

Quality. Safety. Integrity. Family.

SAFE 365 Manual

CORPORATE OFFICE

1993 Gover Pkwy.
Mt. Pleasant, MI 48858

BRANCH LOCATIONS

5122 West Vienna Rd
Clio, MI 48420

3137 South Baker Side Rd.
Sault Ste. Marie, MI 49783

WAREHOUSE LOCATIONS

23862 Sherwood Ave.
Center Line, MI 48015



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MANAGEMENT COMMITMENT TO SAFETY

Management of J. Ranck Electric, Inc. (JRE) is committed to ensuring the safety of every employee. We are uncompromising in our commitment to the health and safety of our employees, subcontractors, customers, and community. We will continually improve our processes, demonstrate leadership, and promote comprehensive safety. We require individual accountability, expect all employees to adhere to our safety standards, and actively participate in and support the advancement of our health and safety practices. Safety is the responsibility of all employees, including both top management and the individual worker. We want each employee to go home better than they come in each day.

JRE expects compliance from all company and subcontractor personnel with JRE Safe 365 and federal, state, and local regulations. Disregard of these rules and policies will not be tolerated on a JRE jobsite. All personnel must be authorized to be present onsite.

Any questions regarding the meaning or interpretation of these policies may be directed to the Safety Department at (800) 792-3822.

Safety is a team effort and everyone is responsible for looking out for their safety as well as the safety of others. People who do not work in a safe manner are a serious threat to the safety of themselves, their fellow workers, and to the overall project. The safety objective for accidents and injuries on JRE projects is set at ZERO. Employees and subcontractors are required to follow the direction of the Foreman and/or Safety Department via employee orientations, bi-weekly safety meetings, weekly safety talks, site-specific safety plans, and verbal instructions.

ORGANIZATION & RESPONSIBILITY

EXECUTIVE MANAGEMENT

1. Ensure that safety is prioritized in every decision, every day.
2. Eliminate potential hazards by providing sufficient staffing, funds, time, and equipment so that personnel can work safely and efficiently.
3. Provide and monitor compliance within the company safety goals.

SAFETY DEPARTMENT

1. Administer and periodically review the Safe 365 Program for effectiveness and results.
2. Hold every employee accountable for safety and evaluate performance accordingly.
3. Implement, direct, and enforce the Safe 365 program with all personnel.
4. Provide safety training to all employees, ensure compliance with government reporting requirements, investigate accidents, communicate safety procedures with others, and implement corrective action when deficiencies are found.
5. Maintain compliance with local, state and federal regulations.
6. Recognize, assess, and control safety and health hazards on the jobsite and work with other departments to minimize occupational health and safety risks.
7. Perform jobsite and facility safety inspections, develop all required site-specific safety plans, and attend preconstruction and progress meetings.

PROJECT MANAGER

1. Assist the safety department in establishing site-specific safety plans.
2. Communicates safety expectations to all subcontractors during preconstruction meetings.
3. Assists in enforcing and maintaining safe operations in accordance with the JRE Safe 365 Program.

FOREMAN

1. Determine the level of knowledge and training of each employee and assign tasks accordingly.
2. Responsible to implement and enforce the Safe 365 Manual for all employees under their supervision, including subcontractors.
3. Identify unsafe conditions and take immediate corrective actions.
4. Ensure that safety equipment is available, maintained, used, and stored correctly.
5. Ensure weekly Safety Talks are conducted.

6. Relay other communications from the Safety Department.
7. Attend bi-weekly safety call-in whenever possible.

EMPLOYEES

1. Comply with all contents of the Safe 365 Program.
2. Conduct work in a safe manner.
3. Accept responsibility for personal safety, as well as the safety of others.
4. Report all accidents, injuries, near misses, good catches, or unsafe conditions immediately.
5. Participate in accident investigations as required.
6. Attend and participate in weekly Safety Talks and Stand-down meetings.

SAFETY COMMITTEE

1. The main purpose of our safety and health committee is to participate in the implementation of the safety and health system at JRE. The Safety Committee is responsible for assisting in the determination of unsafe conditions and procedures, evaluate incidents and accidents, suggest corrective measures, and communicate safety information to their respective departments. The safety committee will be comprised of management and employee representatives. The committee will meet monthly and will:
 - Have defined goals and objectives.
 - Develop written safety goals annually and communicate to all employees.
 - Address safety and health issues.
2. Safety suggestions will be shared with the Safety Committee for input.

TRAINING

All employees must have the required safety training necessary to be on a job site. Should an individual require written or oral training in another language other than English, a translation and/or translator will be accommodated to the best of our ability.

DEFINITIONS

1. **Competent Person:** means a person who is experienced and capable of identifying an existing or potential hazard in surroundings, or under working conditions, that are hazardous or dangerous to an employee and who has the authority and knowledge to take prompt corrective measures to eliminate the hazards.
2. **Qualified Person:** The qualified person must have the authority to take prompt corrective measures to eliminate existing and predictable hazards and to stop work when required. Qualified means a person who, by possession of a recognized degree or certificate of professional standing, or who, by extensive knowledge, training, and experience has successfully demonstrated the ability to solve or resolve problems relating to the subject matter work.
3. **Authorized Person:** a person approved or assigned by the employer to perform a specific type of duty or duties or to be at a specific location or locations at the jobsite.
4. For the purpose of this program, unless otherwise specified, a qualified person will be considered a competent and authorized individual.

In addition to this program, JRE employees are expected to comply with federal laws such as OSHA, NFPA, NEC, and Federal Highway Administration, unless regulated by state plans such as MiOSHA, Michigan MUTCD, or customer requirements.

PERSONAL CONDUCT

PERSONNEL INFORMATION

Information relating to employment with the company is secured in an electronic personnel file. Due to the confidential nature of personnel files, the HR Department controls access to the files. Employees may review their personal file in the presence of the HR Director during regular working hours. Terminated employees, former employees and other individuals who are not employed by the company will not be permitted access to the personnel files, unless authorized by the HR Director.

Employees are responsible for informing the payroll department of any changes to personnel status that may alter payroll or benefit status. Such information may include, but is not limited to:

- Change to name, address, telephone number, emergency contact, or marital status
- Gain or loss of dependents
- Beneficiary change, if applicable
- Change in W-4 deductions

In addition, notify Human Resources of any job-related education, certification, or other training accomplishments achieved during employment with the company.

CONFIDENTIALITY OF COMPANY INFORMATION

Safeguarding the confidential nature of information concerning the company's operations, customers, suppliers, and employees is essential. Discretion is required and such information should only be shared when required in the normal course of business. Confidential records of the company are not to be removed from the premises without prior consent from HR. Confidential information obtained as a result of employment with the company is not to be used as a means of obtaining personal gain or for the private use of others. Researching information from company records about customers or other employees for non-business-related reasons is prohibited. Use or disclosure of such knowledge or information in an inappropriate manner can result in civil and/or criminal penalties.

MEDIA

Only authorized personnel are to release information to the public. All media inquiries must be referred to the Marketing Director.

POLITICAL INVOLVEMENT

Employees shall not exhibit political materials at the workplace and should not engage in political arguments and persuasion during work hours or while acting as a representative of the company. Involvement in the political process should never disrupt employee work or the work of others. Otherwise, participation in political and civic activities is encouraged, including voting, jury duty, and maintaining personal awareness of political issues.

COMPANY-AFFILIATED EVENTS

Employee participation in any event or activity sponsored by or affiliated with the company is voluntary, and the employee shall assume any and all risks associated with such participation. The company assumes no liability from any activity/event that it sponsors in whole or in part in which a participating employee is injured. Family members or guests in attendance at company-affiliated events and activities should adhere to the same standards of conduct as expected of company employees. Employees shall ensure that guests conduct themselves appropriately and refrain from any activity that might result in liability to themselves or the company.

CONFLICT OF INTEREST

Employees are prohibited from engaging in any activity that conflicts with, or appears to conflict with, the interests of the company, its customers, or vendors. A conflict of interest exists when employees engage in any activity that may compromise themselves, another employee, or the company in its relationship with a customer, vendor, or competitor. Employees are required to fully disclose any potential conflicts of interest to the HR Department. Potential conflicts of interest may include soliciting business for personal gain, accepting gifts other than those of nominal value, or requesting favors, discounts, or services. If an employee believes that unusual circumstances justify participation in an activity that may result in a conflict of interest, a request to review the situation may be made to the HR Department.

HARASSMENT POLICY

Because family is a core value at J. Ranck Electric, we strive for an environment of respect and kindness for all employees. This includes a work environment that is safe and free of discrimination, intimidation, hostility, or other offensive factors that may interfere with a person's work. No employee will discriminate or harass another person based on their race, color, national origin, religion, sex (including pregnancy), age (40+), citizenship status, marital status, sexual orientation, gender identity, disability, veteran status, height, weight, genetic information, or any other status protected by applicable law.

We will follow all applicable state and federal laws in prohibiting discrimination and harassment of any type, in the workplace and while performing any and all work-related duties. "Workplace" is not limited to a company facility but includes all company functions (on/off site), business travel, vendor locations, customer locations, and any other location where company business is conducted. All employees are covered by and expected to comply with this policy and to take appropriate measures to ensure that prohibited conduct does not occur. Managers who knowingly allow or tolerate discrimination, harassment, or retaliation, including the failure to report, are in violation of this policy.

DEFINITION OF HARASSMENT

The company defines harassment as verbal or physical conduct using threatening, intimidating, or coercive behavior towards anyone working for or on behalf of the company, which:

- Has the purpose or effect of creating an intimidating, hostile, or offensive work environment
- Has the purpose or effect of unreasonably interfering with an individual's work performance
- Adversely affects an individual's employment or advancement opportunities

BEHAVIOR CONSIDERED TO BE HARASSMENT

- Verbal (offensive or unwelcome spoken or electronic communication regarding a protected class, including epithets, slurs, jokes, negative stereotyping, profanity, etc.)
- Physical (inappropriate touching, restraining, or blocking)
- Nonverbal (distribution or display of written material that ridicules, denigrates, insults, belittles or shows hostility, aversion, or disrespect toward a person of a protected class)
- Hostile Work Environment (any behavior intended to intimidate and/or negatively impact another's ability to work)
- Retaliation (an adverse action taken against an employee for filing a complaint or supporting another employee's complaint)

DEFINITION OF SEXUAL HARASSMENT

Sexual harassment is a form of discrimination prohibited under Title VII of the Civil Rights Act. According to the EEOC, it is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when:

- Submission to such conduct is made either explicitly or implicitly a term or condition of employment
- Submission to or rejection of such conduct is used as either the basis for, or a factor in, an employment decision
- Such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile, or offensive working environment

BEHAVIOR CONSIDERED TO BE SEXUAL HARASSMENT

- Verbal (unwelcome spoken or electronic communication, including innuendoes, suggestive comments, jokes of a sexual nature, propositions, lewd remarks, threats, obscene language about a person's body or appearance, requests for sexual favors, including repeated, unwelcome requests for dates, or verbal abuse or teasing that is oriented toward a prohibitive form of harassment, including that which is sexual in nature and unwelcome)
- Physical (unwelcome, unwanted physical contact, including touching, tickling, pinching, patting, brushing up against, hugging, cornering, kissing, fondling, forced sexual assault, etc.)
- Nonverbal (distribution or display of written material, including calendars, posters and cartoons that are sexually suggestive or show hostility toward a person because of sex, suggestive or insulting sounds, leering, staring, whistling, obscene gestures, or other forms of communication that are sexual in nature and offensive)
- Hostile Work Environment (any behavior intended to intimidate and/or negatively impact another's ability to work)

A good rule of thumb is the only acceptable touching at work is a handshake. Conversation at work should be professional, work-related, welcomed by both parties, and if of a personal nature, appropriate and of non-offensive content and context.

COMPLAINT REPORTING

An employee who believes they have been the victim of or witness to conduct prohibited by the EEO, harassment, or ADA/ADAAA policies contained within this manual, should report their concern to their supervisor and HR as soon as possible after the incident has occurred. HR will work with the complainant to draft a written statement, to include the nature of the incident, date(s) and place(s) alleged incident took place, and name(s) of individual(s) known to be involved. Any employee who knowingly presents a false or frivolous claim that is proven to be untrue is subject to disciplinary action, up to and including termination, and may also be subject to legal action.

INVESTIGATION

All complaints will be investigated and documented promptly, thoroughly, confidentially, and impartially by HR or a 3rd party investigator, if needed, via the following steps:

- Upon receiving a complaint, the investigator will notify applicable parties that an investigation is pending, including executive management team, legal counsel, if needed, complainant and respondent, and their managers
- The investigator will initiate an investigation to determine whether there is a reasonable basis for believing that the alleged violation occurred
- If necessary, the complainant and respondent will be separated during the investigation, either through position transfer, temporary reassignment, or other type of leave
- The investigator will interview the complainant first, collecting information, evidence, timelines, and witnesses that could corroborate the claim
- The investigator will interview the respondent next, collecting information, evidence, timelines, and witnesses that could provide counterevidence to the claim
- The investigator will interview witnesses resulting from the initial interviews. Additional witnesses may be named as a result of those interviews, and will be interviewed, accordingly
- If necessary, the investigator will re-interview the complainant and respondent, as a result of witness interviews and new information
- Upon completion of the investigation, the investigator will create and submit a written report of findings to executive management for review
- HR, together with legal counsel and/or executive management, will make a final determination whether the investigation substantiates the allegation
- If the investigation substantiates the allegation, HR will recommend appropriate disciplinary action, considering the following factors:
 - the severity, frequency, and pervasiveness of the conduct
 - prior complaints made by the complainant
 - prior complaints made against the respondent
 - the quality of the evidence (i.e. firsthand knowledge, credible corroboration, etc.)
- If the investigation is inconclusive or it is determined there has been no violation, but potential problematic conduct may have occurred, HR will recommend appropriate preventive action
- At the conclusion of the investigation, HR will meet with the complainant, respondent, and their respective managers separately and notify them of the findings of the investigation
 - If disciplinary action is to be taken as a result of a substantiated claim, the respondent will be informed of the discipline and how it will occur
 - If preventive action is to be taken as a result of an inconclusive claim, both parties will be informed of the preventive action and how it will occur

RETALIATION

The company prohibits retaliation in any form. Adverse action will not be taken against any employee in response to:

- Filing or responding to a complaint of discrimination or harassment

- Participating in an investigation of a complaint
- Appearing as a witness in an investigation of a complaint

FINAL RECOURSE

The company believes any and all complaints can be resolved internally. Employees are, however, entitled to file complaints of harassment with the Equal Employment Opportunity Commission or other appropriate government agency.

EMPLOYEE CONDUCT EXPECTATIONS

PERSONAL LIABILITY

The company assumes no responsibility for lost or stolen personal articles, damage to personal vehicles, or theft of articles from personal vehicles.

- Keep personal possessions in your own possession or secured out of sight
- Report any loss/suspected theft to the HR Director; if you find what appears to be a lost/stolen article, give it to the HR Department
- Do not bring personal property onto company premises if it will create a safety hazard, inhibit your performance, or disrupt the performance of another employee
- Park only in designated parking areas
- Remove offensive bumper stickers, slogans, etc. from your personal vehicle that is parked on company premises

CELL PHONE USAGE

- Maintain outgoing and incoming calls for work purposes only
- Use good judgment when making personal calls (use appropriate breaks, keep conversations short)

JOB PERFORMANCE

- Unexcused or excessive absences, failure to document an absence, or irregular attendance/punctuality will not be tolerated
- Observe work hours, including scheduled start and quit times, breaks, or meal periods

ETHICS

The following are examples of unethical actions:

- Wasteful or unauthorized use of company supplies or equipment and/or mistreatment of company-issued equipment/material including credit cards, fuel cards, and store accounts.
- Performing unauthorized personal work on company time and/or using unauthorized company property
- Immoral conduct or indecency, abusive language, harassment, discriminatory behavior, or intimidation of other employees or other site personnel
- Theft, attempted theft, destruction, or inappropriate removal or possession of company or customer's property, including tools, equipment, material, vehicles, and/or electronic information
- Filing a fraudulent on-the-job injury claim or a false report of policy violation
- Falsifying records, including personnel, attendance, expense, timekeeping, or production
- The making or publishing of false or malicious statements concerning any employee, supervisor, or company information
- Distribution or posting of literature, photos, or other printed materials without management approval

SALVAGE POLICY

All salvaged material is the property of J. Ranck Electric, Inc. If a project has produced material that needs to be salvaged, contact the Warehouse Manager, who will coordinate the pickup and disposal of the material. If an employee is caught stealing salvaged material from J. Ranck Electric, Inc., or is involved in the act of doing so, the employee will be reprimanded, up to and including termination.

EMERGENCY RESPONSE PLAN (ERP)

SITE-SPECIFIC SAFETY PLAN

JOBSITE PROCEDURES

Prior to the start of any JRE job, a site-specific safety plan shall be completed. This plan shall include not only work-related hazards but will address how employees respond to emergencies that could take place on that job site. Information such as emergency contact numbers, jobsite address, locations of emergency equipment, tornado shelters, etc. shall be identified in this plan. Additionally, any customer-specific emergency response plans and the meaning and tone of customer alarm systems shall be identified in the plan.

Foreman will be responsible for communicating this information with employees prior to starting the job and shall ensure that any new employee(s) coming on the jobsite are aware of this information as well. The site-specific safety plan shall be posted in a conspicuous spot where all employees working at that job site can review it. Foreman will be responsible for recognizing any new hazards that arise throughout the duration of the job, updating the plan to include these hazards, and communicating the changes to all employees on that job.

OFFICE/WAREHOUSE PROCEDURES

All JRE office/warehouse/shop locations have a building emergency plan that provides information such as emergency contact numbers, address, locations and types of emergency equipment, alarm systems, tornado shelters, etc. The safety department will be responsible for communicating this information with employees as well as maintaining a posted copy of the plan for visitors to review.

MEDICAL EMERGENCIES

JOBSITE PROCEDURES

All JRE jobsites are required to have at least one employee trained in CPR/Basic First-aid procedures by Red Cross or an equivalent organization. Those trained in CPR/Basic First-aid shall be identified at the beginning of the job and documented on the JSA. Employees who become injured or witness an injury should immediately seek assistance from a trained employee. For minor injuries, first-aid measures may be taken on site by a trained employee or the injured employee may be transported via a company vehicle by the foreman. For serious injuries, local emergency response services should be contacted immediately. First aid measures will be taken while waiting for emergency responders to arrive. An employee should meet the emergency personnel at the site entrance and direct them to the injured employee. If a trained person is not available, an employee will immediately contact local emergency response services and may provide basic care to their comfort level. Refer to the [Accident/Incident Reporting Policy](#) and the [Bloodborne Pathogens Program](#) for more information on post-incident procedures.

