of an exterior wall which does not extend above the top of the material stored.

  (i) Anchor and brace temporary floors used in steel erection, concrete forms, and shoring and other “in-process equipment” that are to be left overnight or for longer periods of time to prevent their displacement in any direction. While in “interim storage,” this equipment is subject to the provisions in WAC 296-155-325(2)(i) (see previous bullet point: Do not place materials stored inside buildings under construction within 6 feet of any hoistway or inside floor openings, or within 10 feet of an exterior wall which does not extend above the top of the material stored.)

- When working on stored materials in silos, hoppers, tanks, and similar storage areas, use personal fall arrest equipment meeting the requirements of Chapter 296-155 Part C-1.
- Segregate non-compatible materials in storage.
- Stack bagged materials by stepping back the layers and cross-keying the bags at least every ten bags high.

  (i) Carefully handle cement and lime delivered in paper bags to prevent the bags from bursting.
  (ii) Do not pile cement and lime bags more than ten bags high except when stored in bins or enclosures built for the purpose of storage.
  (iii) When bags are removed from the pile, keep the length of the pile at an even height and maintain the necessary step backs every five bags.
  (iv) When handling cement and lime bags, wear eye protection preventing any contact with the substance (such as goggles or other sealed eye protection) and wear long sleeve shirts with close fitting collar and cuffs.
(v) Do not wear clothing that has become hard and stiff with cement.
(vi) Make sure to report any susceptibility of skin to cement and lime burns.
(vii) Make sure that a hand cream or Vaseline and eyewash is provided and kept ready for use to prevent burns.
(viii) Store lime in a dry place to prevent a premature slacking action that may cause fire.

- Do not stack bricks more than 7 feet high. When a loose brick stack reaches a height of 4 feet, taper it back 2 inches for every foot of height above the 4-foot level.
  (i) Never stack bricks, for storage purposes, on scaffolds or runways.
  (ii) Always stack blocks; do not throw in a loose pile.

- When stacking masonry blocks higher than 6 feet, taper back the stack one-half block per tier above the 6-foot level.
  (i) When stacking inside a building, distribute the piles to prevent overloading the floor.
  (ii) Do not drop or throw blocks from an elevation or deliver blocks through chutes.

- Do not stack lumber more than 20 feet high; if handling lumber manually, do not stack more than 16 feet high.
  (i) Remove all nails from used lumber before stacking.
  (ii) Stack lumber on level and solidly supported sills, and such that the stack is stable and self-supporting.
  (iii) Stack stored lumber on timber sills to keep it off the ground. Sills must be placed level on solid supports.
  (iv) Place cross strips in the stacks when they are stacked more than 4 feet high.

- If not racked, stack and block structural steel, poles, pipe, bar stock, and other cylindrical materials as to prevent spreading or tilting.
  (i) Wear heavy gloves when handling reinforcing steel.
  (ii) When bending reinforcing steel on the job, use a strong bench set up on even dry ground or a floor to work on.
  (iii) Carefully pile structural steel to prevent danger of members rolling off or the pile toppling over.
  (iv) Keep structural steel in low piles, giving consideration to the sequence of use of its members.
  (v) Stack corrugated and flat iron in flat piles, with the piles not more than 4 feet high; place spacing strips between each bundle.

- Frequently inspect stock piles of sand, gravel, and crushed stone to prevent their becoming unsafe by continued adding to or withdrawing from the stock.
  (i) Do not remove frozen material in a manner that would produce an overhang.
General Rigging Equipment Safety:

- Inspect rigging equipment for material handling prior to use on each shift and as necessary during its use to ensure that it is safe. Remove defective rigging equipment from service.
- Never load rigging equipment in excess of its recommended safe working load.
- Remove rigging equipment when not in use from the immediate work area so as not to present a hazard to employees.
- Mark special rigging accessories (i.e., spreader bars, grabs, hooks, clamps, etc.) or other lifting accessories with the rated capacity. Proof test all components to 125% of the rated load prior to the first use. Maintain permanent records on the job site for all special rigging accessories.

Disposal of waste materials:

- Whenever materials are dropped more than 20 feet to any point lying outside the exterior walls of the building, use an enclosed chute of wood or equivalent material.
- When debris is dropped without the use of chutes, make sure that the area onto which the material is dropped is completely enclosed with barricades at least 42 inches high and 20 feet back from the projected edge of the opening above. Post at each level warning signs of the hazard of falling materials. Do not remove debris in this lower area until debris handling ceases above.
- Remove all scrap lumber, waste material, and rubbish from the immediate work area as the work progresses.
- Make sure to comply with local fire regulations if disposing of waste material or debris by burning.
- Keep all solvent waste, oily rags, and flammable liquids in fire-resistant covered containers until removed from the work site.
Heat Stress - How do you prevent heat illness?

- Supply adequate water and encourage workers who work in hot weather to drink regularly, even when not thirsty. A small amount of water every 15 minutes is recommended rather that a large amount after hours of sweating.

- Learn the signs and symptoms of heat-related illness.

- Inform workers they should avoid alcohol or drinks with caffeine before or during work in hot weather.

- Try to do the heaviest work during the cooler parts of the day.

- Adjusting to work in heat takes time. Allow workers to acclimatize. Start slower and work up to your normal pace.

- Wear lightweight, loose-fitting, light-colored, breathable (e.g. cotton) clothing and a hat.

- Allow workers to take regular breaks from the sun. Loosen or remove clothing that restricts cooling.

- Watch workers for symptoms of heat-related illness. This is especially important for non- acclimatized workers, those returning from vacations and for all workers during heat-wave events.

- If exertion causes someone’s heart to pound or makes them gasp for breath, become lightheaded, confused, weak or faint, they should STOP all activity and get into a cool area or at least into the shade, and rest.

The two major heat-related illnesses are heat exhaustion and heat stroke. Heat exhaustion, if untreated, may progress to deadly heat stroke. Heat stroke is very dangerous and frequently fatal. If workers show symptoms, always take this seriously and have them take a break and cool down before returning to work. Stay with them. If symptoms worsen or the worker does not recover within about 15 minutes, call 911 and have them transported and medically evaluated. Do not delay transport.
Heat Stroke or Heat Exhaustion?

How do you tell the difference?

The telling difference is mental confusion or disorientation in ALL heat stroke victims. You can ask these 3 questions: What is your name? What day is this? Where are we?

If a worker can’t answer these questions, assume it is heat stroke.

What are the symptoms of heat exhaustion and heat stroke?

<table>
<thead>
<tr>
<th>Heat Exhaustion</th>
<th>Heat Stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Heavy sweating</td>
<td>• Sweating may or may not be present</td>
</tr>
<tr>
<td>• Exhaustion, weakness</td>
<td>• Red or flushed, hot dry skin</td>
</tr>
<tr>
<td>• Fainting / Lightheadedness</td>
<td>• Any symptom of heat exhaustion but more severe</td>
</tr>
<tr>
<td>• Paleness</td>
<td>• Confusion / Bizarre behavior</td>
</tr>
<tr>
<td>• Headache</td>
<td>• Convulsions before or during cooling</td>
</tr>
<tr>
<td>• Clumsiness, dizziness</td>
<td>• Collapse</td>
</tr>
<tr>
<td>• Nausea or vomiting</td>
<td>• Panting/rapid breathing</td>
</tr>
<tr>
<td>• Irritability</td>
<td>• Rapid, weak pulse</td>
</tr>
<tr>
<td></td>
<td>• Note: May resemble a heart attack</td>
</tr>
</tbody>
</table>

What do you do if someone is suffering from heat exhaustion or heat stroke?

<table>
<thead>
<tr>
<th>Heat Exhaustion</th>
<th>Heat Stroke (medical emergency)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Move the worker to a cool, shaded area to rest;</td>
<td>• Get medical help immediately, call 911 and transport as soon as possible.</td>
</tr>
<tr>
<td><strong>do not leave them alone.</strong></td>
<td>• Move the worker to a cool, shaded area and remove clothing that restricts cooling.</td>
</tr>
<tr>
<td>• Loosen and remove heavy clothing that restricts</td>
<td>• Seconds count – Cool the worker rapidly using whatever methods you can. For example, immerse the worker in a tub of cool water; place the worker in a cool shower; spray the worker with cool water from a garden hose; sponge the worker with cool water; or, if the humidity is low, wrap the worker in a cool, wet sheet and fan them vigorously. Continue cooling until medical help arrives.</td>
</tr>
<tr>
<td>evaporative cooling.</td>
<td>• If emergency medical personnel are delayed, call the hospital emergency room for further instruction.</td>
</tr>
<tr>
<td>• Give cool water to drink, about a cup every 15</td>
<td>Do not give the worker water to drink until instructed by medical personnel. Continue to drink cool water or electrolyte drinks.</td>
</tr>
<tr>
<td>minutes.</td>
<td></td>
</tr>
<tr>
<td>• Fan the worker, spray with cool water, or apply a</td>
<td></td>
</tr>
<tr>
<td>wet cloth to their skin to increase evaporative</td>
<td></td>
</tr>
<tr>
<td>cooling.</td>
<td></td>
</tr>
<tr>
<td>• Recovery should be rapid.</td>
<td></td>
</tr>
<tr>
<td>**Call 911 if they do not feel better in a few</td>
<td></td>
</tr>
<tr>
<td>minutes.</td>
<td></td>
</tr>
</tbody>
</table>
HEAT STRESS CHECK LIST

- Does the worksite have temperature extremes (above 85 degrees in higher humidity, above 90-95 degrees in lower humidity) that may cause heat stress?