Employees performing work on, or associated with, exposed lines or equipment energized at 50 volts or more will be trained in first-aid as follows:

- a. Field work involving two or more employees at a work location shall have at least two employees trained in first-aid/CPR.
- b. For fixed work locations such as substations, the number of trained persons available shall be sufficient to ensure that each employee exposed to electric shock can be reached within 4 minutes by a trained person.
- c. Where the existing number of employees is insufficient to meet this requirement (at a remote substation, for example), each employee at the work location shall be a trained employee

Note: Certain jobsites may have their own medical supplies or response teams, this information shall be communicated to employees working on the jobsite and documented in the site-specific safety plan.

OFFICE/WAREHOUSE PROCEDURES

All JRE office locations are stocked with first-aid supplies and one or more automated external defibrillator (AED) strategically placed throughout the building. Office/warehouse employees trained in CPR/Basic First-aid procedures are identified in the building emergency plan. Please refer to this plan for your location for more information on responding to and reporting a medical emergency.

FIRST-AID KITS

A first aid kit must be readily available in all JRE vehicles, job trailers, and gang boxes in a weatherproof container. The first aid kit shall contain basic supplies in accordance with ANSI Standard Z308.1-1998 or Appendix A of 29 CFR 1910.151. In addition to the minimum contents, a kit should have optional items added, based upon specific workplace hazards. The selection of additional supplies should be made by consulting with the safety department. First aid kits shall be checked for the proper contents and marked with the expiration date. After an injury, a new kit shall be requested, and the old kit shall be returned to the safety department to be restocked. Where the eyes or body of any person may be exposed to hazardous materials, suitable facilities for quick drenching or flushing of the eyes and face shall be made readily available.

FIRE EMERGENCIES

Not every jobsite or JRE workplace will have the same systems to handle a fire emergency. Attempts to extinguish the fire should only take place if the proper equipment is available, the employee is trained, and it is deemed safe to do so.

JOBSITE PROCEDURES

Procedures for fires that occur on a jobsite may vary depending on the customer's emergency response plan and should be well documented on the site-specific safety plan. Employees should be familiar with how to initiate proper response procedures for each jobsite. This could include pulling a fire alarm, contacting a site representative, or calling local emergency response services. Upon discovery of a fire, employees are expected to alert others and exit the area. The foreman shall assign an employee to go meet the emergency personnel at the site entrance and direct them to the hazard.

OFFICE/WAREHOUSE PROCEDURES

All JRE office and warehouse locations have a building emergency plan that describes the different types of fire protection systems and the hazards for that location. Employees are responsible for being familiar with these plans whenever they are working at one of these locations and know how to respond in the event of a fire. If a fire takes place at a JRE branch location employees should activate the fire alarm system (if applicable), exit the building, and notify local emergency response services.

FIRE PREVENTION EQUIPMENT

Fire extinguishing equipment will be selected and placed in all required areas per NFPA & DOT regulations. All mobile equipment and trucks will be equipped with fire extinguishers in a location that is easily accessible.

INSPECTION, TESTING, AND MAINTENANCE (ITM)

The JRE Safety Department shall ensure that the following inspection, testing, and maintenance of fire protection equipment is performed:

1. All employees are responsible for visually inspecting the pressure of fire extinguishers on a regular basis.
2. Monthly inspection of portable fire extinguishers and fire suppression systems (safety department).
3. Annual inspection of portable fire extinguishers and fire suppression systems (safety department).
4. 6-year internal inspection completed on stored pressure dry chemical extinguishers (3rd party).
5. 12-year hydrostatic test completed on stored pressure dry chemical extinguishers (3rd party).
6. JRE Safety Department shall ensure that alternative equivalent protection is provided when portable fire extinguishers are removed from service for maintenance and recharging.
7. Disposable extinguishers shall be removed from service after 12 years.
8. If the date of the manufacturer cannot be identified, the extinguisher shall be removed from service.

HOUSEKEEPING PROCEDURES

1. Fire extinguishers will be in easily accessible locations, be visible and unobstructed.
2. Emergency exits and aiseways will be clearly identified and kept free from obstructions.
3. General work areas will be kept clean and free of unnecessary debris.
4. Walking-working surfaces shall be inspected regularly and maintained in a safe condition.
5. Designated "NO SMOKING" areas will be observed.
6. Smoking or any open flame will not be permitted around flammable substances.
7. Discarded packing material or scrap will not be allowed to accumulate in open areas.
8. Sufficient number of wastebaskets and/or trash receptacles will be accessible in all work areas.

9. Floors will be swept or vacuumed to prevent accumulation of combustible materials.
10. Equipment will be kept clean (avoid buildup of fluids, grease, materials, etc.)
11. Spilled flammable and combustible materials will be cleaned up immediately.
12. Oil- or chemical-soaked rags will be discarded in an approved container.
13. Flammable liquids shall be stored in an approved container. Bulk flammable liquids shall be placed in a grounded flammable liquid cabinet.
14. The motor of any equipment being fueled shall be shut off during the fueling operation.
15. Keep areas around furnaces free from combustible materials.

RESCUE EMERGENCIES

Situations may arise where employees require rescue from harmful or dangerous situations in the workplace. These situations may include but are not limited to the following:

- Fallen Worker Rescue
- Pole Top Rescue
- Bucket Truck Rescues
- Confined/Enclosed Spaces
- Excavations

Employees shall not engage in any rescue operations unless properly trained to do so. Not every rescue situation is the same, and each requires specific types of training and equipment. Each type of rescue situation listed above falls under its respective policy in this Safe 365 Program, where specific emergency response guidelines for that hazard can be found. Employees are responsible for being familiar with these plans whenever their scope of work includes one of the above hazardous situations. If an employee requires rescue, notify local emergency response services and provide as much information as possible. An available employee will meet the emergency personnel at the site entrance and direct them to the situation. The foreman or designated employee must be available to answer any questions rescuers may have.

WEATHER-RELATED EVENTS

Prior to starting work on any jobsite employees must assess local weather conditions for the day. This assessment should be ongoing throughout the day and should focus on hazardous conditions that could threaten the safety of employees. Hazardous weather conditions could include but are not limited to, electrical storms, strong winds, tornados, heavy rain or snow, extreme temperatures, or dense fog. Current weather and expected weather changes should be reviewed, communicated to the crew, and documented on the JSA. Employees are ultimately responsible for their personal safety, should use sound judgment, and take appropriate action when faced with adverse weather conditions.

TORNADOS

When the National Weather Service has issued a tornado warning or watch, the foreman and safety department will closely monitor the National Weather Service reports. All employees will be kept updated on changing conditions. Foreman must consider the weather conditions they are seeing at the jobsite and may choose to seek shelter prior to a tornado warning taking place.

In the event of an announced tornado warning:

- At the time a tornado horn or siren sounds, employees must evacuate to their assigned shelter and away from all windows.
- Designated shelters for jobsites and JRE office/warehouse locations will be documented on the JSA and building emergency plan.

LIGHTNING

It is important to monitor weather forecasts and alerts when working outdoors. Watch the sky for storms developing overhead or nearby and seek shelter immediately when lightning is within 20 miles of the site. Employees will be released to return to work when it has been 20 minutes from the last strike within 20 miles of the site. Portable and hand-held lightning detectors are available upon request; however, these are never 100% accurate and cannot detect the first strike. The Weather Bug® lightning app may also be used to determine the distance between the user's location and the nearest lightning strike.

1. **Where to go:** While no place is 100% safe from lightning, some places are much safer than others. The safest location during a thunderstorm is inside a large, enclosed building with plumbing and electrical wiring. If the lightning strikes the building, the plumbing and wiring will conduct the electricity more efficiently than a human body. If no buildings are available, then an enclosed vehicle (pickup truck/van) makes a decent alternative. Remain in the building or vehicle **until it has been 20 minutes from the last strike within 20 miles of the site.**
2. **Where NOT to go:** Buildings that are NOT SAFE, even if they are “grounded” are those that have exposed openings (metal sheds, porches, or pavilions). Vehicles that are NOT SAFE during lightning storms are those that have open cabs (utility carts, ATVs, tractors, dozers, construction equipment).
3. **What to do:** Once inside, stay away from electrical appliances, plumbing fixtures, walls, and windows. Do not use corded phones unless necessary. If you are inside a vehicle, roll the windows up and avoid contact with any conducting paths leading to the outside of the vehicle (radios, CBs, etc.)
4. **If Caught Outside in a Thunderstorm:** Lightning is likely to strike the tallest objects in a given area—you should not be the tallest object. Avoid isolated tall trees, hilltops, utility poles, cell phone towers, cranes, large equipment, ladders, scaffolding, or rooftops. Avoid open areas, such as fields. Retreat to dense areas of smaller trees that are surrounded by larger trees, or retreat to low-lying areas (valleys, ditches) but watch for flooding. Avoid bodies of water such as pools or lakes. Stay away from all metal objects, equipment, and surfaces that can conduct electricity such as fences or metal siding.

SECURITY

Physical security concerns for jobsites and office/warehouse locations shall be addressed on an individual basis in the building emergency plan. Each plan will address issues of concern and methods to maintain the security of employees, customers, and assets for the specific location. JRE is committed to preventing internal or external theft of information or materials, as well as preventing violence of any sort from occurring in the workplace. In keeping with this commitment, the following subsections shall be referenced in the building emergency plans to adequately prepare employees for possible threats of violence that could occur in the workplace.

BOMB THREAT

Bomb threats are most commonly received via phone but are also made in person, via email, written note, or other means. Every bomb threat is unique and should be handled in the context of the facility or environment in which it occurs. The safety & security manager and law enforcement will be in the best position to determine the credibility of the threat. Law enforcement will assess the situation and provide guidance regarding facility lock-down, search, and/or evacuation. Employees are expected to comply with and be available for interviews with the safety & security manager and/or law enforcement.

In the event of a bomb threat:

- Remain calm.
- Notify the safety & security manager immediately
- Follow your building emergency plan for instructions on evacuation.
- Call 9-1-1 or your local law enforcement if the safety and security manager is unavailable

For Threats Made via Phone

- Keep the caller on the line as long as possible. Be polite and show interest to keep them talking
- DO NOT HANG UP, even if the caller does.
- Write down as much information as possible—caller ID number, the exact wording of threat, type of voice or behavior, etc.—that will aid investigators
- Record the call, if possible

For Threats Made in Person

- If the perpetrator leaves, note which direction they went
- Write down the threat exactly as it was communicated

- Note the description of the person who made the threat including race, gender, name (if known), type/color of clothing, body type, hair color, eye color, or any other distinguishing features.

For Written Threats

- Handle the document as little as possible
- Secure the original threat; If small/removable, place in a bag or envelope. If large/stationary, secure the location
- DO NOT alter the item in any way
- Rewrite the threat exactly as is on another sheet of paper and note the following:
 - Date/time/location document was found
 - Any situations or conditions surrounding the discovery/delivery
 - Full names of any personnel who saw the threat

For Emailed Threat

- Leave the message open on the computer
- Print, photograph, or copy the message

SUSPICIOUS PACKAGES

A **suspicious item** is any item (e.g., bag, package, vehicle, etc.) that is reasonably believed to contain explosives, an improvised explosive device (IED), or other hazardous material that requires a bomb technician and/or specialized equipment to further evaluate it. Examples that could indicate a bomb include unexplainable wires or electronics, unusual sounds, vapors, mists, or odors. Anything that is **Hidden**, **obviously** suspicious, and not **Typical (HOT)** should be deemed suspicious. If it appears to be a suspicious item, follow these procedures:

- Remain calm
- Notify the safety & security manager immediately
- Call 9-1-1 if the safety & security manager is not available
- Follow instructions of the authorities. Be prepared to explain why it appears suspicious
- Follow your building emergency plan for instructions on evacuation.
- Be aware. There could be other threats or suspicious items.

ACTIVE SHOOTER

When an active shooter is in the vicinity, employees must be prepared both mentally and physically to deal with the situation. The following will describe the best actions employees can take to help protect themselves and others in an active shooter situation.

1. RUN

- Have an escape route and plan in mind
- Leave your belongings behind
- Evacuate regardless of whether others agree to follow
- Help others escape if possible
- Do not attempt to move the wounded
- Prevent others from entering an area where the active shooter may be
- Keep your hands visible
- Call 911 when you are safe

2. HIDE

- Hide in an area out of the shooter's view
- Lock door or block entry to your hiding place
- Silence your cell phone (including vibrate mode) and remain quiet

3. FIGHT

- Fight as a last resort and only when your life is in imminent danger
- Attempt to incapacitate the shooter

- c. Act with as much physical aggression as possible
- d. Improvise weapons or throw items at the active shooter
- e. Commit to your actions . . . your life depends on it
- f.

4. ONCE LAW ENFORCEMENT ARRIVES

- a. Remain calm and follow instructions
- b. Drop items in your hands (e.g., bags, jackets)
- c. Raise hands and spread fingers
- d. Keep hands visible
- e. Avoid quick movements toward officers, such as holding on to them for safety
- f. Avoid pointing, screaming or yelling
- g. Do not ask questions when evacuating

Note: Do not activate the fire alarm if you are in a building.

LOCKDOWN

When an external threat is identified in the nearby community, a lockdown event may be initiated. Employees will be instructed to remain inside, away from windows and doors, and await further instruction from an emergency team leader. Exterior doors and windows will be locked and will remain locked until the external threat is deemed over. Please refer to your building emergency plan for more information.

TRAINING & IMPLEMENTATION

In the event of an emergency, employees should be prepared and know how to appropriately respond to the hazard. Therefore, the following training shall be provided to all employees by the safety department:

- Bi-Annual First-aid/CPR/AED training (available to all employees)
- Annual review of the Emergency Response Plan
- Annual workplace violence training to include Run, Hide, Fight
- Quarterly fire/tornado/emergency drills (office/warehouse employees)
- Designated employees shall be trained to assist in a safe and orderly evacuation of other employees.
- Periodic review and audit of JSAs for emergency preparedness.
- Annual training of all employees on the safe use of fire extinguishing equipment to include:
 - Location and proper use of fire suppression equipment
 - How to respond in the event of a fire
- Annual training on performing ITM of fire extinguishing equipment (designated employees)
- See Welding/Cutting/Hot Work program for additional fire watch training requirements.

STOP WORK AUTHORITY

RESPONSIBILITIES

Employees are responsible to initiate a Stop Work Intervention when warranted and management is responsible to create a culture where Stop Work Authority is exercised freely.

REQUIREMENTS

1. It is the safety policy of JRE to maintain a safe and secure work environment against any risk or exposure to personal harm or property damage. Each employee of JRE bears the responsibility for his/her own safety. Any attempt at coercion by a Supervisor, Foreman, or another contractor to ignore proper safety or conduct procedures should be reported immediately to the Safety Director and/or Human Resources.
2. A violation of this policy may be cause for disciplinary action, up to termination of employment. These rules do not cover every potential situation; judgment will need to be given when confronted with an unforeseen hazardous condition. All unsafe conditions must be reported to the supervisor immediately.
3. No employee will be disciplined for refusing to work under what is initially and reasonably perceived to be an unsafe condition. All employees have the right to stop any work they feel is unsafe or does not comply with JRE, client, local, state, or federal regulations/safe-work practices.
4. Every employee has not only the right to stop work when they feel it is unsafe but also the responsibility to intervene and actively participate in safe work practices.
5. When a person identifies a perceived unsafe condition, act, error, omission, or lack of understanding that could result in an accident, injury or other undesirable events, a 'Stop Work' intervention shall be immediately initiated to ensure that the identified unsafe condition, act, error, omission or lack of understanding is stopped and promptly corrected before further work is done.
6. Most 'Stop Work' interventions exercised under the authority of this program shall be documented as a Near Miss utilizing existing reporting protocols. The Near Miss report shall contain the words 'STOP WORK' at the beginning of the incident description to differentiate it from traditional Near Miss reports. 'STOP WORK' reports shall be reviewed by Management to:
 - a. Measure participation of employees
 - b. Determine the quality of interventions and follow-up
 - c. Trend common issues and identify opportunities for improvement
 - d. Facilitate the sharing of lessons learned

TRAINING

Training regarding the Stop Work Authority policy will be conducted as part of all new employee and subcontractor orientations. Additionally, a review of the policy shall be completed as part of all field location safety briefings and regularly in safety meetings.

EMPLOYEE DISCIPLINARY ACTION POLICY

Discipline may begin at any step appropriate to the situation, and all disciplinary action will be documented by HR and filed in your personnel file. Forms of discipline include:

DOCUMENTED COACHING

Your manager will address unacceptable performance or behavior with you. The discussion will include the nature of the problem and the action necessary to correct it. Corrective actions could include coaching by a direct supervisor or safety representative, meeting with management to discuss the incident, or a recommendation for needed training/education.

PROBATION PERIOD/SUSPENSION

With HR approval, a probation period and/or suspension, with or without pay, may be used to address unacceptable performance or behavior. In situations in which an investigation is necessary, you may be placed on suspension pending the results of the investigation. Full and transparent cooperation with the investigation, from all parties involved with the incident, is expected.

TERMINATION OF EMPLOYMENT

With HR and manager approval, your employment may be terminated for repeated violations, an egregious violation, or placing yourself, others, or the company in a position that is imminently hazardous to life, health, or operation of business.

Below is a partial list of behaviors that do not align with our core values (quality, safety, integrity, and family) and would subject you to disciplinary action:

- Violation of any OSHA and/or MIOSHA Standard
- Violation of any company policy
- Intentionally or unintentionally placing yourself and/or others in a position that is hazardous to health or life
- Possessing or being under the influence of alcohol or illegal drugs at work, including in vehicles
- Acts or threats of violence
- Wasteful or unauthorized purchases on company credit cards, fuel cards, company accounts, etc.
- Theft, attempted theft, or inappropriate removal or possession of company property
- Interfering with an investigation of any of the above

Observations of these behaviors should be immediately reported to HR and any pertinent managers. See the [Personal Conduct Policy](#) for details on reporting.

BEHAVIOR BASED SAFETY

GENERAL

1. J. Ranck Electric (JRE) Behavior Based Safety (BBS) initiative is an education and observation process used to improve safety and reduce risk in the workplace. This process uses a proactive approach and is intended to communicate to employees the elements and the procedures of BBS that will assist in reducing at-risk behaviors which in turn reduces injuries in our workplaces.
2. A culture of behavior-based safety focuses on daily safety behavior. Behavior Based Safety helps to observe and measure attitudes and behaviors that increase risk and provide feedback to encourage change. Instead of focusing solely on incidents, BBS is proactive, a leading indicator, and reinforces workplace safety.