- Do employees do heavy labor or wear heavy protective clothing? (increases heat stress conditions)

- Do employees have access to adequate drinking water at all times?

- Are employees allowed work breaks during prolonged heavy labor?

- Do workers have access to shade during breaks?

- Have employees been trained on the symptoms of heat-related illness (heat exhaustion and heat stroke)?

- Are employees trained on first aid measures for heat-related illness?

See WRD11.20 - Applications of Standards to Address Heat-Related Illness in Outdoor Environments for additional information.
FLOOR AND WALL OPENINGS

A. **Scope**
   This section defines the minimum safety requirements for floor and wall opening protection on the Port of Seattle construction projects.

B. **Purpose**
   To prevent injury to employees and visitors from falling through or having materials fall through open sided floors, roof or wall openings or other open-sided walking/working surfaces.

C. **Reference**
   29 CFR Subparts L, M, Q, R, and X, WAC 296-155 Parts C-1, J, J-1, K, O, and P.

D. **Definitions**
   **Floor Opening** – An opening measuring 12 inches or more in its least dimension in any floor, roof, or platform, through which a person could fall.

   **Floor Hole** – An opening measuring less than 12 inches but no more than 1 inch in its least dimension in any floor, roof, or platform through which material but not persons may fall.

   **Standard Railing** – A standard railing shall consist of posts, top rail, intermediate rail, and toe board.

E. **Guarding of Floor Openings** (12” or greater)

   1. Floor openings into which person(s) can accidentally walk shall be guarded by the following:

      a. Ladder-ways. Standard railings shall guard floor openings or platforms on all exposed sides except at the entrance to the opening. Passages through the railing shall either be offset or equipped with swing gate so that a person cannot walk directly into the opening.

      b. Hatchways and chute floor openings shall be guarded by one of the following:

         i. Hinged covers of standard strength and construction and a standard railing with only one exposed side. When the opening is not in use, the cover shall be closed or the exposed side guarded by removable standard railings.
ii. A removable standard railing on not more than two sides of the opening and fixed standard railings on all other exposed sides. The removable railing shall be kept in place when the opening is not in use and shall be hinged or otherwise mounted so as to be conveniently replaceable.

2. All floor opening “covers” shall be:

   a. Secured when installed to prevent accidental displacement by wind, equipment, or employees.

   b. Capable of supporting the maximum potential load, but never less than 200 pounds.

   c. Marked with the word "hole" or "cover" in a high visibility paint to provide warning of the hazard.

   d. If it becomes necessary to remove the cover, a monitor shall remain at the opening until the cover is replaced. The monitor shall advise persons entering the area of the hazard and prevent exposure to the fall hazard, but perform no other duties.

   e. Any monitor or employee within six (6) foot of the opening shall utilize a 100% fall protection system.

3. Wherever there is danger of falling through a skylight opening, and the skylight itself is not capable of sustaining the weight of a 200- pound person, standard guardrails shall be provided on all exposed sides or the skylight shall be covered.

4. Conduits, trenches, and manhole covers and their supports, when located in roadways and vehicular aisles, shall be designed to carry a truck rear axle load of at least 2 times the maximum intended load.

F. Guarding of Floor Holes (12” or less)

1. All floor holes shall be guarded with a cover.

2. All floor hole covers shall be capable of supporting the maximum potential load, but never less than 200 pounds.

3. All covers shall be secured when installed to prevent accidental displacement by wind, equipment, or employees.
4. If the cover is not large enough to be marked with the word "hole" or "cover" to provide warning of the hazard it shall be marked with a high visibility paint to identify it.

5. If it becomes necessary to remove the cover, a monitor shall remain at the opening until the cover is replaced. The monitor shall advise persons entering the area of the hazard and prevent exposure to the hazard, but perform no other duties.

G. Guarding of Wall Openings

1. Wall openings from which there is a drop of more than 4 feet, and where the bottom of the opening is less than 3 feet above the working surface, shall be guarded as follows:

   a. When the height and placement of the opening in relation to the working surface is such that either a standard rail or intermediate rail will effectively reduce the danger of falling, one or both shall be provided.

   b. The bottom of a wall opening that is less than 4 inches above the working surface (regardless of width) shall be protected by either a standard toe board or an enclosing screen of solid construction.

2. An extension platform outside a wall opening, onto which materials can be hoisted for handling, shall have standard guardrails on all exposed sides or equivalent. One side of an extension platform may have removable railings in order to facilitate handling materials. When the railing is removed to accommodate material being transferred, the employees handling those materials shall utilize 100% fall protection when exposed to a fall of four (4) foot or greater.

3. Wall opening protection shall meet the following requirements.

   a. Barriers shall be of such construction and mounting such that, when in place at the opening, the barrier is capable of withstanding a load of at least 200 pounds applied in any direction (except upward), with a minimum of deflection at any point on the top rail or corresponding member.

   b. Screens shall be of such construction and mounting that they are capable of withstanding a load of at least 200 pounds applied horizontally at any point on the near side of the screen. They may be of solid construction of grillwork with openings not more than 8 inches long or of slat work with openings not more than 4 inches wide with length unrestricted.
H. Guarding of Open-Sided Surfaces

1. Every open-sided floor, platform or surface four (4) foot or greater above the adjacent floor or ground level shall be guarded by a standard railing, or the equivalent, as specified on all open sides, except where there is entrance to a ramp, stairway, or fixed ladder. The railing shall be provided with a toe board wherever, beneath the open sides, persons can pass, or there is moving machinery or equipment.

2. Runways 4 feet or more above the floor or ground level shall be guarded by a standard railing (or the equivalent on all open sides). Wherever tools or materials are likely to be used on the runway, a toe board shall also be provided on each exposed side.

3. When operations, tool or material use or storage is such that a standard toe board does not provide protection, paneling, or screening from the floor to the intermediate rail or top rail shall be provided.

4. Additional guarding shall be provided where employees entering upon runways become thereby exposed to machinery, electrical equipment, or other danger that is not a falling hazard.

5. Regardless of height, open-sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment, such as conveyors and similar hazards shall be guarded with a standard railing.

I. Standard Specifications

1. A standard railing shall consist of top rail, intermediate rail, toe board, and posts. It shall have a vertical height of 39 inches to 45 inches from upper surface of top rail to floor, platform, runway, or ramp level.

2. Each length of lumber shall be smooth surfaced throughout the length of the railing.

3. The intermediate rail shall be halfway between the top rail and the floor, platform, runway, or ramp.

4. The ends of the rails shall not overhang the terminal posts except where such overhang does not constitute a projection hazard.

5. Double headed nails shall not be used in the construction of guard rail systems.
6. Minimum requirements for standard railings under various types of construction are specified in the following:

a. For wood railings, the posts shall be of at least 2 x 4 stock spaced not to exceed 8 feet; the top rail shall be of at least 2 x 4 stock; the intermediate rail shall be of at least 1 x 6 stock.

b. For pipe railings, posts and top and intermediate railings shall be at least 1-1/2 inches nominal OD diameter with posts spaced not more than 8 feet on centers.

c. For structural steel railings, posts and top and intermediate rails shall be of 2-inch x 2-inch by 3/8 inch angles or other metal shapes of equivalent bending strength, with posts spaced not more than 8 feet on centers.

d. For wire rope railings, the top and intermediate railings shall be at least 1/2-inch cable, or the equivalent with downward deflection of no more than three (3) inches. Posts shall be spaced not more than 8 feet on centers.

e. When used for eye splices, the U-bolt shall be applied so that the “U” section is in contact with the dead end of the rope. U- Bolt wire rope clips shall be made of drop-forged steel.