PROCESS REQUIREMENTS

1. Safety awareness principals are the foundation of the Behavior Based Safety process. The key concepts teach employees to recognize at-risk behavior and when they may be in an at-risk situation.
2. An **observer** is anyone who has been trained in BBS observations and has access to the observation form.
3. The observation process is designed to raise safety awareness and provide a feedback mechanism for management to make changes in design, process or procedure to reduce at-risk behaviors. The key to this process is raising awareness of behavior through observation and feedback. The process has three key elements:

CONDUCTING OBSERVATIONS OF EMPLOYEE WORK BEHAVIOR

1. Observations provide direct, measurable information on employee work practices identifying both safe and unsafe behaviors. The process starts with the observation of workers, including fellow employees, other contractor employees, and customer employees, as they perform their tasks. Observers collect information about worker performance and provide feedback via the observation card. The emphasis is not on who was observed but rather what behavior was observed.
2. During the observation, the observer records their findings on the BBS Observation Form. Items to be observed include but are not limited to:
 - a. Personal Protective Equipment
 - b. Procedures / Methods
 - c. People
 - d. Work Environment
 - e. Equipment
3. Upon completion of an observation, the observer is expected to have a discussion with the observed to give feedback. The immediate feedback is the most beneficial part of the program. The observer will:
 - a. Review the observation with the observed employee.
 - b. Start with a positive comment and reinforce safe behaviors observed first.
 - c. Describe and discuss any unsafe behaviors observed.
 - d. Solicit from observed employee explanation of his/her unsafe behavior with open-ended questions.
 - e. Re-emphasize no consequence to the observed employee.
4. Documenting feedback allows management to assess what should be repeated and what should change to reduce risks in the workplace.

COLLECTION OF DATA AND PERFORMING TREND ANALYSIS

J. Ranck Electric, Inc. will compare these measurements and track these results so that comparisons can be made over time. Observers will record their observations electronically, using an online form. The data will automatically compile into a spreadsheet for review. JRE will collect data and performing trend analysis based on the information.

ELEMENTS OF AN ACTION PLAN AFTER THE TREND ANALYSIS IS COMPLETED

1. Once trend analysis is complete, appropriate action plans shall be developed to address unsafe behaviors. Action planning will include:
 - a. Evaluate unsafe behaviors from trend analysis and prioritize
 - b. Develop an action plan for unsafe behaviors based on comments and feedback from data sheets

- c. Designate responsible parties and timeframes within the action plan
 - d. Define who is responsible for action planning
 - e. Ensure management support - Action Plan Follow Up
 - f. All action plans shall be arranged by a set time period. To ensure the effectiveness of the BBS follow-up is necessary to ensure the closure of all actions listed. The follow-up process will include:
 - Monthly frequency for review of action by the project manager, senior management and employees.
 - Assign accountability for closeout of action plans within J. Ranck Electric, Inc.
 - Document archiving of action plans with completed action items.
 - Review data trends and use this information to upgrade employee training.
2. Critical Behaviors—An evaluation of the topics of observation will be reviewed after a trend analysis is completed. When topics observed meet critical strength, or are no longer applicable, that topic may be retired and replaced by a new topic.

TRAINING

Training on the observation process will include how to conduct the observation, how to complete the observation form, what do the behaviors mean, feedback training and role play (mentoring and coaching) and employees should be aware they may be observed at any time.

SUBSTANCE ABUSE POLICY

PRIVACY & CONFIDENTIALITY

JRE will apply its drug and alcohol testing policy in a reasonable and non-discriminatory manner. Tests will be administered discretely, and test results will be maintained in strict confidence. Every effort will be made to preserve the employee's right to dignity and privacy. Knowledge of the test results and disciplinary action will be limited to those who have a direct need-to-know. Any employee, upon written request, shall be provided with records relating to his/her drug or alcohol test result.

GENERAL REQUIREMENTS

It is the intent of JRE to provide a safe and secure site of employment for its workforce. It should be understood by all those who are covered by this practice that the following fundamentals are essential:

1. The misuse of "over the counter" or prescription medications on the jobsite or during the workday is prohibited.
2. The possession, use, distribution, and/or sale of alcohol and/or any controlled substances on the jobsite or during the workday is prohibited.
3. Any employee found to be in possession of or under the influence of a controlled substance and/or alcohol during the workday may be discharged for cause.
4. Employee cooperation is voluntary, however, refusal to undergo testing is grounds for termination.
5. The company supports drug and alcohol testing as required by a customer or other governing agencies such as the Federal Motor Carrier Safety Administration. When applicable, these policies may take precedence.
6. Once the employee is notified, they are to report immediately for testing, but no more than an hour after initial notification.
7. Employee must remain on the premises until testing is completed. If they choose to leave the premises, it will be considered a refusal to test and will result in termination of employment. (Premises are defined as the job trailer, drug testing facility, or general facility of where the drug testing is taking place).
8. Prior to providing a specimen, employees are required to remove all outer garments that could conceal items or substances used for tampering, such as jackets, bibs, coats, and vests. This also includes any visible base layer clothing that is not part of standard undergarments, such as compression shirts or leggings. Failure to comply will result in termination of employment.

PRE-EMPLOYMENT TESTING

Pre-employment testing will be required for employees who hold a CDL, CDL permit, or per customer site requirements. Prior to the first time an employee performs safety-sensitive functions for JRE, the employee shall undergo testing for controlled substances. JRE will not allow an employee to perform safety-sensitive functions unless the results of the controlled substance test results have been received from the MRO or C/TPA indicating a verified negative test result for that employee.

POST-ACCIDENT/POST-INCIDENT TESTING

An employee is to be promptly sent for a drug and alcohol test after an accident/incident when one of the following occurs:

1. Human fatality, bodily injury with immediate medical treatment away from the scene, and/or disabling damage to any motor vehicle requiring a tow away from the scene
2. An incident causing substantial property damage with testing at the discretion of the employer.

Post-accident/post-incident tests shall be conducted at an approved collection site, with testing coordinated through the Safety Department of JRE.

RANDOM TESTING

Random drug and alcohol testing will be required for employees who hold a CDL, CDL permit, or per customer site requirements. Random selections are pulled by a third-party consortium, which takes intra-company bias out of the equation and meets all requirements for programs which specify neutral third-party random selections.

REASONABLE SUSPICION/FOR-CAUSE TESTING

If an employee's supervisor or another company official designated to supervise employees has been properly trained in reasonable suspicion or for-cause testing and believes an employee is under the influence of alcohol or drugs, the employee will be required to undergo a breath test and/or urinalysis if testing requirements are met. This decision will be based on observations concerning the appearance, behavior, speech, or body odors of the employee. The employee's supervisor or

another company official will immediately remove the employee from all safety-sensitive functions and take the employee or make arrangement for the employee to be taken to a testing facility. An employee awaiting the results of a reasonable suspicion drug test will be suspended, without pay, pending the completion of all required tests. If results are negative, back pay will be provided if applicable. The person who makes the determination that reasonable suspicion exists may not administer the alcohol test. Reasonable suspicion alcohol testing is only authorized if the observations are made during, just preceding, or immediately after the employee is performing a safety sensitive function.

1. Safety sensitive functions include but are not limited to any job duty that directly affects the safety of oneself or others, where impairment could lead to serious injury, substantial property damage, and/or death.
2. All supervisors of employees working in safety-sensitive roles will undergo a Reasonable Suspicion Supervisor Training that consists of at least 60 minutes of training on the physical, behavioral, and performance indicators of probable drug use and at least 60 minutes of training on the physical, behavioral, speech, and performance indicators of probable alcohol misuse.

DESIGNATED EMPLOYEE REPRESENTATIVE (DER)

1. DER is an employee authorized by JRE to take immediate action to remove employees from safety-sensitive duties or cause employees to be removed from these covered duties, and to make the required decisions in the testing and evaluation processes. The DER also receives test results and other communications for JRE, consistent with the requirements of this part.
2. DER overall responsibilities:
 - a. Responsible for administering the Drug and Alcohol Program.
 - b. Liaison with drug and alcohol testing service agents.
 - c. To remove employees from safety-sensitive duties.
 - d. To make necessary decisions in the testing and evaluation process.

THIRD PARTY POLICIES FOR REFERENCE

1. [MUST](#)
2. [DISA \(DCCHT\)](#)

INCIDENT/INJURY REPORTING & INVESTIGATION

INCIDENT, INJURY, & ACCIDENT REQUIREMENTS

1. Incidents, injuries, accidents, and near misses must be reported to the immediate supervisor/foreman right away.
2. The supervisor/foreman (or another employee if foreman is unavailable) must immediately notify the Safety Department of all incidents, injuries, accidents, and near misses by calling 989-775-1001.
3. Failure to immediately report may jeopardize rights to collect worker's compensation benefits.
4. The Safety Department will speak to the foreman, document the incident, and conduct follow up as needed.
5. Employees who become injured or witness an injury should immediately seek necessary assistance. For minor injuries, first-aid measures may be taken on site by a trained employee or the injured employee may use a tele-med service as directed by the Safety Department, and if needed, be transported via a company vehicle by the foreman. For serious injuries, local emergency response services shall be contacted immediately. First aid measures shall be taken until emergency responders arrive. The JRE Safety Department must be contacted as soon as it is safe to make a phone call.
6. Per client contracts, incidents may need to be reported to the client.
7. Any incident, injury, or accident is subject to drug testing based on employer discretion.
8. JRE may impose work restrictions, in addition to physician recommendations after an injury. These restrictions will be immediately coordinated with the Labor Department and the foreman.
9. Any employee may be assigned additional duties including training, safety audits, safety observations, paperwork, etc.
10. All incident/injury/accident information is stored in the incident log and reviewed by the safety committee on a regular basis.

MEDICAL FACILITY VISIT

1. Safety will determine the appropriate medical facility the injured employee is required to visit. Unless otherwise approved by the Safety Department, a JRE representative must accompany the injured employee to the medical facility and the injured employee must not drive.
2. JRE Safety Department will send, typically by fax, the Medical Treatment Authorization and Return to Work Form to the medical facility.
3. After the physician completes the examination, request that he/she completes the Medical Treatment Authorization and Return to Work Form and signs it. If the doctor will not complete the form, the injured employee and designated representative will complete the form with assistance from the Safety Department.
4. The injured employee shall contact the JRE Safety Department immediately following release from the medical facility. The Medical Treatment Authorization and Return to Work Form must be sent to the Safety Department and all information regarding the injury must be relayed to the Safety Department.
5. The Safety Department must inform the Labor Department of any injury details as soon as possible to prevent further injury of the employee.
6. The foreman and the injured employee will assist the Safety Department in completing the Incident Report.
7. Injured employees may not return to regular duty, under any circumstances, without written authorization from their medical provider and JRE Safety Department. Medical Provider authorization must be sent to the Safety Director.
8. The foreman must receive notification from the Safety Department before allowing the injured employee to return to work.
9. If you have been placed off work by a physician, ensure that the completed Medical Treatment Authorization and Return to Work Form is sent to the JRE Safety Department immediately. If you remain off work, contact the JRE Safety Director regularly to report your progress.
10. All treatment for a work-related injury or illness must be coordinated through the JRE Safety Department. If you are treated by another physician, each appointment, any treatment ordered (including physical therapy), and any diagnostic testing will need to be authorized through the JRE Safety Department. Failure to get authorization may result in personal responsibility for medical expenses incurred. Any treatment/testing authorized will require you to sign a release of medical information form for that specific treatment/testing.
11. The employee shall cooperate fully with our Safety Department. This could include seeing another physician for a second opinion.

NO MEDICAL FACILITY VISIT OR REFUSAL OF MEDICAL TREATMENT

Injured employees may refuse medical treatment. JRE requires an injured employee refusing medical treatment to sign the Medical Treatment Refusal Employee Information form.

EMPLOYEE NON-WORK-RELATED INJURY

1. Employees who come to work with non-work-related injuries must immediately inform their supervisor/foreman.
2. The supervisor/foreman is responsible to inform the JRE Safety Department immediately.
3. The JRE Safety Department will document all non-work-related injuries.
4. JRE may require the employee to be seen by a physician before returning to work.
5. JRE may provide reasonable accommodation for non-work-related injuries.

VEHICLE ACCIDENT REQUIREMENTS

1. All vehicle accidents must be reported to the Safety Department immediately.
2. All employees are subject to post-accident drug testing based on employer discretion.

DOT POST-ACCIDENT PROCEDURE

1. Move out of the way of traffic, shut down your vehicle and comply with all emergency warning requirements (flashers, cones, etc.)
2. Call the police, even in a minor accident. If someone is injured, request medical assistance.
3. Contact the JRE Safety Department.
4. Listen, but do not discuss the accident with anyone other than the police, insurance company, JRE representative, or JRE official. State facts only and do not admit fault.
5. Attempt to obtain names, addresses, company names, vehicle & license plate numbers, and insurance information from all parties involved, including witnesses.
6. Do not give a statement to anyone but your lawyer, police officer, JRE official, or insurance company representative.
7. Secure your logbook.
8. Do not leave the scene until otherwise instructed by the JRE Safety Department. Do not drive unless instructed by the JRE Safety Department.
9. Drug/alcohol testing may be required. Contact the Safety Department immediately for direction.
10. The driver will assist the safety department in completing the incident report.

NON-DOT POST-ACCIDENT PROCEDURE

1. Move out of the way of traffic, shut down your vehicle and comply with all emergency warning requirements (flashers, cones, etc.)
2. Call the police, even in a minor accident. If someone is injured, request medical assistance.
3. Contact the JRE Safety Department.
4. Listen, but do not discuss the accident with anyone other than the police, insurance company, JRE representative, or JRE official. State facts only and do not admit fault.
5. Obtain names, addresses, company names, vehicle & license plate numbers, and insurance information from all parties involved, including witnesses.
6. Do not give a statement to anyone but your lawyer, police officer, JRE official, or insurance company representative.
7. Drug/alcohol testing may be required. Contact the Safety Department immediately for direction.
8. The driver will assist the safety department in completing the incident report.

INCIDENT/INJURY/ACCIDENT INVESTIGATION

1. Upon knowledge of an incident, the Safety Department may arrange a root cause investigation with the site foreman and affected employee to determine suitable corrective measures.
2. All incidents/accident will be investigated to the appropriate level with regard for incident severity.
3. Investigation equipment must be made available to facilitate a full investigation.
4. Collection of evidence such as people, positions of equipment, parts, and documents must be preserved, secured, and collected through notes, witness statements, and photographs. Witness statements and interviews must be collected, detailed, and unbiased in testimony.

5. Lessons learned shall be reviewed and communicated across the organization. Any process changes must be placed in effect to prevent future reoccurrence of similar events.
6. The Safety Department will follow up with the employee to determine if additional training is necessary.

TRAINING

1. All JRE employees will be trained in incident, injury, and accident reporting.
2. All JRE foreman will be trained in incident response procedures.
3. JRE Safety Department will be trained in incident response and investigation.

DOCUMENTATION & RECORDKEEPING

1. Written records of all work-related fatalities, injuries, and illnesses will be documented and stored electronically by the Safety Department.
2. All recordable illnesses and injuries will be recorded on the OSHA 300 Log within 7 calendar days of receiving information of the injury or illness.
3. The OSHA 300A Summary will be signed by a company official.
4. The annual OSHA 300A Summary will be posted from February 1 – April 30 in a place visible to employees.
5. OSHA recordkeeping forms must be maintained for 5 years.

J. RANCK ELECTRIC REFUSAL OF MEDICAL TREATMENT

Incident Date: _____

Job Title: _____

Employee Name: _____

Location: _____

Supervisor: _____

INJURY/INCIDENT SUMMARY:

MEDICAL TREATMENT OFFER

You have been informed that medical evaluation and/or treatment is recommended for this condition or incident. You have been advised that:

1. You are encouraged to seek prompt medical evaluation by a licensed healthcare provider Any first aid or evaluation provided onsite is not a substitute for professional medical care.
2. You may seek medical care at any time following this incident.
3. Some injuries or conditions may not appear serious immediately but can worsen or develop complications without proper medical assessment.
4. Depending on company policy, jobsite requirements, or incident circumstances, post-incident drug and/or alcohol testing may be required, regardless of whether you choose to receive treatment at this time.
5. If later, you seek medical treatment or miss work due to this incident, you must notify your supervisor as soon as practicable.

EMPLOYEE REFUSAL STATEMENT

I acknowledge that I have been informed of the recommendation to seek medical evaluation and/or treatment. I understand the potential risks of declining medical care at this time.

I am voluntarily choosing to:

Refuse medical evaluation and/or treatment at this time

Employee initials: _____

REFUSAL ACKNOWLEDGEMENT (IF APPLICABLE)

I understand that I may change my decision and seek medical care at any time. I acknowledge that this refusal does not affect my ability to report the incident, seek medical attention later, or pursue any benefits to which I may be entitled under applicable workers' compensation laws or other legal remedies.

Employee Signature

Date

Witness Signature

Date

Witness Signature

Date

RETURN TO WORK POLICY

GENERAL REQUIREMENTS

1. This policy covers scenarios relating to an employee's ability to return to work after experiencing an injury, personal sickness, or disability. The scenarios include but are not limited to:
 - Returning to work on a regular schedule with no restrictions
 - Returning to work on a regular schedule with restrictions and receiving a Modified Duty Assignment, if available
 - Inability to return to work
2. The goal of this program is to enable employees to continue using skills and abilities temporarily limited by injury, sickness, or disability when modified duty positions are available.
3. Modified duty assignments are not a matter of right. The number, availability, and duration of such assignments are limited by departmental needs as defined by the Safety and Labor Departments.

MODIFIED DUTY

1. Modified duty is an assignment which is for a specified and limited period and fulfills a necessary job function, appropriate to the employee's skills and level of experience as determined by JRE, and which the employee can perform without violating any medical restriction imposed due to a temporary disability, sickness or injury.
2. Employees who are released to return to work on a regular or reduced schedule basis but with temporary job restrictions, (as documented on the Medical Treatment Authorization and Return to Work Form), may be eligible for a modified duty assignment as defined in this section.
3. The Safety Department, with assistance from the Labor Department, may require the employee to perform certain modified duty assignments on a temporary basis.
4. The employee cannot return to work without a release from a physician. If the employee returns to a transitional/temporary job, the employee must make sure that he or she does not go beyond either the duties of the transitional/temporary job or the physician's restrictions.
5. Failure of an employee to report for modified duty assignments may jeopardize the availability of the assignment and may be grounds for termination.
6. If the employee's restrictions change at any time, he or she must notify the Safety Department and give the Safety Department a copy of the new medical release.
7. The modified duty assignment ends on the earliest of:
 - a. The date the employee is released to his/her regular schedule with no restrictions as evidenced on the Physician's Release to Medical Treatment Authorization and Return to Work Form;
 - b. The date the employee fails to take a required medical examination, without good cause.
 - c. If JRE decides the modified duty is no longer available.