CORRECT METHOD OF ATTACHING WIRE ROPE CLIPS

U-Bolt of all clips on dead end of rope
### NUMBER AND SPACING OF U-BOLT WIRE ROPE CLIPS

<table>
<thead>
<tr>
<th>Improved plow steel</th>
<th>clips -------- -------- Drop forged</th>
<th>Minimum spacing (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8 and under</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>1/2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>5/8</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3/4</td>
<td>4</td>
<td>4-1/2</td>
</tr>
<tr>
<td>7/8</td>
<td>4</td>
<td>5-1/4</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>1-1/8</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1-1/4</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>1-3/8</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>1/1/2</td>
<td>7</td>
<td>10</td>
</tr>
</tbody>
</table>

f. The anchoring of posts and framing of members for railings of all types shall be of such construction that the completed structure shall be capable of withstanding a load of at least 200 pounds applied in any direction at any point on the top rail, with a minimum of deflection.
g. Railings receiving heavy stresses from employees or material handling shall be provided additional strength by the use of heavier stock, closer spacing of posts, bracing, or by other means.

h. Other types, sizes, and arrangements of railing construction are acceptable, provided they meet the following conditions:

i. A smooth surfaced top rail at a height between 39 inches and 45 inches above floor, platform, runway, or ramp level.

ii. Strength to withstand at least the minimum requirement of 200 pounds top rail pressure with a minimum of deflection.

iii. Protection between top rail and floor, platform, runway, ramp, or stair treads equivalent at least to that afforded by a standard intermediate rail.

iv. Elimination of overhanging rail ends unless such overhang does not constitute a hazard.

**NOTE:** Railings shall not be used as a connection device for fall protection unless so designed by a registered professional engineer with documentation submitted to construction safety and kept on site.

7. A standard toe board shall be 4 inches minimum in vertical height from its top edge to the level of the floor, platform, runway, or ramp. It shall be securely fastened in place, with not more than 1/4-inch clearance above floor level. It may be made of any substantial material, either solid or with openings not over 1 inch in greatest dimension.
FIRE PROTECTION

A. **Scope**
   
   This section defines the minimum requirements for fire prevention and protection.

B. **Purpose**
   
   To minimize the possibility of personal injury, property damage, and schedule impacts to Ken Bobko Electric Company, Inc.’s personnel or those utilizing the Port facility.

C. **Reference**
   
   29 CFR Subpart F & Subpart J, WAC 296-155 Part D & H, NFPA.

D. **Definitions**
   
   **Flame Resistant** – Means so resistant to fire that, for specified time and under conditions of standard heat intensity, it will not fail structurally and will not permit the side away from the fire to become hotter than a specific temperature.

E. **General**
   
   Ken Bobko Electric Company, Inc. will be responsible for development and implementation of a fire protection and prevention program to be followed throughout all phases of construction.

1. Specific fire protection plans will be prepared for each project and include:

   a. Provisions for adequate exits via stairs or ladders, etc., in case of an emergency.

   b. Specific locations for fire extinguishers in accordance with WAC requirements.

   c. Provisions for inspection and replacement of fire extinguishers located in the work area.

   d. Proper storage of flammable and combustibles.

   e. Maintained vehicle access.

   f. Use of noncombustible panels, paint, flame resistant tarpaulins or approved material of equivalent fire retardant characteristics for the construction of temporary barricades.
F. Fire Extinguishers

1. All fuel-powered equipment shall be provided with at least one serviceable 5 pound ABC-rated fire extinguisher.

2. At least one serviceable 10-pound ABC-rated fire extinguisher shall be readily accessible to all welding or similar operations.

3. All job site offices shall be equipped with at least one serviceable 10-pound ABC-rated fire extinguisher.

4. A serviceable fire extinguisher, rated not less than 2A, shall be provided for each 3000 square feet of the building area, or major fraction thereof.

5. At least one portable fire extinguisher having a rating of not less than 2A:10B shall be located outside of, but not more than 10 feet from, the door opening into any room used for storage.

6. At least one portable fire extinguisher having a rating of not less than 20B units must be located not less than 10 feet, nor more than 25 feet, from any Class I or Class II liquid storage area located outside of a storage room but inside a building.

7. Employees shall be trained annually in their use.

G. Fire Alarm System

1. Fire suppression systems, fire alarm systems, and water systems shall not be made inoperable without providing 72-hour notice to the Port of Seattle Seaport Maintenance through the Resident Engineer. An interim plan shall be formulated for these service disruptions.

2. Until the permanent system is operating, a communication program alerting employees to an emergency shall be in place. This plan will include an alarm such as a siren or air horn.

3. Priority should be given to activation of the building standpipe system.

4. Priority shall be placed on installing and activating the permanent fire protection system.

Nothing shall be secured to any part of the building’s fire suppression system.
PERSONAL PROTECTIVE EQUIPMENT

1. PURPOSE

1.1 The purpose of this procedure is to provide employees requirements for adequate and effective personal protective equipment (PPE).

2. SCOPE

2.1 This procedure is designed for Ken Bobko Electric Company, Inc. employees whose job assignments require the use of PPE.

3. RESPONSIBILITY

3.1 Managers shall be responsible for implementing the Personal Protective Equipment Procedure.

3.2 Supervisors shall ensure that personnel wear the required PPE.

3.3 Employees shall comply with the Personal Protective Equipment Procedure.

3.4 The Safety Department shall:

   3.4.1 Develop and maintain the Personal Protective Equipment Procedure, which shall include requirements for monitoring.

   3.4.2 Conduct a hazard assessment of each work area at each Ken Bobko Electric Company, Inc. location for PPE selection.

3.5 Materials Management shall:

   3.5.1 Control the purchase of acceptable PPE.

   3.5.2 Maintain PPE inventories.

   3.5.3 Ensure the proper storage of PPE in the warehouse under their control.

4. OBJECTIVE

4.1 The objective of this program is to provide guidelines and procedures for appropriate PPE selection, use, and maintenance.
5. **PROCEDURE**

5.1 The Safety Department shall conduct hazard assessments initially and on an as needed basis for each work area throughout *Ken Bobko Electric Company, Inc.*

5.2 PPE meeting the requirements shall be selected for use based on the results of the hazard assessment and proper fit for each affected employee.

5.3 Each facility shall be equipped with PPE as needed for the tasks being performed.

5.4 A safety gear locker shall be readily available to employees which contains required PPE necessary to perform assigned job tasks.

5.4.1 Supervisors shall contact Managers for special PPE not available.

5.4.2 To add equipment to the standardized list, supervisors shall submit a written request to the Safety Department.

5.5 PPE shall be properly fitted and well-maintained in a sanitary and reliable condition.

5.6 Equipment shall not be used if found to be defective or damaged either during the inspection, prior to use, or while donning.

5.6.1 The employee shall immediately notify his/her supervisor for new equipment.

5.7 Personally owned PPE shall meet or exceed standards established by *Ken Bobko Electric Company, Inc.*. Personally owned PPE shall be properly fitted and well-maintained in a sanitary and reliable condition and shall not be used if found to be defective or damaged either during the inspection, prior to use, or while donning.

6. **RECORDS**

6.1 The Standardized inventory list of PPE shall be maintained by the Safety Department for three years.

6.2 Training records shall be maintained by the Safety Department for three years.

7. **DEFINITIONS**

7.1 ANSI - American National Standards Institute.

7.2 Personal Protective Equipment (PPE) - Equipment worn or employed by employees to protect against any of the following hazards: chemical, biological, noise, kinetic/mechanical, illumination, temperature, radioactive, ergonomic, vibrations, confined space entry, biological, and noise when control by some other means cannot be effectively accomplished.
Standardized Inventory List of Personal Protective Equipment

PROCEDURE

Hazards surveys have been performed at all Ken Bobko Electric Company, Inc. facilities to determine the personal protective equipment (PPE) needed. The inventory listed below is necessary for the facility to meet requirements.

Procedures for PPE use shall be evaluated, revised, and/or developed as necessary.

Table 1: Standardized List of Personal Protective Equipment

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Closed-toed boots/shoes</td>
</tr>
<tr>
<td>2</td>
<td>Gloves (where required)</td>
</tr>
<tr>
<td>3</td>
<td>Hard hats (where required)</td>
</tr>
<tr>
<td>4</td>
<td>Hearing protection (where required)</td>
</tr>
<tr>
<td>5</td>
<td>Hi-visibility vests (where required)</td>
</tr>
<tr>
<td>6</td>
<td>Respiratory protection (where required)</td>
</tr>
<tr>
<td>7</td>
<td>Safety glasses</td>
</tr>
<tr>
<td>8</td>
<td>Safety harnesses &amp; lanyards</td>
</tr>
</tbody>
</table>

PPE requirements will be determined for each site-specific job based on the expected hazards encountered during that job.
Lift Capacity and Inspection

1. Check for and thoroughly read operator’s manual that should be with each lift.

2. Know capacity of lift (see operator’s manual).

3. Perform walk-around inspection, checking for unsafe items, such as:
   - Loose pins
   - Damaged tires
   - Worn or leaking hoses and lines
   - Damaged controls
   - On electric lifts, worn or exposed battery connections
   - Damaged or obstructed emergency operating controls

Surface Hazards

4. Check for and, if possible, clear work surface of hazards, such as:
   - Covered openings
   - Holes, ditches, and other depressions
   - Protrusions, such as piping
   - Uneven surfaces
   - General clutter and trash

5. Make sure all controls are accessible and clearly marked, and read all safety and hazards placards.

6. Make sure all gates and access way chains operate properly and are closed or hooked before operating lift.

7. On gasoline or propane powered lifts:
   - Start engine on low throttle with moderate use of choke.
   - If inside a building, verify safety measures regarding fume dispersion.
Raising and Lowering Lift

8. Before raising or lowering lift:
   • machine doors are closed and latched.
   • Check for adequate clearances around lift platform.
   • Check for adequate headroom.
   • Check for possible entanglement of cords, leads, and hoses that may hang from the platform.
   • Make sure all gates and safety chains are closed and secured.
   • Secure all materials, tools, and containers to prevent them from accidentally falling or being kicked from the platform.