RETURN TO WORK PROCEDURES

1. The Medical Treatment Authorization and Return to Work Form will be completed by a physician and shall include the probable length of the restrictions and the nature of the restrictions.
2. Once the employee has seen a physician and the physician has completed the Medical Treatment Authorization and Return to Work Form indicating that the employee can return to work, the procedures below will be followed:

RETURN TO WORK WITH REGULAR HOURS AND NO RESTRICTIONS:

The Safety Department shall receive the completed Medical Treatment Authorization and Return to Work Form noting no restriction from the physician.

RETURN TO WORK WITH RESTRICTIONS:

1. Restrictions noted by the Physician on the Medical Treatment Authorization and Return to Work Form may be:
 - Restricted duties (For example, limitations on lifting, walking, stooping, bending, etc.), and/or
 - A restricted number of hours worked per day or per week, with or without limitations on the duties performed.

2. If the physician releases the employee to return to work with restrictions, the form must be submitted to the Safety Department prior to or immediately upon return to work for consideration of a modified duty assignment. The Safety Department will review the restrictions and determine if the employee is eligible for a modified duty assignment.
3. If the employee is approved for a modified duty assignment, the employee must make sure to comply with the restrictions outlined in the Medical Treatment Authorization and Return to Work Form. If the employee's restrictions change at any time, he/she must notify the supervisor/foreman immediately.
4. While working a modified duty assignment, the employee may be required to provide periodic updates from his/her physician up to every 30 days. The employee may also be required to submit to a periodic physical examination as a condition of continued modified duty status.
5. If the employee is unable to perform the modified duty assignment, the employee will contact the physician to review and update the Medical Treatment Authorization and Return to Work Form.
6. The supervisor/foreman will be made aware of the employee's modified duty status and all restrictions.
7. The supervisor/foreman will monitor the employee's performance to ensure the employee does not exceed the restrictions.
8. The Safety Department will monitor the employee's recovery progress through regular contact to assess when and how often duties may be changed.

INABILITY TO RETURN TO WORK:

1. If the employee is unable to return to work, with or without restrictions, the employee must notify the Safety Department as soon as possible.
2. While off work, it is the responsibility of the employee to supply the Safety Department with a current telephone number, email address and mailing address where the employee can be reached.
3. The employee will notify the Safety Department as soon as practicable of all changes in medical condition.

J. Ranck Electric Inc.
1993 Gover Parkway Mt. Pleasant, MI 48858
Phone: 989-792-3822 FAX: 989-775-1002

To be completed by authorized J. Ranck Electric Inc. Representative	<u>AUTHORIZATION FOR MEDICAL SERVICES</u> To: _____ Date: _____ Medical Facility This will authorize necessary treatment and care of a potential work-related injury or illness for: _____/_____/_____ Employee Name Date of Injury Location of Incident Authorization Signature (J. Ranck Electric Inc. Representative) *This authorization is for treatment on this date only. Subsequent treatment will require separate authorization. *
	<u>PROVIDER INFORMATION</u> Please complete the J. Ranck Electric Inc. "Release for Return to Work" form. This form and any records pertaining to a work-related injury or illness <u>must be immediately faxed</u> to J. Ranck Electric Inc. Safety Department at (989) 775-1002. Please refer employee to J. Ranck Electric Inc. Safety Department, for all subsequent and follow-up treatment authorizations. Please forward report of treatment and all billings to: J. Ranck Electric Inc., Safety Department, 1993 Gover Parkway, Mt. Pleasant, MI 48858 First Aid Treatment Provided by Employer: Safety Data Sheet:
	<u>RELEASE OF MEDICAL INFORMATION</u> This will authorize the release of any and all medical information regarding my physical condition and/or specifically: _____ This information is to be released for the purpose of treatment for potential work-related injury or illness to the attention of: J. Ranck Electric Inc. Patients Signature _____ Date: _____ Patients Name (Printed) _____ Witness: _____

J. Ranck Electric Inc.
1993 Gover Parkway Mt. Pleasant, MI 48858
Phone: 989-792-3822 FAX: 989-775-1002

RELEASE FOR RETURN TO WORK

To Be Completed by Authorized J. Ranck Electric Representative	Employee Name:		Social Security Number: XXX-XX -		Date of Birth:	
	Location of Injury:		Date of Injury:		Date Injury Reported:	
	Description of Normal Job Duties:				Home Phone Number:	
	Description of Injury/Illness:					
	Signature of RN/EMS Personnel/ or Supervisor:				Date: Phone #:	
To Be Completed by Treating Physician	Date of Treatment:		☐ Condition appears work-related ☐ Condition appears non-work-related		☐ Employee sent home ☐ Employee sent to work	
	<i>* J. Ranck Electric Inc. has an alternate duty return-to-work program to allow all injured employees to return to active employment while recuperating from their injury or illness. Please indicate if any activity limitations should be placed on this employee:</i>					
	☐ Return to Full Duty Date: _____					
	☐ Activity Limitations Start Date: _____ End Date: _____					
	☐ No lifting over ____ pounds ☐ No repetitive bending/twisting/stooping ☐ No squatting/kneeling ☐ Limited ladder/stair climbing ☐ No over the shoulder/overhead lifting ☐ Limited/No use of _____ (please circle limited or no) ☐ Limit standing to ____ minutes/hr ☐ Sit/Stand as needed ☐ Keep clean and dry ☐ Other: _____ _____ _____					
	Diagnosis & Prognosis:					
	Treatment Given:			Medication Prescribed/Recommended:		
	Signature of Treating Physician:		Date:	Patient's Signature:		Date:
Name and Address of Treating Facility:						
Follow-up: Employee to contact J. Ranck Electric Safety Director next business day for follow up of return-to-work accommodations.						

****FAX this report to J. Ranck Electric Inc., fax number (989) 775-1002 (secure and confidential) when treatment is completed. Thank you.**

JOB SAFETY ANALYSIS (JSA)

Job Safety Analysis (JSA) is a process to evaluate the work environment by reviewing job steps, evaluating hazards, and planning controls of each job. The purpose of which is to identify the hazards and the methods to eliminate or control those hazards that may be encountered during work. A JSA is to be used to plan the job and is a communication tool. Pre-planning will increase safety and productivity.

GENERAL REQUIREMENTS

- Processes are in place to identify potential hazards by using the JSA's and site-specific safety plans.
 - All jobs must have a JSA performed.
 - Each job has a Site-Specific Safety Plan. Each employee reporting to a location shall review the Site-Specific Safety Plan which contains site-specific safety requirements.
- Unsafe hazards must be reported immediately and addressed by the supervisor. The supervisor discusses the worksite hazard assessment with employees at the respective work location during the employee's documented orientation.
- Each foreman shall perform a JSA before each work shift and all hazards must be identified.

Figure 1.1

RISK ASSESSMENT MATRIX				
SEVERITY PROBABILITY	Catastrophic (1)	Critical (2)	Marginal (3)	Negligible (4)
Frequent (A)	High	High	Serious	Medium
Probable (B)	High	High	Serious	Medium
Occasional (C)	High	Serious	Medium	Low
Remote (D)	Serious	Medium	Medium	Low
Improbable (E)	Medium	Medium	Medium	Low
Eliminated (F)	Eliminated			

- All affected employees and subcontractors must participate in the JSA process.
- All JSA forms shall be maintained on site for the duration of the day on the JSA app, unless customer requires their process.
- When the process or work responsibilities change, including weather and location changes, the JSA will be updated to reflect the current job requirements.
- It is usually necessary to identify which jobs are to be analyzed. Even if an analysis of all jobs is planned, this step ensures that the most critical jobs are examined first.

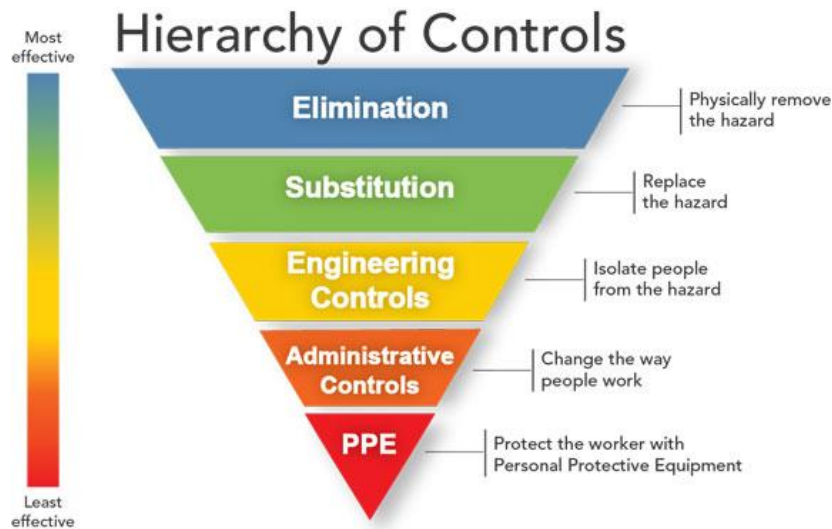
RISK ASSESSMENT AND HAZARD MITIGATION

Hazards are classified and ranked based on severity (see chart above). Risk assessed hazards are addressed and mitigated by implementing control methods including engineering or administrative controls and PPE. No work will begin before the JSA is completed.

HIERARCHY OF CONTROLS

1. **Elimination or Substitution:** Eliminating the hazard completely is always the first choice (e.g. redesign the work process). Substitution involves replacing the material or process with a less hazardous one.
2. **Engineering Controls:** If it's not practical to eliminate the hazards or substitute safer alternatives, engineering controls are the next best options. Engineering controls are physical changes to the workplace that prevent workers from being exposed to a hazard and may include machine guards, noise enclosures, ventilation to dilute the concentration of a hazardous substance). For example, while working at heights cannot be avoided in construction, guardrails can be installed to prevent falls from happening.
3. **Administrative Controls:** Administrative controls involve identifying and implementing safe work procedures. A risk assessment will form the basis of these safe work procedures. Examples of administrative controls include implementing working alone procedures, training, supervision, and rotating work responsibilities to limit the time exposed to be below the action limits.
4. **PPE:** Personal protective equipment is a common control and is the last resort to protect workers from hazards that are difficult to eliminate or engineer out. For example, the use of protective eyewear will help to reduce the exposure risk to foreign bodies for work involving cutting and grinding but is no substitute for proper guarding, body position, and training.

Figure 1.2



JOB SAFETY ANALYSIS PROCEDURE

1. Select the job to be analyzed—Factors to be considered in setting a priority for analysis of jobs include:
 - a. Accident frequency and severity: jobs where accidents occur frequently or where they occur infrequently but result in serious injuries. (see [Risk Assessment Matrix](#))
 - b. Potential for severe injuries or illnesses: the consequences of an accident, hazardous condition, or exposure to harmful products are potentially severe.
 - c. New jobs: due to lack of experience in these jobs, hazards may not be evident or anticipated.
 - d. Modified jobs: new hazards may be associated with changes in job procedures.
 - e. Infrequently performed jobs: workers may be at greater risk when undertaking non-routine jobs
2. Break the job down into a sequence of steps—Each step is recorded in sequence. Make notes about what is done rather than how it is done. Each item is started with an action verb.
3. Identify potential hazards (this is not a complete list):
 - a. Can any body part get caught in or between objects?
 - b. Do tools, machines, or equipment present any hazards?
 - c. Can the worker make harmful contact with moving objects?
 - d. Can the worker slip, trip, or fall?
 - e. Can the worker suffer strain from lifting, pushing, or pulling?

- f. Is the worker exposed to extreme heat or cold?
 - g. Is excessive noise or vibration a problem?
 - h. Is there a danger from falling objects?
 - i. Is lighting a problem?
 - j. Can weather conditions affect safety?
 - k. Is harmful radiation a possibility?
 - l. Can contact be made with hot, toxic, or caustic products?
 - m. Are there fumes, mists, clouds of dust, or vapors in the air?
4. Determine preventive measures to overcome these hazards
- a. Eliminate the hazard—These techniques should be used to eliminate the hazards:
 - i. Choose a different process
 - ii. Modify an existing process
 - iii. Substitute with a less hazardous product
 - iv. Improve environment (e.g., ventilation)
 - v. Modify or change equipment or tools
 - b. Contain the hazard—If the hazard cannot be eliminated, contact might be prevented by using enclosures, machine guards, guardrails or similar devices.
 - c. Revise work procedures—Consideration might be given to modifying steps which are hazardous, changing the sequence of steps, or adding additional steps (such as locking out energy sources).
 - d. Reduce the exposure—These measures are the least effective and should only be used if no other solutions are possible. One way of minimizing exposure is to reduce the number of times the hazard is encountered. An example would be modifying machinery so that less maintenance is necessary.
 - e. The use of appropriate personal protective equipment may be required. To reduce the severity of an incident, emergency facilities, such as eyewash stations, may need to be provided.
 - f. In listing the preventive measures, do not use general statements such as "be careful" or "use caution". Specific statements which describe both what action is to be taken and how it is to be performed are preferable.
5. Communication—The plan identified on the JSA is to be communicated to the work crew. The steps and expectations of the plan must be explained.

TRAINING

JRE employees are provided training on the JSA process, including hazard identification and risk assessment. Employees are encouraged to communicate all hazards they identify, stop the job, discuss, and determine what the corrective action will be to eliminate the hazard.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

The purpose of the Personal Protective Equipment Policies (PPE) is to protect the employees of JRE from exposure to workplace hazards and the risk of injury by using PPE. PPE is not a substitute for more effective control methods and its use will be considered only when other means of protection against hazards are not adequate or feasible. It will be used in conjunction with other controls unless no other means of hazard control exist.

GENERAL REQUIREMENTS

1. JRE employees are responsible for using PPE as prescribed by JRE.
2. Employees are required to wear the correct PPE for the job being performed.
3. JRE will provide all required PPE except the following: long-sleeve shirts, long pants, normal work boots, and ordinary clothing.
4. Employee-owned PPE must be approved by the safety department—employees will not be reimbursed.
5. PPE shall be inspected before each use. Defective or damaged PPE shall not be used. The foreman and/or safety department shall be notified to replace damaged equipment.
6. Employees are responsible for assuring the proper care, use, maintenance, and inspection of company-owned and employee-owned PPE, per manufacturers recommendations.
7. PPE shall be provided, used, and maintained in a sanitary and reliable condition.
8. PPE must meet NIOSH or ANSI standards and comply with manufacturers recommendations.
9. Affected employees whose jobs require the use of PPE will be informed of the PPE selection and will be provided PPE by JRE at no cost. Careful consideration will be given to the comfort and proper fit of the PPE to ensure that the right size is selected and that it will be used.
10. All JRE required PPE shall be used properly unless a variance is issued by the safety department.

SELECTION OF PPE

1. A Job Site Analysis (JSA) must be completed to determine if hazards are present or likely to be present which may necessitate the use of PPE.
2. The designated person will conduct, review, or update the JSA for PPE whenever the job changes, new equipment or a process is installed, there has been an accident, or it's requested by a Safety Representative.
3. Once the hazards have been identified, the designated person will determine if the hazards can first be eliminated or reduced by methods other than PPE. The JSA must be signed by the person who completes the PPE assessment.
4. Refer to the [JSA policy](#) for more information.
5. For help determining what PPE is required, refer the PPE Hazard Assessment guide below:

 EYE HAZARDS Part 33 Rule 3312 ☐ flying particles ☐ dust & dirt ☐ chemical splash ☐ molten metal ☐ sparks ☐ weld flash ☐ electrical other:	 HAND HAZARDS Part 33 Rule 3392 and 3387 ☐ skin absorption ☐ punctures ☐ cut or laceration hazard ☐ chemical or thermal burns other:
 HEAD HAZARDS Part 33 Rule 3370 ☐ falling objects ☐ hot surfaces ☐ flying objects ☐ electrical ☐ hair entanglement ☐ chemicals other:	 FOOT HAZARDS Part 33 Rule 3385 ☐ wet process areas ☐ flying objects ☐ rolling objects ☐ logging areas ☐ powered lawn equipment other:
 FACE HAZARDS Part 33 Rule 3312 ☐ impact hazards ☐ chemical ☐ heat ☐ torch cutting ☐ welding ☐ casting ☐ high temperature exposures other:	 BODY HAZARDS Part 33 Rule 3394 ☐ wet process areas ☐ chemical ☐ buffing ☐ sand blasting ☐ polishing ☐ hot liquid (water, grease, acids, etc.) other:
 HEARING HAZARDS Refer to Occupational Health Rules ☐ loud process and/or equipment ☐ air and electrical impact tools ☐ forging ☐ logging ☐ tree trimming other:	 BREATHING HAZARDS Refer to Occupational Health Rules ☐ spray finishing ☐ fumes ☐ vapors ☐ foundries ☐ dust ☐ welding ☐ permit required confined spaces other:

REQUIRED PPE

HEAD PROTECTION

1. Class E Type 1 hardhats shall be worn on all construction sites at all times, and at warehouse locations when performing any overhead work. Chin straps are provided upon request.
2. Exceptions are limited to the following:
 - a. Inside of cabbed vehicles/equipment, provided that the following hazards do not exist: falling or flying objects, electrical shock/burns, or other harmful contact/exposures. The vehicle/equipment must have overhead protection in place.
 - b. In designated safe zones or finished areas of buildings where overhead work is not being conducted. Designated safety zone must be noted on the JSA and easily identifiable.
 - c. When going to and from the jobsite at lunch/breaks, start/finish or shift. No overhead hazard may be present.

EYE AND FACE PROTECTION

1. Eye protection is required on all construction sites and at warehouse locations when performing any physical work.
2. Tinted safety glasses shall not be worn indoors or outside of daylight hours—indoor/outdoor glasses are acceptable.
3. Eye and face protection must be durable, capable of being disinfected, and be kept clean and in good repair.
4. Eye and face protection must fit tightly without interfering with the movement or vision of the employee.
5. In addition to safety glasses, a face shield is required for the following tasks:
 - a. Using a grinder
 - b. Cutting concrete using a high-speed rotation blade
 - c. Cutting metal using a high-speed rotation blade
 - d. Using a power chipping hammer
 - e. Using high-pressure water to remove material
 - f. Using a chainsaw (special mesh face shield is allowable)
 - g. Working with chemicals (Refer to SDS)
 - h. Welding and torch cutting (refer to the Welding and Cutting Program)

FOOT PROTECTION

1. On construction sites and while performing work in JRE warehouses, employees must wear safety-toed boots with slip-resistant and puncture-resistant soles. JRE does not provide non-specialty safety-toed boots.
2. During hand demolition of concrete/masonry, metatarsal guards must be worn on the boot.
3. Employees and visitors wearing closed toed shoes may visit warehouse personnel, staying clear of any material handling and active physical work.