Moving Lift

9. Before moving lift:
   • Do not allow wires, cords, hoses, ropes, or other materials to trail down from the platform.
   • Use extreme care if moving in an elevated position.
   • Make sure all gates and safety chains are closed and secured.
   • Operator must face in the direction of travel. Watch for holes, bumps, and obstacles.

10. Listen for strange mechanical sounds that could indicate possible failure of equipment.

11. If lift is disabled, “red tag” it and notify the Baugh Superintendent.

12. Keep all body parts inside the platform railing during lifts or traveling.

13. When leaving lift, shut off engine and master switch.

14. Never move lift over surfaces covered with visqueen, plywood, tarps, or other coverings before checking for holes, trenches, and depressions.

15. Do not operate near power lines.

16. Never override the “dead man” foot pedal or jam it in the operating position. Tie off when using extensions.

17. Do not use ladders, planks, or other devices to extend or increase the work position from the platform unless using 100% tie-off to anchorage point of 5,000 pounds prior to leaving the work platform floor.
18. Never attach any form of boom, basket, ladder assembly, or other device to the exterior of the platform that would compromise the center of gravity of the lift. Keep materials as close to the center of gravity as possible. Any modification to the lift must have written authorization from the manufacturer, with documentation onsite.

19. Do not operate electric lift with power cords still attached to the battery charger. Tie off when using extensions.

20. Do not sit, stand, or climb on the platform railing. Keep feet on the platform floor at all times.

21. Never exceed the weight capacities of the lift.

**In Case of Lift Failure**

22. In case of lift failure in the extended position:
   - Do not climb down the scissors assembly if at all possible.
   - Use emergency power to return to the ground level.
   - If emergency controls are at ground level, call for assistance and have a qualified person lower the lift.

23. Keep platform floor clear of debris and trip hazards.

24. Regularly check all cords, hoses, and other lines extending from the platform for possible entanglement in the scissors assembly.

25. Do not assume that scaffold planking, plywood, or typical framing is sufficient to bear the weight of the lift.

**When on an incline**

26. When moving on an incline:
   - Lower platform completely.
   - Check operator’s manual for maximum operating slope before proceeding and comply with the directives.
   - Use low operating speeds only.
   - Remove all gear from the platform.

Make sure pathway is free and clear.
Scissor Lifts

Lift Capacity and Inspection

1. Check for and thoroughly read operator’s manual that should be with each lift.

2. Know capacity of lift (see operator’s manual).

3. Perform walk-around inspection, checking for unsafe items, such as:
   a. Loose pins
   b. Damaged tires
   c. Worn or leaking hoses and lines
   d. Damaged controls
   e. On electric lifts, worn or exposed battery connections
   f. Damaged or obstructed emergency operating controls

Surface Hazards

4. Check for and, if possible, clear work surface of hazards, such as:
   a. Covered openings
   b. Holes, ditches, and other depressions
   c. Protrusions, such as piping
   d. Uneven surfaces
   e. General clutter and trash

5. Make sure all controls are accessible and clearly marked, and read all safety and hazards placards.

6. Make sure all gates and access way chains operate properly and are closed or hooked before operating lift.

7. On gasoline or propane powered lifts:
   a. Start engine on low throttle with moderate use of choke.
   b. If inside a building, verify safety measures regarding fume dispersion.
**Raising and Lowering Lift**

8. Before raising or lowering lift:
   a. Machine doors are closed and latched.
   b. Check for adequate clearances around lift platform.
   c. Check for adequate headroom.
   d. Check for possible entanglement of cords, leads, and hoses that may hang from the platform.
   e. Make sure all gates and safety chains are closed and secured.
   f. Secure all materials, tools, and containers to prevent them from accidentally falling or being kicked from the platform.

**Moving lift**

9. Before moving lift:
   a. Do not allow wires, cords, hoses, ropes, or other materials to trail down from the platform.
   b. Use extreme care if moving in an elevated position.
   c. Make sure all gates and safety chains are closed and secured.
   d. Operator must face in the direction of travel. Watch for holes, bumps, and obstacles.

10. Listen for strange mechanical sounds that could indicate possible failure of equipment.

11. If lift is disabled, “red tag” it and notify the Baugh Superintendent.

12. Keep all body parts inside the platform railing during lifts or traveling.

13. When leaving lift, shut off engine and master switch.

14. Never move lift over surfaces covered with visqueen, plywood, tarps, or other coverings before checking for holes, trenches, and depressions.

15. Do not operate near power lines.

16. Never override the “dead man” foot pedal or jam it in the operating position. Tie off when using extensions.

17. Do not use ladders, planks, or other devices to extend or increase the work position from the platform unless using 100% tie-off to anchorage point of 5,000 pounds prior to leaving the work platform floor.
18. Never attach any form of boom, basket, ladder assembly, or other device to the exterior of
the platform that would compromise the center of gravity of the lift. Keep materials as close
to the center of gravity as possible. Any modification to the lift must have written
authorization from the manufacturer, with documentation onsite.

19. Do not operate electric lift with power cords still attached to the battery charger. Tie off when
using extensions.

20. Do not sit, stand, or climb on the platform railing. Keep feet on the platform floor at all
times.

21. Never exceed the weight capacities of the lift.

**In Case of Lift Failure**

22. In case of lift failure in the extended position:
   a. Do not climb down the scissors assembly if at all possible.
   b. Use emergency power to return to the ground level.
   c. If emergency controls are at ground level, call for assistance and have a qualified person
      lower the lift.

23. Keep platform floor clear of debris and trip hazards.

24. Regularly check all cords, hoses, and other lines extending from the platform for
    possible entanglement in the scissors assembly.

25. Do not assume that scaffold planking, plywood, or typical framing is sufficient to bear
    the weight of the lift.

**When on an incline**

26. When moving on an incline:
   a. Lower platform completely.
   b. Check operator’s manual for maximum operating slope before proceeding and comply
      with the directives.
   c. Use low operating speeds only.
   d. Remove all gear from the platform.

Make sure pathway is free and clear.
FORK LIFTS

1. PURPOSE
   1.1 The purpose of this procedure is to provide specific instructions for the safe use of forklifts.

2. SCOPE
   2.1 This procedure is designed for Ken Bobko Electric Company, Inc. employees who are responsible for operating material handling equipment, forklifts, stackers, and powered pallet jacks.

3. RESPONSIBILITY
   3.1 Managers shall:
      3.1.1 Ensure compliance with this program.
      3.1.2 Maintain a list of authorized forklift operators, including the types of trucks qualified to operate and the date of their last training and safety skills evaluation.
   3.2 Supervisors shall ensure that employees operate material handling equipment in a safe manner.
   3.3 Employees shall comply with this procedure.
   3.4 The Safety Department shall develop and maintain the Forklift (Powered Industrial Truck) Safety Procedure.

4. OBJECTIVE
   4.1 The objective of this program is to provide guidelines and procedures for safe forklift operation and maintenance.

5. PROCEDURE
   5.1 Operators
      5.1.1 Only trained and authorized operators shall be allowed to operate forklifts and mobile equipment.
   5.2 Forklift operation
      5.2.1 Operators shall drive carefully, observe traffic rules, and be in full control of the forklift.
5.2.2 No one shall be allowed under a load or raised forks, buckets, truck beds, etc., without blocking the equipment.

5.2.3 Load back rest extensions shall be required for loads higher than the operator's head.

5.2.4 Combustion engine-powered vehicles shall not run unattended - lower load to floor, set brake, place in neutral, and shut off ignition.

5.2.5 Passengers shall not be carried on forklifts unless a seat is provided. Jumping on or off a moving vehicle shall not be allowed.

5.2.6 Powered hand trucks without seats shall not be ridden.

5.2.7 Driving with legs or arms outside the machine shall not be allowed.

5.2.8 Vehicles shall have an operating horn and a backup alarm or strobe light installed.

5.2.9 Forks shall be locked to the carriage, so they cannot come off.

5.2.10 Spinner knobs shall not be used.

5.2.11 Pushing or towing shall not be allowed. Forklifts shall be made to carry, not to tow.

5.2.12 Leaving a truck in an aisle or doorway or obstructing another worker shall not be allowed.

5.2.13 When a forklift is parked, the forks shall be flat on the ground.

5.2.14 If at any time a forklift is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service and appropriately tagged or labeled until it has been restored to safe operating condition.