HAND PROTECTION

1. Gloves shall be worn while performing any physical work on construction sites or in JRE warehouses, with limited exceptions.
2. Gloves shall fit snugly.
3. Foremen shall work with the Safety Department to identify the best glove for each task.
4. The following tasks are recognized as tasks that do not require the use of gloves while performing:
 - a. Driving a vehicle
 - b. Installing labels on wires or equipment
 - c. Operating a phone/tablet/computer away from hazards
 - d. Reviewing and marking up drawings, filling out forms and other paperwork
 - e. Eating lunch/taking break
 - f. Restroom breaks
 - g. Drink breaks
 - h. Traveling through JRE warehouses, not performing any physical work
5. Any non-use of gloves not listed above must be identified on the JSA and approved by JRE Safety department.

CLOTHING

1. Shirts must have a minimum of 4" sleeves. A long sleeve shirt may be required where employees are exposed to sharp objects or thermal hazards.
2. High visibility clothing must be worn on the outermost layer on all worksites and in all warehouses. Reflectivity is required in ANSI Class II or Class III configuration when working near the roadway and where there is limited light.
3. Vests will be provided in either bright orange or bright yellow. Shirts and coats must be the same color as high visibility vests to be considered high visibility. High visibility apparel must be replaced when it becomes faded, torn, dirty, worn, or defaced.
4. Arc flash gear will be worn as needed per JRE [Power Transmission and Distribution Policy](#).
5. Fire resistant clothing will be worn per JRE [Welding, Cutting, and Hot Work Policy](#).

HAIR

Employees with long hair, beards, or mustaches who work with rotating machinery or equipment must have hair pulled back or out of the way to ensure the hair does not create a hazard. Judgment will be made by the Foreman and reviewed by the Safety Department.

TRAINING

1. Any worker required to wear PPE will be trained to know when and what type of PPE is necessary, the limitations of PPE, and proper disposal of PPE.
2. Any worker required to wear PPE will receive training in the proper use and care of PPE before being allowed to perform work requiring the use of PPE. Periodic retraining will be offered to PPE users as needed.
3. After the training, the employees will demonstrate that they understand how to use PPE properly, or they will be retrained. Training will be documented and kept on file.

ADDITIONAL REQUIRED PPE

1. [Respiratory Protection](#)
2. [Working Near Water](#)
3. [Construction Noise Exposure](#)
4. [General Industry Noise Exposure](#)
5. [Power Transmission and Distribution](#)
6. [Welding, Cutting, Hot Work](#)
7. [Fall Protection](#)

JOB COMPETENCY PROGRAM

PROGRAM REQUIREMENTS

1. To effectively reduce the risk of employee injury, the following competencies are to be considered for each job task and operation:
 - a. Experience
 - b. Level of knowledge
 - c. Capability to perform the task
2. Job titles and role responsibilities have been established by JRE. Employees are trained based on their position and their exposure to risk. The required training is entered into each employee's profile.
3. Minimum qualification requirements are identified for each role by JRE. Safety training completion for the indicated job title is required before full qualifications are met to allow an employee to begin work.
4. JRE ensures that documentation is acquired from employees as proof that they are qualified to perform their job duties. Based on the job description requirements, documentation may include educational, certifications, licenses, prior acceptable training course completion, etc. For union employees, this is verified by the union hall referral. Documentation is reviewed and confirmed during the employee hiring process.
5. Employees are provided job-specific training related to their roles and responsibilities. All employees must be trained on the tasks they perform on a regular basis. Training is identified in our training matrix which specifies safety and health training needs by job title.
 - a. All training records are maintained by JRE.
 - b. Employees shall not conduct tasks in which they have not been trained.
 - c. Competency is verified before employees are permitted to perform tasks independently. A competent person must verify that an employee is competent to perform their roles and responsibilities before being allowed to work independently.
 - d. Formal training sessions are conducted either on- or off-site by a competent instructor for the required subject matter.

FITNESS FOR DUTY POLICY

FIT FOR DUTY REQUIREMENTS

1. Employees are responsible for managing their health in such a way that they can safely perform their essential job functions, with or without reasonable accommodation.
2. Employees need to have the required skills to perform their assigned tasks. This is evaluated and documented by any of the following:
 - a. Prior employment reference checks
 - b. Certifications, licenses or other documentation verification
 - c. Task testing
 - d. On the job monitoring
 - e. Performance evaluations
 - f. Training and training retention
3. Employees must notify their supervisor when taking prescription or over-the-counter medication that could impair their ability to work safely. The supervisor will then coordinate with the Safety Department.
4. Supervisors trained in reasonable suspicion will monitor employee activities and behaviors to determine if employees should be removed from the work site based on JRE drug and alcohol program requirements.
5. Disciplinary action may occur for an employee reporting to work in a condition which could endanger their safety or the safety of any other person.
6. All employees shall follow the JRE Substance Abuse Policy.

FATIGUE MANAGEMENT

1. Fatigue will be managed through the appropriate planning of work tasks. This may include limiting work hours or controlling job rotation schedules.
2. Employees must monitor their own performance and shall be provided required rest breaks to avoid fatigue and increase mental fitness.
3. Employees need to be rested prior to starting work.
4. Employees are responsible for notifying their supervisor if they are fatigued to the point of being unable to perform their duties safely. Employees must be responsible for ensuring they are physically and mentally fit to perform their job functions safely. Employees must take responsibility for their own safety as well as not reporting to work in a condition as to endanger the safety of their fellow workers.
5. Work tasks to control fatigue must be analyzed and evaluated periodically. JRE may make any necessary changes to equipment, training or procedures based on the evaluation.
6. Ergonomic equipment may be used to improve workstation conditions. Equipment to be used will be determined in the JSA.

TRAINING

1. JRE provides initial and annual training on how to recognize fatigue and how to control fatigue through appropriate work and personal habits and reporting of fatigue to supervision. A record of individual fatigue training and competency will be documented and maintained.
2. JRE provides Reasonable Suspicion Drug & Alcohol Training for supervisors. This training will be documented and maintained.

SHORT SERVICE EMPLOYEE POLICY

A Short Service Employee (SSE) is an employee with less than 12 months experience in the same job, job tasks or with his/her present employer.

A mentor is an experienced employee who has been assigned to help and work with an SSE by the supervisor.

REQUIREMENTS

1. Managers and Supervisors shall ensure that this program is implemented and followed.
2. Employees shall follow the requirements of this program.
3. JRE shall monitor its employees, including SSE personnel, for safety awareness.
4. At the end of the two-month period, if the SSE has worked safely, adhered to all policies and has no recordable incident attributable to him/her, the SSE identifier may be removed at the discretion of JRE.
5. JRE shall require any employee that does not complete the two-month period recordable free to get operator approval in writing prior to returning to operator property.
6. Subcontractors must manage their SSEs in accordance with the requirements of the SSE program.

PROCEDURE

1. An SSE may not work alone.
2. Supervisors will assure that all new, transferred and temporary employees have been through JRE safety orientation and have complete knowledge of the expectations for their job function.
3. A mentor may only be assigned to one crew that includes SSE's and he/she must remain on site with them.
4. Supervisors will identify all employees and temporary personnel with less than two months of service, or those employees they desire to return to a mentoring status for improvement in job and/or safety performance. Any SSE experiencing an OSHA Recordable injury during the initial two months will repeat the mentoring program or shall be dismissed for poor performance.
5. Managers and the Safety Department will randomly audit for process compliance. This will involve interviewing employees in the SSE program.
6. SSE's must wear uniquely colored stickers. SSEs shall be visibly identified using a different colored hardhat or another method of identification. The method used to identify SSEs should be communicated to all mentors.
7. Mentors will converse daily with those persons assigned to them, preferably at the start of the day. This will be in addition to other tailgate or daily safety meetings held in the work area.

FLEET MANAGEMENT POLICY

PREVENTATIVE MAINTENANCE REQUIREMENTS

1. All maintenance performed on JRE vehicles or equipment must be coordinated through the Fleet department.
2. To ensure proper care of JRE assets, vehicles are scheduled for preventative maintenance at specified hours/mileage intervals or once per year. Preventative maintenance reports are run to configure the appropriate percentage due.
3. Annual inspections are scheduled by the fleet department.
4. The Vehicle Tracking Defects spreadsheet and the JRE accounting software reports are communicated to the Fleet Manager to determine priority.
5. If a vehicle or equipment is defective, remove it from service, and tag it clearly "Out of service for repair".
6. Replace damaged equipment immediately - do not use defective equipment.
7. Have equipment or vehicle repaired by a qualified person - do not attempt field repairs.

DOCUMENTATION OF MAINTENANCE

1. Work orders will be completed by the mechanic or the employee performing the maintenance, any time there is maintenance to a vehicle or equipment.
2. Work orders will be logged electronically for record retention.

INSPECTIONS

EQUIPMENT INSPECTIONS

1. All equipment must be inspected daily before the unit is operated. If any defects are found, the equipment inspection form must be completed, and all defects must be reported to the site foreman immediately.
2. Equipment must be inspected following the manufacturer's instructions.
3. When safety-sensitive defects are found the unit must be identified with a "Danger Do Not Use" tag and placed out-of-service until the defect is corrected.
4. All safety defects must be reported to a Fleet representative immediately, along with a completed equipment inspection form.

PRE- & POST-TRIP INSPECTION

1. Any employee who operates a Commercial Motor Vehicle (CMV) for JRE is subject to completing a Driver Vehicle Inspection Report when any vehicle maintenance/safety issues arise.
2. Pre- and Post-Trip inspections will be made on all vehicles with a GVWR of 10,001 and greater, including the trailer being pulled, if applicable. The weight classification can include smaller vehicles, such as a 1 ton, when pulling a trailer because the requirement is based on the combined vehicle weight, not just the vehicle weight.
3. At the beginning of each day (Pre-Trip Inspection), the driver will need to inspect all items listed on their DVIR form, and only fill the DVIR out if there is a defect found.
4. If any maintenance defects arise throughout the day, a DVIR will need to be completed.
5. At the end of each day, the operator will need to perform a thorough inspection and complete the DVIR if a defect is found.
6. If defects are found, only check the boxes that apply.
7. Any DVIR with defects must be sent to fleet@jranck.com by the end of your shift.
8. DVIRs will be tracked and filed by the Safety Department, and maintenance will be addressed by the Fleet Manager.

VEHICLE/EQUIPMENT TRACKING APP

1. The Foreman is responsible for ensuring the vehicle tracking app is submitted weekly.
2. All miles, hours, and maintenance issues will be reported on the Vehicle Tracking Sheet weekly.
3. When a JRE owned or rented vehicle/equipment/trailer arrives, it is added to the weekly Vehicle/Equipment Tracking sheet and will remain there until the unit is no longer needed at the job site.
4. Defects, miles, and hours are logged electronically and documented on the Vehicle Tracking Issues spreadsheet.

DOT ANNUAL INSPECTION

Per DOT requirements, all vehicles with a GVWR of 10,001 pounds or greater are inspected annually.

RENTAL & OWNED EQUIPMENT REQUESTS

1. All rentals need to go through the JRE Fleet & Rental Coordinator.
2. A request for equipment must be sent to the Project Manager and equipment@jranck.com
3. Requests for service to a rental unit must go through the Fleet & Rental Coordinator.
4. Rented equipment must be included on the weekly Vehicle Tracking App.
5. When you no longer need a rental, you must contact the JRE Fleet & Rental Coordinator. Do not contact the vendor yourself.

PERMITS

1. If a vehicle is oversize or overweight, a temporary permit is needed. This permit authorizes movement according to vehicle configurations and weight. There are many determining factors when reviewing oversize/overweight permitting requirements. If any of the following conditions are met an oversize or overweight permit is required:
 - a. Overall height exceeds 13'6"
 - b. Overall width exceeds 8'6"
 - c. Trailer length exceeds 48'
 - d. Overall weight exceeds 80,000 pounds
2. When traveling to a state in which a vehicle is not registered under IRP, a temporary trip permit is needed. Warehouse Supervisors are responsible for obtaining permits for required loads.

DOT & JRE DRIVER SAFETY

REQUIREMENTS

VEHICLE USAGE

1. Vehicles owned or leased by JRE are to be used exclusively for business.
2. Operators must be JRE employees, contractors, or authorized personnel.
3. Personal use of JRE vehicles or equipment is prohibited unless otherwise determined by management.

INSURANCE COVERAGE

1. All vehicles owned by JRE will be identified by a vehicle number.
2. All vehicles must have a current copy of the insurance certification.
3. The driver is responsible for placing the license plate tab on the plate and placing the registration and insurance certificate in the glove box of the vehicle.
4. Expired copies of insurance and registration must be discarded.
5. Any fines issued regarding the improper registration and insurance documentation is the sole responsibility of the driver unless otherwise determined by management.

GPS

1. All JRE vehicles are equipped with a GPS system.
2. Never unplug the GPS system unless previously authorized by the Fleet Supervisor.
3. Speeding alerts are tracked. JRE does not approve of any travels above the posted limit, however, due to variations in the equipment, the threshold is set at 5mph.
4. Odd hours alerts are tracked by the warehouse manager.

SAFE OPERATING

1. Operators are required to wear a seat belt when operating a JRE vehicle.
2. Employees are required to inspect his/her assigned vehicles and equipment at the beginning of each shift to ensure that the vehicle/equipment is in safe operating condition and free of any apparent danger. Any defects must be immediately reported to the Fleet Department. DOT regulated vehicles must be checked with a full pre-trip inspection before the vehicle is driven.
3. A certified individual must inspect all hoisting machinery on an annual basis. Records of dates and inspection results for all equipment must be readily available for review.
4. A fire extinguisher must be available in all equipment and construction vehicles.
5. Employees are required to obey all state, local, and company laws, rules and regulations while operating vehicles or equipment.
6. Drivers are not to operate a company vehicle while under the influence of alcohol or other drugs.
7. Moving and parking violations incurred while driving a company vehicle will be the sole responsibility of the driver unless otherwise determined by management.
8. Drivers shall refrain from parking a company vehicle at a bar, pub, or tavern during and after work hours.
9. Drive safely and practice defensive driving. Park the vehicle only in a legal and safe manner.
10. Assess the area behind the vehicle before backing up. If vision is obstructed remove obstructions.
11. Back into parking spots and use a spotter whenever possible.
12. Only trained and qualified employees shall operate vehicles/equipment.
13. All employees must minimize other distractions which take away from concentrating on driving. Distractions include but are not limited to eating, reading, talking to passengers, and performing activities which tend to cause the driver to remove their eyes from the road or divert attention from the task of driving.
14. Avoid excessive idle time, except when idling is essential for the performance of work.
15. Highway turnarounds (Authorized Vehicles Only) shall not be utilized unless the active jobsite encompasses the turn-around on both sides of the highway. Turnarounds must only be utilized in a safe manner.

CELL PHONES/HAND-HELD DEVICE USE

1. All employees, while driving a JRE vehicle, are prohibited from holding, dialing, or reaching for a hand-held cellular device.
2. Hands-free technology is permissible provided the use does not cause a distraction. Any such movement must be accomplished without removing the driver's eyes from the roadway.
3. Headsets must comply with local and state regulations.
4. All headset devices must be used as a singular ear-piece system.
5. All employees are prohibited from texting while operating a JRE vehicle. This includes personal vehicles while engaged in any activity on behalf of the company.
6. The only exception to this policy is when it is necessary to communicate with law enforcement or other emergency services during an emergency.

DRIVER QUALIFICATION

1. Driver must be properly licensed according State and Federal laws and must also be a qualified company driver. Drivers are qualified based on their Motor Vehicle Record (MVR) results. MVR reports are obtained and reviewed annually.
2. Drivers are required to report to their supervisor or management any medical condition that may affect their ability to safely operate a JRE vehicle.
3. To be hired as a DOT driver, the employees MVR, application, previous employer requests, safety performance history, medical certification, and drug test must comply with FMCSA regulations and the JRE driver disqualifiers.

ANNUAL REVIEW OF DRIVING RECORD

1. JRE will annually review the driving record of all company drivers to ensure compliance with JRE Driver Disqualifiers
2. All employees must annually submit a list of all violations other than parking tickets that he/she has received in the last 12 months, this form will be provided prior to the expiration date. A copy of the MVR will then be obtained to review.

COMMERCIAL DRIVER LICENSE (CDL)

1. Operators of JRE owned or rented vehicles or equipment are required to possess the appropriate operator license.
2. A driver who is found violating a state or local law relating to motor vehicle traffic control must notify their current employer within 30 days after conviction.
3. Federal guidelines and State of Michigan law require operators of the following vehicles to possess a Commercial Driver License (CDL) in the proper group with the proper endorsements for:
 - a. A Class A commercial driver's license is required to operate any combination of vehicles with a gross combination weight rating (GCWR) of 26,001 lbs. or more, to include a towed vehicle that is HEAVIER than 10,000 lbs. Can drive any class B vehicles.
 - b. A Class B commercial driver license is required to operate a single vehicle with a GVWR of 26,001lbs. or heavier, and/or any vehicle as described above that is towing another vehicle weighing UP TO 10,000 lbs.
4. Drivers of a JRE vehicle that falls within the criteria outlined in item #3 (above) are required to possess a valid DOT Medical Card. JRE requires a copy of the driver's medical card to be placed in the Driver Qualification file. Failure to maintain proper medical certification will result in disqualified CMV driver status.
 - a. Once a medical card is obtained it needs to be certified with the Secretary of State by the issuing physician or someone acting on their behalf within the issuing medical facility such as a nurse or physician's assistant.
 - b. If a driver experiences a major change in health status or is prescribed a new medical prescription, contact the DOT Coordinator/physician, as the medical certification will not be valid until updated with current information.
5. If help is needed in determining proper license requirements, contact the DOT Coordinator.
6. CDL licensed drivers under the age of 21 years old must operate in Intrastate Commerce.

CDL Drug Testing

Tests required of all CDL drivers:

- Pre-employment testing
- Reasonable suspicion testing
- Random testing pool
- Post-accident testing
- Return to duty testing

CDL Road Test

JRE requires a DOT road test for any driver utilizing a Double or Triple Trailers endorsement (T) or a Tank Vehicle endorsement (N).

CHAUFFEUR LICENSE

1. A Chauffeur licensed driver may drive a vehicle a GVWR of 10,001 pounds to 26,000 pounds.
2. A valid medical card is required to be in the possession of the chauffeur driver while operating a CMV.
3. Road tests are given to all DOT drivers holding a chauffeur license.

INVESTIGATION OF PREVIOUS EMPLOYMENT

1. JRE will contact all former DOT employers of the driver application for the previous 3 years to verify as much of the following as possible:
 - a. Dates of employment
 - b. Type of work performed
 - c. Type of vehicles operated
 - d. Vehicle accident record
 - e. Drug and alcohol testing results
2. All applicants will provide written authorization to the company to obtain drug and alcohol testing information for each previous and current employer during the preceding 3 years.
3. All DOT employees shall be registered through the FMCSA Clearinghouse.
4. All information from former employers regarding drug and alcohol test results will remain confidential.
5. JRE will not consider for employment any driver application who has refused a drug or alcohol test, failed a random, reasonable suspicion, post-accident, return-to-duty, or follow-up test without completing an SAP program.

PRE-EMPLOYMENT SCREENING REPORT (PSP)

All CDL licensed drivers will be subject to PSP Reports. The PSP must reflect a safe driving history. Each report will be examined on an individual basis to determine eligibility for DOT employment.

VEHICLE ACCIDENTS

1. ALL vehicle accidents must be reported to the Safety Department immediately.
2. All employees are potentially subject to post-accident drug and alcohol testing.
3. For vehicle accident procedures, please refer to the [Incident/Injury Reporting & Investigation Policy](#).

INSPECTIONS

DOT INSPECTION

1. Roadside inspections are conducted at weigh stations, portable scales, and a variety of other roadside locations, using the Commercial Motor Vehicle Safety Alliance (CVSA) inspection standards and referencing the FMCSRs to verify the current safety condition of vehicles and drivers.
2. All paperwork received during a roadside inspection needs to be sent directly to the Safety Department.
3. Any citations need to be reported to the Safety Department immediately.
4. If you are placed out-of-service, please contact the supervisor and the Safety Department immediately.

NON-DOT INSPECTION

Please inform the DOT Coordinator and the Safety Department of any citations immediately.

DISCIPLINARY ACTION

1. Any employee violating safety rules, procedures, or standards, or the provisions of this manual or acting in such a manner as to endanger his/her own or another's personal safety shall be subject to disciplinary action as outlined in "Disciplinary Measures."
2. CDL drivers are required to notify the state in which he/she is licensed of any violation of state or local law relating to motor vehicle traffic enforcement in another state. This does not include parking violations. FMCSR Part 383.31.a requires this notification must be made by the person either convicted or found to have committed the violation.

HOURS OF SERVICE

GENERAL REQUIREMENTS

1. Hours of service apply to any driver who operates a CMV with a Gross Vehicle Weight Rating (GVWR) of 10,001 pounds or more. This includes combination vehicles (GCWR).
2. Hours of service must be completed daily by all JRE DOT drivers, and are due by the 15th of each month. Failure to submit HOS by the 15th will result in suspension of driving privileges in a commercial motor vehicle.
3. Drivers are responsible for tracking their own hours and informing a supervisor if they are out of drive-time.
4. Drivers are responsible for understanding all the hours of service limits.
5. Hours of Service limits:
 - a. 11-hour driving rule: All time spent behind the wheel of a commercial motor vehicle is considered driving time. After 11 hours of driving, the driver must have 10 consecutive hours off duty before driving again.
 - b. 14-hour driving rule: Drivers cannot drive beyond the 14th hour after coming on duty. 10 consecutive hours off must be taken before driving a CMV again. Lunch breaks or other off duty time do not extend this 14-hour period. The 14 hours are consecutive from the time the driver starts the workday.
 - c. 60 Hour Limit: A driver must not drive after accumulating 60 hours on duty during any 7 consecutive days. This rule varies depending on the number of days a motor carrier typically works per week.
 - d. 30-minute break: Drivers must take a 30-minute break when they have driven for a period of 8 cumulative hours without at least a 30-minute interruption. The break may be satisfied by any non-driving period of 30 consecutive minutes (i.e., on-duty not driving, off-duty, sleeper berth, or any combination of these taken consecutively).
6. Logbook Exemptions: A logbook is not required if the driver falls under one of the following exemptions
 - a. 150 Air-Mile Radius: Employee drives a CMV that does not require a CDL (10,001lbs-26,000lbs) and work within 150 air-mile radius of the normal reporting location (home, hotel, shop). If a driver meets the criteria for this exemption;
 - Employee must not drive for more than 11 hours following 10 consecutive hours off duty
 - Employee must not drive past the 14th hour after coming on duty 5 days in any period of 7 consecutive days
 - Employee must not drive past the 16th hour after coming on duty 2 days in any period of 7 consecutive days
 - Employee must not drive after being on duty 60 hours in any 7 consecutive days
 - Under the 150 Air-Mile Radius exemption, employees do not need to keep a logbook, but the company must keep accurate time records showing the times that the employee reports for and is released from work each day, and the total hours on duty each day.
 - b. 150 Air-Mile Radius: Employee drives within a 150 air-mile radius of their normal work reporting location (home, hotel, shop), returns to work reporting location, and is released within 14 consecutive hours. Driver must also follow all other basic hours-of-service rules including the 10-hour off-duty and 11-hour driving requirements.
 - Employees must not drive after being on duty 60 hours in any 7 consecutive days.
 - Under the 150 Air-Mile Radius exemption, employees do not need to keep a logbook, but the company must keep accurate time records showing the times that the employee reports for and is released from work each day, and the total hours on duty each day.

PERSONAL CONVEYANCE

1. A driver may record time operating a CMV for personal conveyance as off-duty only when the driver is relieved from work and all responsibility for performing work.
2. The CMV may be used for personal conveyance even if it is laden since the load is not being transported for the commercial benefit of the carrier at that time.
3. Drivers must be knowledgeable about HOS regulations before using personal conveyance.

ADVERSE DRIVING CONDITIONS

1. Drivers are allowed to extend the 11-hour maximum driving limit and 14-hour driving window by up to 2 hours when adverse driving conditions are encountered.
2. Adverse driving conditions means snow, ice, fog, or other adverse weather conditions or unusual road or traffic conditions that were not known, or could not reasonably be known to a driver or a motor carrier.

ELECTRONIC LOGGING DEVICES (ELD)

1. ELD's must be used by driver's who leave the 100-mile radius more than 8 days in any 30-day period.
2. Drivers shall keep their ELD log up-to-date, to the last duty-status change.
3. ELD users must log in immediately once they've reported for work duties and log out immediately once their work duties for the day are complete.
4. Drivers shall comply with all other HOS regulations.
5. Drivers shall keep their ELD application updated.
6. Driver must connect to the engine via Bluetooth.
7. Edits must be made within 2 days. Drivers shall make and approve edits whenever necessary, but only to correct an error or omission.
8. Drivers must have a copy of their ELD User's Manual with the ELD.
9. Drivers shall carry a paper logbook with them. If the ELD malfunctions, the driver must default to the paper log and inform the DOT Coordinator immediately.
10. In the event of a roadside inspection, the driver must set the device to "roadside inspection" view and present to the officer.
11. Devices are not to be tampered with, disconnected, or damaged.
12. Drivers are responsible for their ELD device and all other components.
13. If a driver is subject to the ELD rule, the ELD must be used every day that the driver works, even if the driver is not driving, or is driving within the Short Haul Exemption.
14. If a driver was given permission to not use the ELD, HOS must be recorded on the bottom of the driver's weekly timesheet.

TRAINING

1. Drivers must have training or equal certification to operate any JRE equipment or vehicle.
2. DOT drivers who obtained their CDL less than 1 year prior to hire must complete Entry Level Driver Training.
3. Drivers are expected to participate in weekly driver newsletters, safety talks, and any other trainings provided by JRE.
4. At orientation a driver will receive training on the following:
 - a. Hours of Service
 - b. Cargo Securement
 - c. DOT Drug & Alcohol Testing
 - d. CSA Basics
 - e. FMCSA regulations handbook

HIGHWAY WORK

GENERAL REQUIREMENTS

1. All work on or adjacent to existing public and jobsite roadways should be performed in accordance to the requirements of the Federal Highway Administration or state plan.
2. Unless otherwise provided for in these documents, the contractor performing said work should be responsible for furnishing, set-up, and maintenance of all traffic control signage, devices, barricades, arrow boards, and flag persons.
3. All electricians performing Department of Transportation work must have a current state electrical license/certification.
4. All personnel working near and entering roadways will wear high visibility clothing with Class II or III reflectivity and follow all Federal Highway Administration or state plan guidelines for working near roadways.

HOUSEKEEPING

1. Debris will be picked up and placed in trash bags, loose items will not be allowed to blow away.
2. All items will be sufficiently secured from blowing into roadways.
3. Trac out of material will be reduced by cleaning soils off pavements prior to roadway entrances. Where pavements do not exist, a gravel pad may be installed to help prevent track out.

HEAT ILLNESS PREVENTION

FOREMAN REQUIREMENTS

1. All JRE foreman will be trained in Heat Illness Prevention and Heat Illness Emergency Response procedures prior to supervising employees.
2. Foreman are responsible for performing the following:
 - a. Give workers required breaks
 - b. Monitor the workplace to determine when hot conditions arise
 - c. Provide potable water in required quantities and access to shade for employees suffering from heat illness or believing a preventative recovery period is needed.
3. Foreman must monitor the workplace and employee needs and adjust when necessary.
4. Foreman shall take personal factors that contribute to heat related illness into consideration before assigning a task where this is the possibility of a heat-related illness occurring.

RISK FACTORS

1. The following are environmental risk factors for heat illness:
 - Air temperature in excess of 85°F
 - Relative humidity
 - Radiant heat from the sun and other sources
 - Conductive heat sources
 - Air movement, or lack thereof
 - Workload severity and duration
 - Protective clothing and personal protective equipment worn by employees
2. The following are personal risk factors for heat illness:
 - Age
 - Degree of acclimatization
 - Health
 - Water consumption
 - Alcohol consumption
 - Caffeine consumption
 - Use of prescription medications that affect the body's water retention or other physiological responses to heat

HEAT ILLNESS PREVENTION GUIDANCE FOR WORKERS

1. When starting a job working in the heat, employees are more vulnerable to heat stress and should allow the body time to adjust.
2. Drinking plenty of water frequently is vital for workers exposed to the heat. To replenish that fluid, employees should drink 3 to 4 cups of water every hour starting at the beginning of the shift.
3. Taking breaks in a cool shaded area and allowing time for recovery from the heat during the day are effective ways to avoid a heat-related illness.
4. Avoid or limit the use of alcohol and caffeine during periods of extreme heat—both dehydrate the body.
5. If an employee or co-worker start to feel symptoms such as nausea, dizziness, weakness or unusual fatigue, inform the supervisor. If symptoms persist or worsen seek immediate medical attention.
6. Whenever possible, wear clothing that provides protection from the sun but allows airflow to the body.
7. When working in the heat, pay attention to fellow workers for signs and symptoms of heat illness.

FALL PROTECTION

REQUIREMENTS

1. Fall protection is required when working at heights of 6 ft. or more above a lower level.
2. When performing General Industry work such as service, maintenance, warehouse work, etc. fall protection is required at 4 ft.
3. All fall protection systems must be inspected prior to each use, by the employee, for wear, damage, and other deterioration. Defective components must be removed from service. All fall protection systems must be inspected annually by the Safety Department.
4. All fall protection systems shall be designed, installed, and used under the supervision of a qualified person.
5. Employees of JRE shall use fall protection equipment and materials that meet the ANSI, ASTM, and OSHA requirements.

FALL PROTECTION SYSTEMS

GUARDRAIL SYSTEM

1. Top rail shall be 42 inches, plus or minus 3 inches, above the walking/working level.
2. Top rails and mid-rails shall be at least one-quarter inch thickness. If wire rope is used for top rails, it shall be flagged at 6-foot intervals with high-visibility material.
3. Mid-rails shall be installed at a height midway between the top edge of the guardrail system and the walking/working level.
4. Mid-rails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall withstand a force of at least 150 pounds applied in any downward or outward direction at any point along the mid-rail or other member.
5. There shall be no vertical openings in the guardrail system that are more than 19 inches.
6. Guardrails shall be inspected by a competent person frequently to ensure strength and stability.
7. When screens and mesh are used, they must extend from the top rail to the walking/working level and along the entire opening between top rail supports.
8. Guardrail systems shall be capable of withstanding, without failure, a force of at least 200 pounds applied within 2 inches of the top edge, in any outward or downward direction, at any point along the top edge.
9. Guardrail systems shall be so surfaced as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.
10. Guardrail systems used on ramps and runways shall be erected along each unprotected side or edge.
11. When guardrail systems are used around holes which are used as access points (such as ladderways), they shall be provided with a gate, or be so offset that a person cannot walk directly into the hole. When the hole is not in use, it shall be closed over with a cover, or a guardrail system shall be provided along all unprotected sides or edges.
12. When any portion of a guardrail system, gate, or chain is removed, and an employee must lean through or over the edge of the access opening to facilitate hoisting, the employee shall use a personal fall arrest system.

PERSONAL FALL ARREST SYSTEMS

1. Snap hooks shall not be engaged in the following configurations, unless specifically designed to:
 - a. Directly to webbing
 - b. To each other
 - c. To a dee-ring to which another snap hook or connector is attached
 - d. To a horizontal lifeline
 - e. To any object that could potentially cause disengagement of the snap hook.
2. Harnesses, lanyards, and anchorage connectors shall be used only for employee protection as part of a personal fall arrest system or positioning device system and not used to hoist materials.
3. All components of a fall arrest system, to include anchorage points, shall have a minimum tensile strength of 5,000 pounds in any direction per each employee.
4. Self-retracting lifelines and lanyards which automatically limit free fall distance to 2 feet or less shall sustain a minimum tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.

5. Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms.
6. Horizontal lifelines shall be designed, installed, and used, under the supervision of a qualified person, as part of a complete personal fall arrest system, which maintains a safety factor of at least two.
7. The attachment point of the body harness shall comply with the manufacturer's instructions.
8. Personal fall arrest systems shall not be attached to guardrail systems, hoists, or cranes, unless otherwise designed for such use.
9. Personal fall arrest systems shall be rigged so an employee cannot free fall more than 6 feet or contact any lower level
10. When using a personal fall arrest system, employees shall not exceed the manufacturer's maximum rated compacity of any component of the system.

POSITIONING DEVICE SYSTEMS

1. Full body harness systems shall be configured so that employees cannot free fall more than 2 ft.
2. Positioning devices shall be secured to an anchorage capable of supporting twice the potential impact load.
3. Positioning device must be connected to the anchor point using an approved anchorage device.

COVERS

1. A hole is defined as any opening to a lower level 2" or more in its least dimension.
2. All hole and wall covers are secured to prevent accidental displacement.
3. Covers are color-coded or bear the markings "HOLE" or "COVER".
4. Covers must support twice the weight of employees, equipment, and materials that cross them.
5. Covers located in roadways and vehicular aisles must be able to support twice the axle load of the largest vehicle that might cross them.

PROTECTION FROM FALLING OBJECTS

1. Toe boards, when used as protection from falling objects, shall be erected along the entire edge of the overhead walking/working surface.
2. Toe boards shall be capable of withstanding without failure a force of at least 50 pounds applied in any downward or outward direction at any point along the toe board.
3. Toe boards shall be a minimum on 3.5 inches in vertical height from the top edge to the level of walking/working surface. Toe boards shall be no more than ¼ inch from the ground and be constructed of a solid material.
4. Tools, equipment, or material shall not be stored within 10 feet of guardrail system or a leading edge if located above a walking/working surface.
5. All openings in a guardrail system shall be small enough to prevent passage of potential falling objects.

RESCUE

1. When personal fall arrest systems are used JRE must ensure that employees can be promptly rescued or can rescue themselves should a fall occur.
2. The availability of rescue personnel, ladders or other rescue equipment shall be evaluated on a site by site basis and documented on the fall protection plan.
3. A rescue plan shall be documented on the Site-Specific Safety Plan and/or JSA.

FALL PROTECTION EQUIPMENT DISTRIBUTION & ANNUAL INSPECTIONS

1. Assignment of fall protection equipment will be made by the safety department. Equipment will be assigned to a person, a job, or a piece of equipment. All equipment will be tracked, logged, and inspected. Employee-owned equipment shall also be approved, logged, and inspected.
2. The JRE Safety Department will perform annual inspections of all fall protection equipment.

TRAINING

1. All employees shall be trained in and familiar with hazards related to falls, and how to use proper procedures to minimize these hazards, prior to being exposed to a fall. All training must be conducted by a qualified person, documented, and must specifically include:

- a. Nature of the fall hazards employees may be exposed to
 - b. Correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems
 - c. Use and operation of approved fall protection systems
 - d. Correct procedures for equipment and material handling and erection of overhead protection systems
 - e. Requirements of the MiOSHA and OSHA Fall Protection Standards
2. In addition, retraining must be provided for each employee, as necessary, so that the employee maintains the understanding and knowledge necessary for the safe performance of specific tasks needing to be conducted by that individual. Additional training is provided:
 - a. When there is a change in job responsibilities
 - b. When new fall protection equipment is introduced
 - c. A change in work environment
 - d. When periodic inspection reveals, or whenever there is reason to believe, that inadequacies exist in an employee's knowledge or use of fall protection systems

FALL PROTECTION PLAN

A fall protection plan may be developed and evaluated on a site by site basis by a qualified person and shall be incorporated into the Site-Specific Safety Plan. A fall protection plan shall contain:

1. Location of the job, company name, date of preparation or modification of the plan, name of the plan preparer, name of plan approver, and name of plan supervisor
2. Statement of company policy
3. Fall protection systems to be used on this project
4. How the fall protection plan is to be implemented
5. Other fall protection measures considered for this job
6. Enforcement
7. Accident investigation
8. Changes to the plan
9. Rescue Plan

AERIAL WORK PLATFORMS

REQUIREMENTS

1. Only authorized persons, properly trained according to operating instructions, shall use an aerial lift.
2. All manufacturer operating instructions shall be followed.
3. Keep the aerial work platform clear of debris.
4. The weight of all occupants, tools, materials, etc. shall not exceed the rated capacity of the lift.
5. Modifications to the equipment shall not be made without written approval from the manufacturer.
6. Manufacturers operating instructions and safety rules shall be provided and maintained in a legible manner on each unit by JRE.

INSPECTIONS

1. Prior to operation, an inspection and test of all lift components and controls shall be conducted.
2. Any aerial work platform found not to be in safe operating condition shall be tagged and removed from service until repaired. All repairs shall be made by an authorized person in accordance with the manufacturer's operating or maintenance and repair manual.
3. All danger, caution, control-markings, level indicator, and operational plates shall be legible and not obscured.
4. Employees must assure that work zones are inspected for hazards and corrective action taken to eliminate hazards before and during operations.