5.3 Traveling

5.3.1 Upon approaching blind corners or other places where clearance or vision is restricted, the operator shall slow down and sound the horn. The operator shall travel slowly around corners.

5.3.2 When going up or down ramps, the operator shall always keep the load upgrade. The operator shall not turn the vehicle sideways on an incline.
5.3.3 The operator shall not travel with load raised, unless the load impacts
the field of vision or there is insufficient maneuvering room. Forks
shall be raised just high enough to clear floor and yard obstructions.
Driving with forks raised high endangers goods, property and
personnel. The load shall be tilted back while traveling.

5.3.4 The operator shall slow the vehicle on wet and slippery floors.

5.3.5 The operator shall not follow other vehicles too closely.

5.3.6 The operator shall normally face in the direction in which he/she is
traveling. Driving backward shall be done when the load is too high
or too wide to see around. Guards shall not obstruct the operator’s
vision.

5.3.7 Bumps, holes, slick spots and loose materials that may cause truck
to swerve or tip shall be avoided.

5.3.8 The operator shall avoid sudden starts or stops and operate the vehicle
at safe speeds.

5.4 Loading

5.4.1 The rated capacity of the truck shall be posted so that it is
readily visible to the operator at all times. The load weight shall
not be exceeded.

5.4.2 Before loading, the operator shall check the floors in trucks to
ensure the combined weight of truck and load can be supported.

5.4.3 Unstable loads shall not be lifted.

5.4.4 Pallets used for loading shall be in good condition.

5.4.5 Forks shall be spaced to fit the load. Loads shall never be carried
off center.

5.4.6 Pallets or materials shall not be stacked closer than three feet from a
sprinkler head.

5.5 Dockboards (bridge plates)

5.5.1 Dockboards shall have positive stops to prevent moving or shifting.

5.5.2 Dockboards shall have at least six inches bearing on the loading dock.

5.5.3 Trucks shall have their wheels chocked and brakes set, to prevent
them from rolling, while being worked by forklifts.
5.6 Elevated work platform

5.6.1 An operator shall be in attendance while workers are on the platform.

5.6.2 The vehicle shall not be moved from point to point with workers on the platform.

5.6.3 The platform shall be securely attached to the forklift, and have standard guardrails, midrails, and toe boards on all sides.

5.6.4 Areas between the workers on the platform and the forklift shall be guarded to prevent contact with drive chains, sprockets, and shear points.

5.6.5 A safety device shall be installed to prevent the mast from being tilted.

5.7 Changing and charging batteries

5.7.1 Smoking shall be prohibited in the charging area.

5.7.2 When charging batteries, the vents caps shall be kept in place to avoid electrolyte spray.

5.7.3 Equipment shall be provided for neutralizing spilled electrolyte.

5.7.4 Emergency eye wash capabilities shall be available in battery changing areas.

5.7.5 Forklifts/trucks shall be properly positioned and the brake applied before attempting to charge batteries.

5.8 Maintenance

5.8.1 The operator shall make daily maintenance checks at the start of each shift. Brakes, steering gear, lights, horns, warning devices, clutches, etc., shall be tested before operating the vehicle. If the vehicle has any defects which will cause it to be unsafe, it shall be removed from service.

5.8.2 As part of the daily maintenance check, the operator shall check the fire extinguisher on the truck.
6. **RECORDS**

6.1 Training records shall be maintained by the Safety Department for three years.

6.2 A copy shall be maintained at each facility for three years.

7. **FORMS**

7.1 Inspection and Maintenance Log

8. **DEFINITIONS**

8.1 Authorized operator - An employee who has satisfactorily completed both classroom and operation training on material handling equipment.

8.2 Attachments - Other factory installed attachments. The attachment shall be marked to identify the attachment and show the approximate weight of the truck and attachment combination at maximum elevation with load laterally centered.

8.3 Attended - The operator is within 25 feet of the vehicle and can see it.

8.4 Modifications - No additions which affect capacity and safe operation shall be performed by the customer or user without manufacturer’s prior written approval.

8.5 Rated capacity - The maximum weight that a forklift is designed to lift as determined by the manufacturer.
ENERGIZED ELECTRICAL WORK

A. Scope

This section defines the minimum safety requirements for all Ken Bobko Electric Company, Inc. personnel and subcontractors to ensure compliance with regulatory requirements applicable to electrical system.

B. Purpose

To minimize hazardous electrical exposures to all personnel who perform work in any electrical substations, rooms, cabinets, vaults and manholes within reach of live parts (electrical wires, cables and equipment) of 50V to ground or higher, on KBE construction sites.

C. Reference


D. Definitions

Attendant System - A safety system that employs one person functioning as a dedicated Qualified EEW Attendant while another is performing Energized Electrical Work. A single person may function as an EEW Attendant for two persons if they are working on the same system and are both in a single line of sight from a single observation point.

Blast Suit - Properly rated hood, face shield, gloves, hardhat, and Nomex or equivalent outer clothing combination.

Classified Location Rating – Ratings applied to Hazardous Locations based upon the presence of flammable gases or vapors; the handling, use or processing of flammable vapors; the presence of combustible dust or easily ignitable fibers or filings.

Compelling Reason - A situation where greater operational health, safety or environmental hazard exists if equipment is de-energized or if an essential continuity of service is halted. Examples of Compelling Reasons include:

a. Operational Limitations:

b. Troubleshooting/Systems Analysis:
   Includes tracing circuits, and Troubleshooting.
c. Emergency Situations: (usually completed post event)

**Electrical Hazard** - An electrical condition where the possibility of injury or incident is present due to an exposed energized circuit.

**Energized Electrical Work (EEW)** - Any work requiring performance of duties on or near an exposed energized circuit with magnitude greater than 50 volts to ground or 240 volt-amps.

**EEW Permit** - Document authorizing Qualified Persons to perform installations or repairs on energized electrical equipment and/or systems.

**Hazardous Locations** - Class I, Division 1 and 2 Locations as specified in the NEC and NFPA.

**Infeasible Shutdown** – A situation, determined by a senior level manager where EEW must be performed in lieu of de-energizing the system to complete the work.

**Metering** – The task of electrical testing with an approved electric indicating instrument such as a voltmeter, ammeter, etc.

**One-Hand Rule** – The EEW Attendant/Standby Person physically reaching the person performing EEW with one hand in the event of an accident. The one hand rule shall not be used when a single EEW attendant is functioning for two persons.

**Properly Rated and Tested** – The term itself applies to specific tools or equipment and cannot be universally applied to *all* tools or equipment. Given that, PPE, such as rubber insulated gloves or sleeves or tools, such as mats that require a certification must be properly rated and tested.

**Qualified EEW Attendant** - A person assigned to monitor the individual performing Type 4 EEW.

**Qualified Person** - A person who is familiar with the construction, operation, and hazards of the specific equipment involved and has had training in avoiding the electrical hazards of working on or near exposed energized parts. This person shall meet the requirements of this document.

**Qualified Person as an EEW Attendant** - A person assigned to monitor the individual performing Type 5 EEW.

**Qualified Supervisor** – The individual responsible for all aspects of the work, issuing EEW permits, and maintaining safe working conditions in relation to this Section.

**Safe Work Distances** – The minimum distance personnel may approach exposed energized parts without protective insulation or PPE.
Testing & Metering – Diagnosis and analysis of electrical systems to trace or determine voltage and/or current on circuits.

Troubleshooting – Investigation techniques employed to locate the source of an equipment malfunction.

Volt-amps – Circuit voltage (volts) multiplied by current (amperes).

E. General

1. All personnel who perform work on electrical systems shall be qualified.

2. Work is to be performed de-energized at all times in accordance with the Ken Bobko Electrical, Inc. Lock-out/Tag-out Procedures unless it can be demonstrated that the use of de-energized work practices introduces additional or increased hazards or is not feasible. Documented Compelling Reasons must be provided.

3. Only Qualified Persons shall work on electric circuits/systems that have not been de-energized.
   a. Such persons shall be capable of working safely on energized circuits and shall be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.

4. Access into electrical substations, rooms, cabinets, vaults and manholes is restricted to Qualified Persons only, unless the equipment is de-energized or a Qualified Person is in supervision of the unqualified personnel making access:
   a. Before entry and upon exit, Ken Bobko Electrical Company, Inc. will notify the Owner’s Resident Engineering Staff.
   b. Before entry is made into energized electrical cable vaults or manholes, an infrared tester shall be used to scan the cables and connector components. If a temperature difference of 10 degrees Fahrenheit is detected between the cable and connector components, or any reading greater than 140 degrees Fahrenheit is detected from the cables or components the entry shall not be made.
F. Ken Bobko Electrical Company, Inc will shall identify any medium or high voltage areas that may be involved in the project and immediately notify the Engineer if they have not been properly identified.