SAFE OPERATING

1. When operating an aerial lift, it is recommended that a ground person is present.
2. Use warning signs, rope, tape or rigid barricades to keep others out of the work area.
3. Do not exceed manufacturer's slope recommendations. Review the manual to ensure the slope is adequate for operations. Beware of soft ground or hidden underground voids and avoid using aerial lifts near drop offs, holes, uneven surfaces, in soft soil conditions or where there may be an uneven weight distribution.
4. Maintain a safe distance from the following:
 - Obstacles
 - Debris
 - Drop-offs
 - Holes
 - Depressions
 - Ramps
 - Overhead obstructions
 - Overhead electrical lines
 - Other hazards to safe elevated travel
5. Aerial work platforms shall be equipped with emergency controls at ground level. The person in the lift shall operate the truck. The use of the lower controls is for emergency conditions and function testing prior to operation.
6. Employees shall not be permitted to transfer from an aerial work platform to any other structure unless approved by the Safety Department and 100% fall protection is maintained.
7. Load limits shall be observed and not exceeded; proper stabilizing devices shall be used.
8. The operator in the aerial lift shall always face the direction in which the lift is moving. The operator shall see that the path of the boom and/or lift is clear while it is being moved.
9. A clearance of ten feet must be maintained for all vehicles or mechanical equipment capable of having parts or its structure elevated near energized overhead lines. The following table shows minimum clearance distances for equipment.

Table 1 Minimum Clearance Distances for Equipment		
Voltage	Clearance with Boom Raised	Clearance Boom Lowered and No Load in Transit
To 50 kV	10 ft	4 ft
Over 50 kV	10 ft + 4 inch per each 1 kV over 50 kV	10 ft
50 to 345 kV	--	10 ft
346 to 750 kV	--	15 ft

10. Only aerial work platforms that are designed for movement in the elevated position shall be moved while a person is in the platform.
11. The use of railings, planks, ladders, or any other devices on the platform for achieving additional height is prohibited. Employees shall maintain firm footing on the platform.
12. Only personnel, their tools and necessary materials shall be on or in the platform. Secure tools and other loose items to prevent injury to persons working on or below the platform.
13. Equipment shall have a working back-up alarm, or a spotter will be used when backing.
14. Before moving a vehicle supporting an aerial lift for travel, employees shall inspect the boom to ensure that it is properly cradled, and the outriggers are in the stowed position.

POWER TRANSMISSION & OPERATIONS

1. A qualified lineman or a qualified tree trimmer shall maintain the following distances when performing work from an insulated aerial work platform on or near an exposed powerline:

Table 2 Minimum Working Distances for Qualified Line-Clearance Tree Trimmers & Qualified Linemen	
Voltage Range Phase to Phase (kV)	Minimum Working Distances
2.1 to 15	2 ft 0 in
15.1 to 35	2 ft 4 in
35.1 to 46	2 ft 6 in
46.1 to 72.5	3 ft 0 in
72.6 to 121	3 ft 4 in
138 to 145	3 ft 6 in
161 to 169	3 ft 8 in
230 to 242	5 ft 0 in
345 to 362	7 ft 0 in
550 to 552	11 ft 0 in
700 to 765	15 ft 0 in
Note: For 345-362, 550-552, and 700-765 the minimum working distance and the minimum clear hot stick distance may be reduced that such distances are not less than the shortest distance between the energized part and a grounded surface.	

2. Employees shall use insulated buckets, gloves and sleeves that are rated at more than the voltage to be worked on or that with which they might come into contact. Refer to [Power Transmission and Distribution Policy](#) for more information.
3. When working near energized equipment, aerial work platforms shall be grounded and considered as energized.
4. Where grounding is not practical the vehicle shall be barricaded from the employees on the ground and considered energized. The employees on the ground shall have on the appropriate PPE for the task at hand and be wearing lineman overshoes. At no time will the employee contact the vehicle while the boom is in the air without first making visual contact with the operator and the operator assures that the boom is in a safe position.
5. Careful considerations shall be given to the location of overhead conductors and surrounding conditions before the truck is moved into the work position.

6. Every attempt shall be made to place the truck so that all work areas at that location may be reached by the boom without additional movement of the truck or exposure to electric hazard.

FALL PROTECTION

1. When working in boom-supported lifts, each person shall wear a body harness and lanyard that is attached to a designated anchor point inside the lift. The lanyard must be short enough to prevent the person from falling or being ejected from the lift.
2. An employee shall be prohibited from tying off to an adjacent pole, structure, or equipment while working from an aerial work platform.

TRAINING

1. Once the general instruction training is complete, qualified trainers can move into familiarization training for the different aerial lifts being used. Familiarization training is machine-specific training that covers:
 - a. The location of the weather-resistant compartment
 - b. The purpose and function of all controls
 - c. The safety devices and operating characteristics specific to the aerial platform
 - d. Operation of lower controls and hurt man rescue devices, as needed
2. Employees shall demonstrate competence in operation of the aerial lift prior to operating an aerial lift
3. A permit shall be carried by the operator or be available at the job site and shall be displayed upon request by a department of licensing and regulatory affairs representative.
4. A permit shall indicate the type of aerial work platforms an operator has been trained on and is qualified to operate.
5. A permit to operate an aerial work platform is valid only when performing work for the employer who issued the permit. A permit shall be issued for a period of not more than 3 years.

LADDERS

INSPECTIONS

1. All components, including the rope and pulley system and manufacturers labels shall be inspected before use for visible defects or after any occurrence that could affect the safe use.
2. Ladders with broken or missing rungs, cleats or steps, broken or split rails, or corroded parts shall be identified with a “Danger Do Not Use” tag and removed from the service with the exception of custom jobsite-built ladders, which may be repaired.

REQUIREMENTS

1. Ladders used by JRE must meet OSHA/ANSI specifications.
2. All ladders shall be Type 1 or greater and appropriate for the task being performed.
3. Read and follow all warning labels on the ladder. The on-product safety information is specific to the type of ladder on which it appears.
4. Ladders shall be used only for the purpose for which they were designed.
5. Employees shall observe and follow all warning labels on ladders.
6. Rungs should be kept free of grease, oil, and all debris.
7. The ladder load capacity rating shall be legible on the ladder and shall not be exceeded.
8. Always face a ladder when ascending or descending and maintain at least three points of contact with the ladder.
9. Employees are not permitted to carry any object or load while on a ladder that could cause them to lose their balance and fall.
10. Ladder rungs shall not be used to support the ends of planks or other similar work platforms, unless specifically designed to.
11. Never use a ladder in a horizontal position as a platform or scaffold.
12. The ladder base section must be placed with a secure footing.
13. Ladders shall be used only on stable and level surfaces, unless secured or braced to prevent accidental displacement.
14. Ladders placed in any location where they can be displaced by workplace activities or traffic shall be barricaded to keep the activities or traffic away from the ladder.
15. The area around the top and bottom of ladders shall be kept clear.
16. Ladders shall not be moved, shifted, or extended while occupied.
17. Employees should not overextend beyond the side rails of a ladder such that it causes a fall hazard.
18. Check for overhead obstructions. For use of ladders near energized lines refer to the Electrical Policy.
19. Metal ladders must not be used when working around utilities where contact could cause electrical shock or electrocution.

STEP LADDERS

1. Employees shall open stepladders fully and check the stability of the ladder, ensuring that all four legs are on firm, level ground.
2. A metal spreader or locking device shall be provided on each stepladder and locked into position when in use to hold the front and back open.
3. Use a step ladder perpendicular to the work where possible.
4. Use a step ladder that is about three feet shorter than the highest point that needs reached where possible.
5. A stepladder shall not be used as a straight ladder by leaning it against a wall or other support.

EXTENSION LADDERS

1. Ladders should be erected exercising the 4:1 ratio unless the ladder is braced or tied off.
2. Ladders used to access an upper floor or platform shall be extended at least 3 feet above the upper working surface, but not more than 4 feet.
3. Set the ladder on a secure footing. Ensure that the ladder has slip-resistant feet, secure blocking, or have someone hold the base of the ladder.
4. On soft ground, flip up the ladder shoes so the spurs dig into the ground.

5. Erect the ladder so that the upper section rests on the bottom section maintaining the minimum overlap of sections as shown on the ladder label.
6. Ensure that the locking ladder hooks are secured before climbing.
7. Tie off the ladder at the top to prevent it from slipping or blowing over.
8. Once erected, the rope and pulley system shall be secured to the ladder rung by following manufacturer instructions.

FIXED LADDERS

1. Fixed ladders shall be used at a pitch no greater than 90 degrees from the horizontal, as measured to the back side of the ladder.
2. Fixed ladders shall be anchored securely & installed to provide at least 3 inches of toe clearance.
3. Fixed ladders shall project at least 3 feet above landings, or substantial handholds shall be provided above the landings.

TRAINING

1. Each employee shall be trained on the proper use of ladders.
2. Employees shall be trained in the following areas:
 - a. The nature of fall hazards in the work area.
 - b. The proper construction, use, and care in handling, ladders.
 - c. The maximum intended load-carrying capacities of ladders that are used.
3. Retraining shall be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired through compliance with these rules.

SCAFFOLDING

GENERAL REQUIREMENTS

1. Scaffolds must be erected and utilized according to the manufacturer's instructions.
2. Only those employees who have been trained on JRE Scaffold rules shall be allowed to work on scaffolds.
3. Only qualified personnel are permitted to design a scaffold.
4. Lean to scaffolds and makeshift platforms are prohibited.
5. Scaffolds and their components must support without failure at least 4 times the maximum intended load.
6. Scaffolds cannot be erected, dismantled, moved, or altered except under the supervision of a competent person.
7. Supported scaffolds with a height-to-base of more than 4:1 shall be restrained from tipping by guying, tying, bracing, or the equivalent
8. Mobile scaffold wheels must be locked prior to accessing the work platform.
9. When accessing the work platform of a scaffold, JRE employees will use an appropriate access ladder and will not climb on the structure components except when structure has been designed for such access.
10. Employees shall take the weather into consideration before accessing a scaffold. A scaffold shall be kept free of slippery conditions such as those caused by ice, snow, oil, grease, or other slippery compounds.
11. Unstable objects such as barrels, boxes, and loose bricks should not be used to support scaffolds.
12. Tools and equipment must be hoisted onto the work platform and may not be carried by hand while climbing a ladder.
13. Only materials currently being used shall be stored on scaffolds.
14. Excess tools, materials, and debris shall not be permitted to accumulate on a scaffold to create a hazard.
15. A guardrail shall be installed on any open side or end of a scaffold work platform that is 10 feet or more above the floor or ground, unless other means of fall protection is provided.
16. Employees or jobsite personnel shall not pass beneath any occupied scaffold unless it has been equipped with appropriate falling object protection, including toe boards and safety screens.
17. If there is a danger of tools, materials, or equipment falling from a scaffold and striking employees below, then all the following provisions apply:
 - a. The area below the scaffold to which objects can fall shall be barricaded and employees shall not be permitted to enter the hazard area.
 - b. A toe board shall be erected along the edge of a platform that is more than 10 feet above lower levels. The toe board shall span a distance sufficient to protect employees below, except on a float scaffold, where an edging of 3/4-inch by 1-1/2-inch wood or equivalent may be used in place of a toe board.
 - c. If tools, materials, or equipment are piled to a height higher than the top edge of the toe board, then paneling or screening extending from the toe board or platform to the top of the guardrail shall be erected for a distance sufficient to protect employees below.
 - d. A guardrail system shall be installed with openings small enough to prevent the passage of potential falling objects.

INSPECTIONS

1. Each scaffold must undergo a documented pre-use safety inspection by a competent person prior to use on each shift and after any occurrence that could affect a scaffold's structural integrity.
2. Inspections must be documented using a scaffold inspection checklist.
3. Scaffold users must immediately report any unsafe condition to their supervisor.
4. The scaffold shall be removed from service if a deficiency is found. To remove a scaffold from service, an out of service tag shall be placed at the scaffold access points. The foreman is then responsible for ensuring the necessary arrangements are made for replacement or repair. All employees working on the scaffold will remain off the scaffold until the defective equipment is replaced or repaired.
5. Any scaffold, including accessories such as braces, brackets, trusses, screw legs, couplers, etc., damaged or weakened from any cause must be repaired or replaced immediately, and shall not be used until repairs have been completed.
6. Only qualified personnel shall perform repairs to scaffold components.
7. All replacement parts shall be the same design as the original or an equivalent design as designated by the manufacturer.

TRAINING

1. Training must be completed prior to using or erecting a scaffold.
2. JRE will train affected employees on the recognition and avoidance of scaffold hazards, as well as the safe use and construction of the fall protection system.
3. Employees who perform work on scaffolds must complete training consisting of the following:
 - a. The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection being used
 - b. The proper use of the scaffold, and the proper handling of materials
 - c. The maximum intended load and the load-carrying capacities of the scaffold
 - d. Aware of the protocol regarding inspecting the scaffold
4. Employees who are involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold shall be trained in the following:
 - a. The nature of scaffold hazards.
 - b. The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold being used.
 - c. The design criteria, maximum intended load-carrying capacity, and intended use of the scaffold.
5. Refresher training in relevant topics will be provided when any of the following occur:
 - a. An employee is observed using the scaffold in an unsafe manner
 - b. An accident or a near-miss incident occurs
 - c. Changes in the types of scaffold, fall protection, falling object protection, or other equipment present a hazard that an employee has not previously been trained on
 - d. Changes in the worksite present a hazard that an employee has not previously been trained on.

EXCAVATION

QUALIFIED PERSON

1. A qualified person is required to have training, experience, and knowledge of soil analysis and the use of protective systems. A qualified person must also have the ability to detect conditions that could result in cave-ins, failure in protective systems, hazardous atmospheres, and other potential hazards.
2. Inspections must be made by a qualified person. Inspections are required with the following frequency and conditions:
 - a. Daily and before the start of each shift
 - b. As dictated by the work being done
 - c. After every rainstorm or other events that could increase hazards
 - d. When fissures, tension cracks, undercutting, water seepage, bulging at the bottom, or other similar conditions occur
 - e. When there is any indication of change or movement in adjacent structures
 - f. Soil type
 - g. Calculations for shoring and benching

REQUIREMENTS

UNDERGROUND INSTALLATION LOCATING

1. Prior to beginning any excavation, the state utility locating service must be notified to mark the location of utilities. Owners of privately-owned underground utilities may need to be notified if they are not a participant of that state's one-call system.
2. A valid and current locate ticket must be physically present on all sites. Ticket can be in digital or paper format. Tickets must be renewed prior to expiration.
3. Prior to digging, employees are required to review Positive Response to ensure that all utilities have been marked.
4. The company performing the excavation activities is always responsible for maintaining the marks placed by the utility companies at the jobsite.
5. If excavation activities cause the removal or disturbance of markings, establish offset marks to maintain a reference point for those underground utilities.
6. All employees involved in excavation activities must be made aware of any offsets that have been established and any marks that have been compromised.
7. If marks have faded or have been compromised to the point where proper and safe excavation is no longer possible, STOP ALL WORK and contact the state's utility locating service to request re-mark.
8. If a utility has been marked but cannot be found as marked, STOP ALL WORK and contact the state's utility locating service requesting additional assistance. Cease all excavation activities within the affected area until re-staking is completed.
9. If you find an unmarked or unknown facility/utility, stop digging in the affected area and contact the state's utility locating service or the utility owner. After documentation is complete work can be continued.
10. J. Ranck Electric works in many different states, under many different excavation laws and standards. It is always vastly important to adhere to local regulations. Check the state's laws before digging around marked lines.

ACCESS & EGRESS

1. A means of egress must be provided in excavations that are greater than 4' in depth.
2. Ladders or other means of egress shall be located within 25 feet of all workers.
3. Ladder must extend to a minimum of 36" above grade.
4. Ladders shall be used only on stable and level surfaces unless secured. Ladders placed in any location where they can be displaced by workplace activities or traffic shall be secured, or barricades shall be used to keep these activities away from the ladders.
5. An earth ramp may be used in place of a ladder if it meets the following requirements:
 - a. The ramp material shall be stable.

- b. The sides of an excavation above the ramp shall be maintained to the angle of repose or sheeted or shored along the means of egress.
- c. The degree of angle of the ramp shall not be more than 45 degrees.
- d. Vertical height between the floor of the trench and the toe of the ramp shall not exceed 30 inches.

STABILITY OF ADJACENT STRUCTURES

1. Support systems shall be used to assure the stability of structures and the protection of employees where excavation operations could affect the stability of adjoining buildings, walls, or other structures.
2. Excavation below the level of the base or footing of any foundation or retaining wall that could be reasonably expected to pose a hazard to employees shall not be permitted, except when one of the following is met:
 - a. A support system, such as underpinning, is provided to ensure the safety of employees and the stability of the structure,
 - b. The excavation is in stable rock, or
 - c. A registered professional engineer has approved the determination that the structure is sufficiently removed from the excavation so as to be unaffected by the excavation activity.
3. Sidewalks, pavements, and adjacent structures shall not be undermined unless a support system or other method of protection is provided to protect employees from the possible collapse of such structures.

EXPOSURE TO FALLING MATERIALS

1. No person shall be permitted under elevated loads.
2. Excavated or other materials must be placed at least 2 feet from the edge of excavations.
3. When mobile equipment is utilized adjacent to an excavation and the operator's vision is restricted, stop logs, barricades, or a signal person shall be utilized.
4. If placing or operating power shovels, trucks, materials, or other heavy objects on a level above and near an excavation, the side of the excavation shall be sheet-piled, shored, or braced when deemed necessary by a qualified person.

HAZARDOUS ATMOSPHERES

1. Employees shall not be permitted to work in hazardous and/or toxic atmospheres (less than 19.5% oxygen and more than 23.5% oxygen). Flammable gas concentrations must be kept below 10% of the lower explosive limit (LEL).
2. Air monitoring is required if the excavation is more than 4' deep **and** an oxygen deficiency or other hazardous atmosphere exists or could reasonably be expected to exist. If air monitoring determines that hazardous conditions exist:
 - a. Continuous air monitoring shall occur while excavation is occupied
 - b. Controls to be put in place, such as ventilation and/or PPE
3. Employees entering steel casings, bell-bottom pier holes, or other similar deep and confined footing excavations, must perform a confined space evaluation. The space shall then be treated as a confined space and the employee shall refer to [Confined Space Policy](#).

EMERGENCY RESPONSE

1. In case of an emergency, contact the designated emergency response personnel and report the following:
 - a. Exact Location
 - b. Number of Victims
 - c. Nature of emergency
 - d. Trench Measurements
 - e. Special Hazards
2. In the event of a collapse or cave in, do not attempt to enter the excavation to make rescue
3. Keep all life-support and dewatering systems operating
4. Clear workers away from the excavation
5. Shut down heavy equipment and remove the keys
6. Be prepared to meet and brief rescue personnel
7. Be sure to note last known location of the victim

WATER ACCUMULATION

1. Employees are not permitted to work in an excavation where there is an accumulation of water or where water is accumulating unless adequate precautions have been taken to protect the employees against the hazards.
2. When water removal equipment is used to prevent or control the water from accumulating, the equipment and operations will be monitored by the qualified person to ensure continuous operation.