1. A Task Specific Job Hazard Analysis (JHA) shall be conducted and documented prior to beginning any Energized Electrical Work.

2. The scope of work must be communicated and understood by all parties involved.

3. Personnel shall not wear conductive items when working on or within the defined Safe Working Distance of energized electrical equipment. These items include, but are not limited to watches, bracelets, rings, conductive-framed glasses, earrings, badge clips, and clothing with metal snaps and buttons. If conductive items cannot be removed they must be covered with a non-conductive material.

4. EEW in Hazardous Locations should be avoided. This work should only be performed after a thorough analysis has been made to verify the work can be performed safely. Compelling Reasons shall be documented on the EEW Permit.

5. Clearances around electrical cabinets, transformers, switchgears, etc. shall be maintained in accordance with WAC 296-155-444(10).

6. The use of temporary coverings (blankets), insulated tools, mats, and PPE reduces the risk to the employee conducting the work however; it does not reduce the Energized Electrical Work to a lower type.

7. No EEW may be performed without approved insulated tools. The hand tools must be specified in the JHA and be manufactured to meet the requirements of the work.

8. Areas around exposed/energized equipment must be properly barricaded and/or secured to prevent accidental contact and maintain a safe work environment.

9. Personnel should not employ practices which provide a current path through any part of their body. Every effort should be made to practice the “one-hand rule” when the task allows.

10. Unless identified for use in the operating environment, no conductors or equipment shall be located or operated in damp or wet locations. Ground Fault Circuit Interrupters (GFCI) shall be used when any work must be performed in these locations. The will inspect and maintain the GFCI system. Documented inspections shall be monthly or more frequent as conditions dictate.
G. Safe Working Distances

1. Ken Bobko Electrical Company, Inc. will shall ensure that no person approaches or takes any conductive object closer to exposed energized parts than set forth below unless:

   a. Personnel are insulated from the energized part; or;

   b. The energized part is insulated from personnel.

   **Voltage Range (phase to phase) Minimum Approach Distance**

<table>
<thead>
<tr>
<th>Voltage Range</th>
<th>Minimum Approach Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 300 V</td>
<td>Avoid Contact</td>
</tr>
<tr>
<td>&gt; 300 V and &lt; 750 V</td>
<td>1 ft. 0 in. (30.5 cm)</td>
</tr>
<tr>
<td>&gt; 750 V and &lt; 2 kV</td>
<td>1 ft. 6 in. (46 cm)</td>
</tr>
<tr>
<td>&gt; 2 kV and &lt; 15 kV</td>
<td>2 ft. 0 in. (61 cm)</td>
</tr>
<tr>
<td>&gt; 15 kV and &lt; 37 kV</td>
<td>3 ft. 0 in. (91 cm)</td>
</tr>
<tr>
<td>&gt; 37 kV and &lt; 87.5 kV</td>
<td>3 ft. 6 in. (107 cm)</td>
</tr>
<tr>
<td>&gt; 85.5 kV and &lt; 121 kV</td>
<td>4 ft. 0 in. (122 cm)</td>
</tr>
<tr>
<td>&gt; 121 kV and &lt; 140 kV</td>
<td>4 ft. 6 in. (137 cm)</td>
</tr>
</tbody>
</table>

H. Electrical Work in Hazardous Locations:

1. Work on equipment that is rated for use in Hazardous Locations that will violate the Classified Location Rating is not permitted. For example, work which requires the opening of explosion proof enclosures in a classified location must be performed de-energized, locked and tagged out.

2. If there is a potential for combustible vapors in a work area a test of the area shall be made with a combustible gas meter prior to and during the duration of any EEW. Work must be halted immediately if any combustible gas or vapor is detected.
I. **Appropriate Safe Work Practices Matrix**

The appropriate safe work practices to be used for a project or task are based upon the highest Electrical Work Type and Energy Magnitude until proven to be a lesser type.

<table>
<thead>
<tr>
<th>Electrical Work Type:</th>
<th>Energy Magnitude</th>
<th>Work Specifics</th>
<th>Testing/ Metering Operations</th>
<th>Typical Minimum Safety Equipment Required **</th>
<th>Attendant Required</th>
<th>EEW Permit Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type # 1***</td>
<td>Zero Volt Amps</td>
<td>De-energized, locked and tagged out, meter and check all sources of power before beginning work.</td>
<td>Meter only to ensure no power.</td>
<td>Safety glasses and hardhat or as defined by a Job Hazard Analysis</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Type # 2***</td>
<td>Covered Energized Circuits less than 600 Volts</td>
<td>Permanent covers in place, equipment designed for metering and testing that will prevent any accidental bodily contact with electrical or RF energies</td>
<td>Meter and test only by means of designed testing points with all</td>
<td>Safety glasses and hardhat or as defined by a Job Hazard Analysis</td>
<td>No</td>
<td>No*</td>
</tr>
<tr>
<td>Type # 3***</td>
<td>Less than 240 Volt-Amps and less than 50 Volts, visual inspections less than 600 Volts</td>
<td>Obtain approval to perform work, verify test equipment functionality, determine location of shutdown points and voltage, and ensure proper tools are available</td>
<td>Meter, test, or troubleshoot within voltage and Volt Amp ranges.</td>
<td>Safety glasses w/ non-conductive frames or as defined by a Job Hazard Analysis</td>
<td>No</td>
<td>No*</td>
</tr>
<tr>
<td>Type # 4</td>
<td>Energized Electrical Work on exposed circuits 50 to 600 Volts</td>
<td>Determine “Compelling Reason”, verify test equipment, determine shutdown locations and voltage, tag breakers, ensure area is properly barricaded,</td>
<td>Metering and testing with any covers removed allowing for direct contact within this voltage range.</td>
<td>Reference Part J. of this Section</td>
<td>Yes</td>
<td>Qualified EEW Attendant</td>
</tr>
<tr>
<td>Type # 5</td>
<td>Energized Electrical Work on circuits greater than 600 Volts</td>
<td>Work involving potential direct physical contact with energized exposed circuits greater than 600 Volts. Ensure the area is properly barricaded with non-conductive material.</td>
<td>Metering and testing with covers removed exposing over 600 volts.</td>
<td>Reference Part J. Of this Section</td>
<td>Yes</td>
<td>Qualified Person as an EEW Attendant</td>
</tr>
</tbody>
</table>

* ANY energized work (Types 2-5) performed in a Hazardous Location requires an EEW Permit  
** Individual tasks must be reviewed for PPE requirements.  
*** Work should be classified at the highest level until testing is complete.
J. Energized Electrical Work Types/Procedures

**NOTE:** The following procedures should be common to all electrical work for the respective types. Additional task specific procedures and equipment should be included when developing the work plan. In all cases the work should be classified at the higher rated level until it has been determined to be a lower one.

1. **Type 1 - De-energized, Locked & Tagged out**
   a. File Shutdown Notice for the equipment/systems.
   b. De-energize all power sources including backup power, lock and tag-out and verify all electrical sources are at zero voltage. Ensure that KBE Lock-out/Tag-out procedures are followed.
   c. Verify functionality of test equipment and ensure it is properly rated for maximum potential voltage to be tested, including valid calibration date.
   d. No Attendant System or EEW Permit/Checklist is required.
   e. PPE to consist at a minimum of hardhat and safety glasses.

2. **Type 2 - Covered, Energized Circuits Less Than 600 volts**
   a. Verify that all covers are in place.
   b. Verify functionality of test equipment and ensure it is properly rated for work to be performed, including valid calibration date.
   c. No Attendant System or EEW Permit/Checklist is required.
   d. PPE to consist at a minimum of hardhat and safety glasses

3. **Type 3 – Energized Work On Exposed Electrical Systems (50 Volts or less)**
   a. Obtain approval from owner to do work.
   b. Verify functionality of test equipment and ensure it is properly rated for work to be performed and calibrated.
   c. Determine the voltage, location of shutdown points, & any other associated hazards.
   d. Ensure proper tools and test equipment are available for the work to be done and in proper working conditions.
   e. No Attendant System is required.
   f. EEW Permit is required if the work to be performed is in a Hazardous Location.
   g. PPE shall consist of as a minimum non-conductive hardhat and safety glasses.
4. Type 4-Energized Work on Exposed Electrical Systems Greater Than 50 Volts and Less Than 600 Volts
   a. A Compelling Reason for performing EEW must be provided by the ’s Project Manager on the EEW Permit.
   b. Verify functionality of test equipment and ensure it is properly rated for work to be performed and calibrated.
   c. Determine voltage, location of shutdown points, and other potential hazards.
   d. Apply warning tags that inform others that work is being completed on interrupting breakers-switches. The tag should be placed at the nearest level up-stream power source to prevent re-closure and re-energizing of equipment/systems. (Power distribution systems only)
   e. The specific safety equipment will vary based on the potential hazard. The correct PPE, insulated tools, and procedures for safe practices should be documented in the job hazard analysis. The safety equipment may include but is not limited to the following:
      i. ANSI approved hard hat
      ii. ANSI approved safety glasses with non-conductive frames
      iii. Rubber insulated mats or boots
      iv. Properly rated and tested rubber gloves
      v. Properly rated and tested rubber sleeves
      vi. Body hook
      vii. Approved insulated tools
      viii. Face shield
      ix. Fire extinguisher
      x. Nomex or equivalent outer clothing
      xi. Properly rated and tested Blast Suit
      xii. Cotton clothing
      xiii. Insulated mats and/or boots shall be used when working on conductive surfaces for Type 4 and 5 work
     xiv. Barricade and/or secure the area.
f. Upon completion of job or shift:
   i. (Power distribution systems only) Retrieve all upstream warning tags.
   ii. Return upstream warning tags to the Qualified Supervisor (power distribution systems only).

5. Type 5 - Greater than 600 volts

   a. In addition to Type 4 requirements above:
   b. All Type 5 Energized Electrical Work must be planned with documentation of sequenced steps, safety precautions, and equipment needed to perform the job safely. An electrical engineer will approve the documentation. If this work is routine, procedures should be outlined in PM procedures and on line checklists.

K. Permit System

   1. Ken Bobko Electrical Company, Inc.’s Project Manager shall complete the Compelling Reason portion of the EEW Permit and sign.
   2. Qualified Supervisor shall complete and sign the EEW Permit and Checklist, ensure all other appropriate signatures are on EEW permit, forward a copy to the Resident Engineer and Construction Safety Services Manager, and post the permit at the work area.
   3. EEW Attendant shall sign permit

L. Responsibilities

   Equipment Owner/Operator and Maintainer of Equipment.

   1. Ensure has proper procedures to safely perform the work.
   2. Assist in scheduling to minimize system downtime.

   Ken Bobko Electrical Company, Inc.’s Project Manager

   1. Reads, understands and conveyed the application and importance of this EEW Program to their Qualified Supervisor.
   2. Evaluate tasks performed at Types 4 & 5 for engineering controls that would reduce the work to Type 3 or below.
   3. Understands the scope & hazards associated with the work they are approving
   4. Establish a means to enforce compliance with the requirements of this program.
   5. Ensure that there are a sufficient number of personnel trained and available to perform the work.
**Ken Bobko Electrical Company, Inc.’s Qualified Supervisor**

1. Has read and understands this EEW Program.

2. Understands the scope & hazards associated with the work they are performing.

3. Ensure that permits are completed, understood, and signed for all EEW.

4. Verifies that all employees performing electrical work have current training certifications and skills necessary to perform the work.

5. When working on a POS project, ensures either POS STIA Electrical Shop or SeaPort Maintenance Electric has been notified.

6. Ensure that the Attendant System is used.

7. Completes and explains the JSA to all employees involved.

8. Predetermines emergency procedures.

9. Ensure the maintenance and calibration of testing equipment

10. Ensures the availability and use of PPE.

11. Submitted completed EEWP to Resident Engineer and Manager of Construction Safety Services.

**Qualified Person**

1. Has read and understands this EEW Program.

2. Understands the scope of work.

3. Understands and complies with all electrical safe work procedures and requirements as described in the EEW Program.

4. Has the experience required to perform work on the respective equipment and understand the hazards associated with the work.

5. Completed the following training requirements:
   a. CPR/First Aid - Every two years
   b. Hazardous Energies – annual
Qualified EEW Attendant

1. Has read and understands this EEW Program.
2. Understands the scope of work.
3. Understands and complies with all electrical safe work procedures and requirements as described in the EEW Program.
4. Knows location of disconnects and how to de-energize.
5. Has no other duty than to observe the work without interfering with worker and without participating in the work.
6. Has completed the following training requirements:
   7. CPR/First Aid -Every two years
   8. Basic Electrical Safety

Qualified Person as an EEW Attendant

1. In addition to the responsibilities listed for an EEW Attendant, the Qualified Person as an EEW Attendant must also have:
2. Equivalent knowledge of the Qualified Person and of the equipment.
3. Understand the scope of work.
4. Complete the following training requirements:
   a. CPR/First Aid -Every two years
   b. Basic Electrical Safety
   c. Intermediate Electrical Safety
   d. Advanced Electrical Safety - Annually

Ken Bobko Electrical Company, Inc.’s Health & Safety Manager

1. Has read and understands this EEW Program.
2. Ensure quality training is provided.
3. Ensure documentation of training and procedures.
4. Audits the work process to assure that safe electrical work practices are being implemented.
5. Coordinates the completion of the Job Hazard Analysis with the Qualified Supervisor.
6. Communicate requirements to and concerns Sr. Management.
ENERGIZED ELECTRICAL WORK PERMIT

Contractor: ___________________________ Project: ___________________________

Equipment to be worked on: ___________________________

Equipment/Panel: ___________________________ Voltages: ___________________________

EEW Type: ___________________________

Work to be Performed: ___________________________

Has the EEW Permit Checklist been completed? ___________________________

The Compelling Reason a shutdown is infeasible:

_____ Operational Limitations _____ Troubleshooting/System Analysis _____ Emergencies

Detailed Explanation of Compelling Reason;


I authorize the Energized Electrical Work due the above reason(s):

Project Manager: ___________________________ Date: ___________________________

INDIVIDUALS ASSIGNED TO THE WORK CREW

I certify that I am qualified to carry out the work described above, and that I understand and will follow the EEW Program and all safety procedures necessary to complete the job safely.

Qualified Person

Print Name ___________________________ Signature ___________________________ Date __________

Qualified Person

Print Name ___________________________ Signature ___________________________ Date __________

EEW Attendant

Print Name ___________________________ Signature ___________________________ Date __________

Qualified Supervisor

Print Name ___________________________ Signature ___________________________ Date __________
ENERGIZED ELECTRICAL WORK PERMIT CHECKLIST

Please check each of the following as they are completed

A Emergency telephone number: ___________________________ (verified).
B Location of nearest telephone: ___________________________
C Emergency equipment is located at the work area.
D Up-line breaker has been tagged for panel distribution systems: Yes: __________ No: __________
   Location of up-line source of power: Building: __________________ Area: ________
   Panel: ___________________________ Circuit: ___________________________
E Location of Emergency Power Off (EPO) or Emergency Machine Off (EMO) buttons confirmed
   (if applicable).
F Test meter available, calibrated and tested for reliability and accuracy.
G The attendant is to perform no other duties than observe and ensure that safety procedures are
   followed.
H Cable temperature readings taken prior to entry into manhole or vault and are acceptable.
I A current copy of the panel schedule verified breaker positions are attached to this permit.
J Task specific JSA completed and reviewed with the workers.
K All work other procedures reviewed. (If possible, open equipment in de-energized state and review
   work to be done.)
L Barriers placed to keep unauthorized personnel clear of work area.
M Other forms of Hazardous Energy not required for work are properly locked/tagged out
N Confirmed adequate illumination. (Flashlights are not acceptable.)
O All conductive personal articles removed or covered.
P Metal fasteners on clothing (zippers, snaps, buttons & pins) are not exposed.
Q Clear evacuation path identified.
R Tools in good condition. (Check insulation on handles.)
S Appropriate Personal Protective Equipment in place (includes properly rated and tested gloves,
   sleeves, face shields and blankets).

CLOSING CHECKLIST - POST SERVICE

1 Visual inspection/test performed to verify all tools, jumpers, grounds, etc. removed.
2 Employees exposed to hazards associated with re-energizing are notified of systems impending
   status change.
3 Visually confirm all employees are clear of circuits and equipment.
4 Equipment re-energized.
5 Barriers Removed
6 Upstream warning tags removed (if applicable)
7 EEW Permit filed.

This checklist shall be attached to the EEW Permit
LOCKOUT/TAGOUT

A. Scope

This section defines the minimum safety requirements for lock-out tag-out to assure the safety of personnel and equipment when performing work on or around processes, systems, or equipment capable of having an energy source applied or the release of stored energy.

B. Purpose

This procedure is intended to protect personnel and property from injury caused by the release of stored energy, or the accidental activation of processes, systems, or equipment.

C. Reference


D. Definitions

Lock-out Device - A device that utilizes a positive means such as a uniquely keyed lock with the key kept under the control of the authorized employee to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment. Examples of acceptable lock-out devices include, but are not limited to, blank flanges, bolted slip blinds, or other similar means.


Qualified Person – A person familiar with the construction, operation, and hazards of the specific equipment involved and has training in avoiding hazards.

E. General

1. All lock-out/tag-outs, utility outages, utility disruptions, and re-energization and re-presurizations will be coordinated through the Owner.

2. KBE’s Qualified Person is responsible for ensuring adequate protection is provided through lock-out/tag-out procedures for all processes, systems, or equipment and personnel under their control.
3. The Qualified Person is responsible for seeing that processes, systems, or equipment de-energized/depressurized are properly tagged, locked out and rendered inoperative.

4. Zero energy storage must be assured by bleeding, blocking, or blanking control circuits or systems to assure deactivation. Trying to activate it to ensure positive lock-out will then test the system.

5. A lock and tag-out device and attachment apparatus will be used to secure main power sources. This includes electrical panels and switches which service equipment and/or processes that upon activation could cause unexpected movement or release of energy. This procedure applies to inspection, cleaning, alteration, installation, and repair activities.

6. When more than one employee is working on a system or piece of equipment, each will apply their own lock and tag.

7. This procedure applies to energy sources that are mechanical, air, hydraulic, thermal, chemical or spring loaded.

F. Specific Requirements for KBE and Subcontractors

1. KBE’s Qualified Person will brief all employees who will be performing work on the equipment or system to familiarize them with the lock-out/tag-out procedure before any work is started. The following procedures will be read and discussed with all craft persons to ensure complete understanding of the procedures.

G. Lock-out/tag-out Guidelines

1. Identify all sources of energy, movement or hazardous substances. Also, locate all isolation points and disconnects that deactivate the equipment or system.

2. Physically isolate, disconnect, or eliminate all hazards by tagging/locking of circuit breakers, motor control switches and removal of fuses, installing blinds, closing and locking of valves, etc.

3. Immobilize and lock-out all isolation points and disconnects.

4. Tag all isolation points and disconnects.

5. Where the main electrical switches and circuit breakers must be used to de-energize a system, Maintenance will be contacted to identify the proper controls to be locked and tagged out.
H. Lock-out Procedure

1. When more than one employee is working on a system or piece of equipment, each will apply their own lock and tag to the lock-out device.

2. Padlocks are the preferred lock-out devices.

3. Locks will not be a common key type.

4. The individual installing the lock will retain the key.

5. After the equipment or system has been locked out, attempt to start it to test the effectiveness of the lock-out

6. Always check all locks and tags at the start of each shift. Never assume the equipment or system is locked out before starting work. If any locks or tags have been removed, contact your supervisor immediately!

7. Only those who install the tags and locks may remove them.

8. A written procedure must be in place in order to remove any lock and tag when the tag signer is absent from the job site. In addition, the procedure will only be performed after a check is made to assure that all persons are out of danger and that the equipment is in working order.

I. Tagging Procedures

1. The tag is to be clearly signed in ink by the employee. This includes their full name, Company name, badge number, and the date.

2. A signed tag will always accompany a lock.

3. Tags will be placed directly on the lock and in a place as visible as possible.

J. Reactivating the System– Clearance Orders/Switching Orders

1. Before energy is restored to the process/equipment, a visual inspection of the work area will be made by an authorized individual.

   a. The reactivation of the system should only be completed through a set step-by-step published procedure, which prevents injury or equipment damage when performed properly. This includes: removal of all personnel, tools, and equipment from the danger zone; the assurance that the equipment is operationally intact; and, there exists no incomplete work or obstructions.
Examples include:

i. Valve line-up to avoid product spills

ii. Pressure tests on hydro or pneumatic systems

iii. Flushes for cleanliness

iv. Electrical tests for shorts or ground

v. Rotational/functional tests

2. A final check of the system should be made to ensure the equipment or system is properly functioning.

K. Electrical Specific - Energizing New Equipment

1. Prior to Energizing New Equipment

   a. All electrical gear will be locked and tagged out by a Qualified Person(s).

   b. All electrical gear will have devices installed or be capable of installation of multiple locks.

   c. In the event a positive lock-out cannot be made (such as a toggle switch), the individual switch will be de-energized and a tag-out device installed by the person working on it.

   d. All tag-out devices will be signed and dated by the individual placing it with instruction as to why the tag was placed.

   e. It is KBE’s responsibility to ensure that no work is performed beyond the protection of the lock and tags installed.

   f. The lock and tag may not be removed unless the electrical gear is turned over to and accepted by the Owner. The only exception is the function test performed by KBE, after which KBE immediately reinstalls their lock and tag.

2. Energizing New Equipment for the First Time

   a. Prior to energizing, KBE’s Qualified Person and the Owner’s electrical representative will inspect all electrical gear to ensure compliance with Part I of this procedure.

   b. KBE will furnish and install a “DANGER – HIGH VOLTAGE” sign on all switchgear and Motor Control Centers (MCC), as well as on all distribution panels and disconnect switches prior to energizing. Signs will be of adequate size and be installed so as to be visible from any approach. A sticker reading “HOT” or “ENERGIZED” will identify all energized circuits in the distribution panels and switchgear. These stickers will be of the peel-off type.
c. Once energized, KBE has the responsibility to see that these stickers are used in each area as the sections are energized.

d. Any questions as to the adequacy of the protective measures installed will be forwarded to KBE or the Owner.

3. Turnover of Equipment to the Owner

   a. As energized, KBE turns over equipment to the operations representative, who installs the Owner's lock and “Danger” tag that has the Owner’s name on each starter or breaker released.

   b. After equipment has been turned over to the Owner and a need develops for KBE to work on the equipment, clearance must be obtained from the Maintenance Electrical Shop in order to accomplish the required work. Locks and tags must be installed as a part of the lock-out procedure.

   c. If sections of an energized Motor Control Center are needed to operate equipment turned over to the Owner and the Motor Control Center is still under KBE’s control, each party will lock and tag the center. This required each party’s permission to work in the Master Control Panel involved.

4. Crafts Working on Energized Electrical Gear or Equipment

   a. Prior to working on any electrical gear or electrically driven or powered equipment, every craft or persons associated with that activity will obtain a lock and two (2) Warning tags from the Qualified Person. These locks and tags will be installed on the associated switchgear and the local equipment control switch.

   b. A “Warning” tag that identifies the person by name, badge number, or company will accompany each lock.

   Only the individual who placed the lock and tag will remove it from the equipment.
ACKNOWLEDGEMENT SIGNATURE PAGE

We, the undersigned, do hereby acknowledge that we have read and agree to the: General Safety Program, Site Specific, and Fall Protection Work Plan as provided by Ken Bobko Electric Company, Inc.

SIGN: ___________________________          DATE: ________________
PRINT: _____________________________

SIGN: ___________________________          DATE: ________________
PRINT: _____________________________

SIGN: ___________________________          DATE: ________________
PRINT: _____________________________

SIGN: ___________________________          DATE: ________________
PRINT: _____________________________

SIGN: ___________________________          DATE: ________________
PRINT: _____________________________

SIGN: ___________________________          DATE: ________________
PRINT: _____________________________

SIGN: ___________________________          DATE: ________________
PRINT: _____________________________

SIGN: ___________________________          DATE: ________________
PRINT: _____________________________
ACKNOWLEDGEMENT SIGNATURE PAGE Continued

We, the undersigned, do hereby acknowledge that we have read and agree to the: General Safety Program, Site Specific, and Fall Protection Work Plan as provided by Ken Bobko Electric Company, Inc.

SIGN: ___________________________ DATE: ________________
PRINT: ___________________________

SIGN: ___________________________ DATE: ________________
PRINT: ___________________________

SIGN: ___________________________ DATE: ________________
PRINT: ___________________________

SIGN: ___________________________ DATE: ________________
PRINT: ___________________________

SIGN: ___________________________ DATE: ________________
PRINT: ___________________________

SIGN: ___________________________ DATE: ________________
PRINT: ___________________________

SIGN: ___________________________ DATE: ________________
PRINT: ___________________________

SIGN: ___________________________ DATE: ________________
PRINT: ___________________________
Ken Bobko

This card certifies that the above individual has successfully completed the objectives and skills evaluations in accordance with the curriculum of the AHA Heartsaver First Aid CPR-AED Program. Optional modules are those NOT marked out.

Issue Date: 1/23/14
Recommended Renewal Date: 1/2016

Strike through the modules NOT completed.
This card contains unique security features to protect against forgery.

Ronald Green

This card certifies that the above individual has successfully completed the objectives and skills evaluations in accordance with the curriculum of the AHA Heartsaver First Aid CPR-AED Program. Optional modules are those NOT marked out.

Issue Date: 1/23/14
Recommended Renewal Date: 1/2016

Strike through the modules NOT completed.
This card contains unique security features to protect against forgery.

Jozef Alvaro Jr.

This card certifies that the above individual has successfully completed the objectives and skills evaluations in accordance with the curriculum of the AHA Heartsaver First Aid CPR-AED Program. Optional modules are those NOT marked out.

Issue Date: 1/23/14
Recommended Renewal Date: 1/2016

Strike through the modules NOT completed.
This card contains unique security features to protect against forgery.