BARRICADES

1. Each employee at the edge of an excavation 6 feet or more in depth shall be protected from falling by guardrail systems, fences, or barricades when the excavations are not readily seen because of visual barriers.
2. All excavations shall be completely covered or barricaded prior to leaving the site at the end of the work shift. Covers must be capable of supporting 2x the intended load and must be secured and identified as an open hole.
3. Upon completion of operations all excavations shall be backfilled.
4. Employees at the edge of a well, pit, shaft, or similar excavation 6 feet or more in depth shall be protected from falling by guardrail systems, fences, barricades, covers, or fall arrest system.
5. Where employees are permitted to cross over excavations, handrails must be provided. Handrails shall be constructed in the following fashion:
 - a. Top rail 42" high, plus or minus 3
 - b. Top rail must support 200 lbs. outward and downward force
 - c. Mid rail must support 150 lbs.
 - d. Flag wire rope every 6 ft.
 - e. Wire rope must not deflect more than 3"
 - f. Uprights no further than 3'0" apart

PROTECTING THE PUBLIC

1. Barricades, walkways, lighting, and postings shall be provided as necessary to protect the public, prior to the start of excavation operations.
2. Wells, holes, pits, shafts, and all similar hazardous excavations shall be effectively barricaded or covered and posted as necessary to prevent unauthorized access.
3. Employees conducting drilling operations shall maintain constant observation of the area to prevent unauthorized access of other workers or the general public unless otherwise protected.

PROTECTIVE SYSTEMS

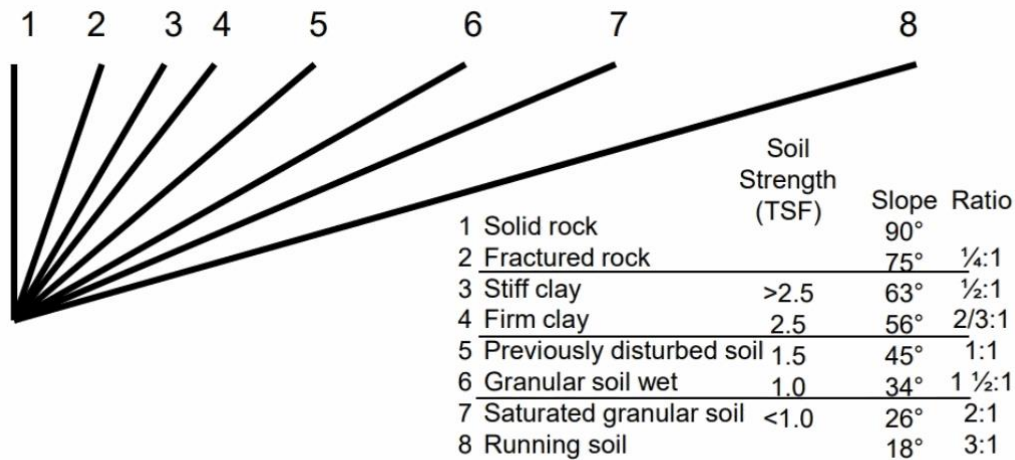
1. Employees in an excavation will be protected from cave-ins by an adequate protective system, except when:
 - a. Excavations are made entirely in stable rock
 - b. Excavations are less than 5'0 in depth and examination of the soil conditions by a qualified person provides no indication of a potential cave-in.
2. Protective systems must have the capacity to resist all loads that are intended or could reasonably be expected to be applied or transmitted to the system.
3. The qualified person shall evaluate and select the type of protective system to use and shall inspect it prior to the start of the work and as needed during the shift.

BENCHING & SLOPING

1. The side of an excavation more than 5 feet shall be sloped as described in the table below. Excavations less than 5 feet in depth shall also be benched or sloped when examination of the soil conditions indicates hazardous conditions may be expected.
2. When benching the side of an excavation, the vertical rise shall not be more than 5 feet and the step back shall extend at least to the angle of repose as required by table below.
3. When benching a side of a trench, the height of the lower bench shall not be more than the lesser of 5 feet or width of the trench measured at the bottom.
4. An employee shall not be permitted to work on sloped or benched excavations at levels above another employee, except when an employee at the lower level is protected from the hazard of falling, rolling, or sliding material or equipment.

5. Job conditions may require the angle of repose shown in this to be reduced to prevent the side of the excavation from failure. Strength values are given in unconfined compressive strength as measured by a penetrometer or laboratory tests.
6. The qualified person shall be responsible for determining soil type.
7. The soil must be classified to the weakest layer.

Table 1 Max Angle of Repose for Excavation Sides in Excess of 5 ft. Depth (Michigan)



SHIELDING & TRENCH BOXES

1. Portable trench boxes or trench shields may be used in place of a sloping or shoring system. Where trench boxes or shields are used, they shall be designed, constructed, and maintained in a manner that provides protection equal to or greater than the sheeting or shoring required for the trench.
2. Employees are not allowed in an excavation when shields or trench boxes are being installed or removed.
3. Shield systems shall not be subjected to loads exceeding those which the system was designed for.
4. The distance between the bottom of the shield and the bottom of the excavation shall not exceed 2 feet, provided that the system is designed to resist the forces calculated for the full depth of the trench. The excavation shall be inspected on a regular basis to ensure there are no indications of soil erosion from behind or below the bottom of the shield.

TRAINING

All employees shall be trained on Common Ground Alliance and Foreman shall be trained in excavation laws and standards.

REFERENCES

JRE excavation policy follows all [OSHA](#) & [MiOSHA](#) Standards, including but not limited to the sections below. Qualified and Competent persons are responsible for knowing which standards to follow.

CONFINED SPACE

DEFINITIONS

1. **"Confined space"** means a space that:
 - Is large enough and so configured that an employee can bodily enter and perform assigned work;
 - Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins; hoppers, vaults, and pits are spaces that may have limited means of entry; and
 - Is not designed for continuous employee occupancy.
2. **Permit-required confined space** (permit space)"means a confined space that has one or more of the following characteristics:
 - Contains or has a potential to contain a hazardous atmosphere;
 - Contains a material that has the potential for engulfing an entrant;
 - Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
 - Contains any other recognized serious safety or health hazard.
3. **Enclosed Space** - A working space such as an open vault, building crawl space, or tunnel that:
 - Is entered by an electrically qualified person (see qualifications below),
 - Has a limited means of egress or entry,
 - Is designed for periodic employee entry under normal operating conditions, and
 - Under normal conditions does not contain a hazardous atmosphere, but that may contain a hazardous atmosphere under abnormal conditions.
 - If the space contains any other recognized hazard, it shall be considered Permit-Required.

RESPONSIBILITIES

1. A list of trained Entry Supervisors, Entrants, Attendants, and Rescue is located in the JRE Training spreadsheet.
2. Entry Supervisor's shall:
 - a. Recognize potential hazards during entry, signs/symptoms of exposure
 - b. Before entry, determine that area conditions meet requirements of the permit
 - c. Provide necessary equipment, hazardous material information, and assuring rescue services are in place
 - d. Assure entrants and attendants are trained prior to entry
 - e. Determine that entry operations and conditions remain consistent with the terms of the permit
 - f. Remove unauthorized individuals from area during entry operations
 - g. Cancel the permit at the end of the entry
 - h. Know how to bump test and calibrate monitors and be able to read and interpret air monitors
3. Entrant's shall:
 - a. Know the hazards that they may encounter during entry
 - b. Properly use equipment
 - c. Communicate with attendant as needed alerting of hazards
 - d. Exit from permit space whenever ordered to evacuate, a hazard is recognized, or an evacuation alarm is activated
 - e. Be able to read and interpret air monitors
4. Attendants shall:
 - a. Know the hazards of the space
 - b. Know the symptoms of hazard exposure in entrants
 - c. Keep an accurate count of the number of entrants in the permit space
 - d. Remain outside the space during operations until relieved
 - e. Monitor the work area for hazardous conditions
 - f. Summon rescue and emergency services
 - g. Communicate with entrants to relay information and monitor the status of the entrants
 - h. Order the evacuation of the entrants from the space if a hazardous condition is encountered

- i. Keep unauthorized employees away from the space
 - j. Perform non-entry rescues
 - k. Attendants are not to monitor multiple confined spaces at one time, unless all spaces monitored are close in proximity.
 - l. Shall maintain a form of communication for summoning rescue services
5. Rescue:
- a. Retrieval systems shall be available and ready when an entrant enters a permit space, unless such equipment increases the overall risk of entry.
 - b. In the event of a confined space emergency where self-rescue cannot be performed, JRE will rely on contacting trained local emergency rescue personnel to assist with a permit space rescue.
 - c. The rescue team shall be evaluated on the following items:
 - Ability to respond in a timely manner (based on the hazard) to rescue calls from the attendant or any other person recognizing a need for rescue from the confined space.
 - Availability of appropriate rescue equipment based on the hazards.
 - Willingness to notify JRE immediately if rescue services become unavailable.
 - Adequate training records of rescue personnel.
 - Availability of written rescue plan (plan shall be maintained on jobsite)
 - d. If in the course of a permit space entry an attendant becomes aware that an entrant needs assistance in escaping from permit space hazards, the attendant shall:
 - Summon rescue and other emergency services
 - Begin non-entry rescue procedures
 - e. The rescue team, rescue team's training within the last 12 months, and rescue equipment will be identified on the site-specific safety plan.

CONFINED SPACE REQUIREMENTS

- 1. Contact the JRE Safety Department if a confined space is determined to be permit-required.
- 2. No entry shall be permitted until the permit has been reviewed and discussed by all persons engaged in the activity.
- 3. Means for safe ingress and egress shall be provided for confined spaces.
- 4. Danger signs shall be posted at all permit-required confined spaces.
- 5. Any change in designation of a confined space will be communicated to all affected employees.
- 6. The confined space program and procedures will be reviewed annually.
- 7. If a condition exists which makes it unsafe to remove the entrance cover, the unsafe condition shall be eliminated before the cover is removed.
- 8. When entrance covers are removed, the opening shall be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.
- 9. When an employee is in a confined space that contains exposed energized electrical conductors or circuit parts operating at voltages equal to or greater than 50 volts or where an electrical hazard exists, JRE shall provide protective shields, protective barriers, or insulating materials as necessary to avoid contact with these parts.
- 10. When electrical wiring is used in a tank or other confined space, a properly identified disconnect switch shall be provided at the entrance.
- 11. In the event that JRE employees are working in the same confined space as employees of another company, JRE will coordinate entry operations to ensure safety of all entrants.

CONFINED SPACE EVALUATION AND CLASSIFICATION

- 1. A Confined/Enclosed Space Evaluation form shall be completed for every confined space to determine if the confined space is permit-required. This evaluation shall take place prior to entry of the space.
- 2. Permit-required confined space entry procedures shall be followed for spaces that exhibit multiple hazards. Alternate entry procedures shall be followed for spaces that only have an atmospheric hazard that can be controlled by ventilation.
- 3. A space classified as a permit-required confined space may be reclassified as a non-permit confined space using the following procedures:

- a. If the space poses no atmospheric hazards and if all other hazards within the space are eliminated (not just controlled), the permit space may be reclassified as a non-permit confined space.
 - b. If it is necessary to enter the permit space to eliminate hazards, such entry shall be performed under the regular permit space entry procedures.
 - c. An evaluation form shall be used to document the basis for determining that all hazards in a permit-required confined space have been eliminated.
 - d. If hazards arise within a permit space that has been reclassified as a non-permit space, each employee in the space shall immediately exit the space. The employer shall then reevaluate the space and determine whether it must be reclassified as a permit space.
 - e. If there are changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, the employer shall reevaluate that space and, if necessary, reclassify it as a permit-required space.
4. All evaluation forms shall be retained for at least 1 year.
 5. Employees, or their representatives, must be given an opportunity to request the space be re-evaluated.

PERMIT SYSTEM AND ENTRY PERMIT

1. Before entry of a permit space is authorized, a confined space entry permit shall be prepared to document that the space is safe to enter.
2. Before entry begins, the entry supervisor identified on the permit shall verify that all necessary precautions have been taken and then sign the entry permit to authorize entry.
3. The completed permit shall be made available at the time of entry to all authorized entrants, by posting it at the entrance so that the employees can confirm that the pre-entry preparations have been completed.
4. The entry supervisor shall terminate entry and cancel or close the entry permit when:
 - The entry operations covered by the entry permit have been completed
 - A condition that is not allowed under the entry permit arises in or near the permit space (e loss of ventilation, a facility or area emergency, unavailability of rescue team, etc.).
 - Any problems encountered during an entry operation shall be noted on the permit so that appropriate revisions to the permit space program can be made.
5. Each permit shall be retained for at least one year to facilitate the review of the permit-required confined space program.

ATMOSPHERIC TESTING

1. Prior to entry, the atmosphere in the space shall be tested for oxygen deficiency, flammable gases, carbon monoxide and hydrogen sulfide, in that order, with a direct-reading air monitor. Testing for flammable gases shall be performed after the oxygen test has confirmed there is enough oxygen to ensure accuracy of the test.
2. Acceptable Limits are as follows:
 - a. Oxygen >19.5% or <23.5%
 - b. Flammability <10% lower explosive limit (LEL)
 - c. Carbon Monoxide <35ppm*
 - d. Hydrogen Sulfate <10ppm**

*Time-weighted average – Employee can work in the area 8-hour workday during a 40-hour week

**Short-term Exposure Limit – Employee can work in the area up to 15 minutes in an 8-hour period

3. If the presence of other toxic contaminants is suspected, specific monitoring programs will be developed.
4. Atmospheric tests shall be performed prior to any ventilation of the space.
5. JRE employees may not enter a confined/enclosed space when an IDLH atmosphere exists.
6. If flammable gases or vapors are detected or if an oxygen deficiency is found, forced-air ventilation shall be used to maintain oxygen at a safe level and to prevent a hazardous concentration of flammable gases and vapors from accumulating.
7. Continuous forced air ventilation shall be used as follows:
 - Continuous forced air ventilation shall begin before entry is made and be maintained long enough to demonstrate that a safe atmosphere exists before employees enter the work area.

- The forced air ventilation shall be directed as to ventilate the immediate areas where an employees are present within the space and shall continue until all employees have left the space
 - The air supply for the forced air ventilation shall be from a clean source and may not increase the hazards in the space
8. If a hazardous atmosphere is detected during entry:
- Each employee shall leave the space immediately
 - The space shall be evaluated to determine how the hazardous atmosphere developed
 - Measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place
9. Continuous air-monitoring shall be conducted throughout the duration of the entry to ensure safe levels of oxygen and no increase in flammable gas or vapor concentration above safe levels occurs.

ALTERNATE PROCEDURES FOR ENTRY

1. Alternate procedures for entering a permit space apply when **all** the following conditions apply:
 - When the only hazard posed by a permit space is an actual or potential hazardous atmosphere
 - When continuous forced air ventilation alone is sufficient to maintain the permit space for entry
 - When the work to be performed within the space does not introduce any potential hazards (ex. work with hazardous quantities of flammable or toxic substances, hot work, etc.)
2. Alternate procedures shall be documented on the Confined Space Entry Permit.
3. If an initial entry of the permit space is necessary to obtain the required monitoring and inspection data, the entry shall be performed under the regular procedures for entering a permit space (including the completion of a confined space entry permit and the presence of an attendant).
4. The atmosphere within the space shall be continuously tested to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere. The Foreman is responsible to complete and record these atmospheric tests on Confined Space Entry Permit.

CONFINED SPACE ENTRY PROCEDURES

1. Regular procedures for entering permit spaces apply under any of the following conditions:
 - When multiple hazards are posed by a permit space
 - When it is necessary to enter the permit space to control or eliminate the hazards
 - When monitoring and inspection data do not exist
2. Before entry of a permit space is authorized, an entry permit shall be prepared to document that the space is safe to enter.
3. All pre-entry preparation activities specified on the permit shall be completed before entry is authorized. These preparations include, but are not limited to, the following:
 - Isolation of the permit space
 - Lockout/tagout/tryout all sources of electricity, pneumatic, mechanical, chemical, or thermal hazards
 - Ventilation of permit space as necessary to eliminate and control the atmospheric hazards
4. Evaluate permit space conditions as follows when entry operations are conducted:
 - Test conditions in the space to determine if acceptable conditions exist before entry is authorized.
 - Test or monitor the permit space as necessary to determine if acceptable entry conditions are being maintained during the entry operations.
5. At least one attendant is required outside the permit space into which entry is authorized for the duration of the entry operations.
6. Notify rescue personnel prior to employees entering the space and verify that rescue is available.
7. The permit space shall be evacuated immediately under any of the following conditions:
 - If the entrant or attendant detects a prohibited condition
 - If the entrant recognizes any warning signs or symptoms of exposure to a dangerous situation
 - If the attendant detects behavioral effects of hazard exposure in an authorized entrant
 - If the attendant detects a situation outside the space that could endanger the authorized entrant

- If the attendant cannot effectively and safely perform all the required duties.
- When rescue services are not available.

ENCLOSED SPACE REQUIREMENTS

1. This policy applies to routine entry into enclosed spaces in lieu of the permit space entry requirements.
2. If, after the employee takes the precautions given in this policy, the hazards remaining in the enclosed space endanger the life of an entrant or could interfere with an entrant's escape from the space, then entry into the enclosed space shall meet the permit-space entry requirements.
3. JRE shall ensure the use of safe work practices for entry into, and work in, enclosed spaces and for rescue of employees from such spaces. Customer specific procedures will be listed in the site-specific safety plan.
4. Each employee who enters an enclosed space or who serves as an attendant shall be trained in the hazards of enclosed-space entry, in enclosed-space entry procedures, and in enclosed-space rescue procedures.
5. Employees shall ensure equipment is available prior to entry to ensure prompt and safe rescue of an employee from an enclosed space.
6. Before any entrance cover to an enclosed space is removed, the employee shall determine whether it is safe to do so by checking for the presence of any atmospheric pressure or temperature differences and by evaluating whether there might be a hazardous atmosphere in the space. Any conditions making it unsafe to remove the cover shall be eliminated before the cover is removed. An evaluation also needs to be made of whether conditions at the site could cause a hazardous atmosphere, such as an oxygen-deficient or flammable atmosphere, to develop within the space.
7. Reliable communications shall be maintained between the attendant and employees in a manhole/vault.
8. Employees may not enter any enclosed space while it contains a hazardous atmosphere unless the entry conforms to the Confined Space policy.
9. While work is being performed in the enclosed space, an attendant with CPR/first-aid training shall be immediately available outside the enclosed space to assist if a hazard or emergency occurs. The attendant is not excluded from performing other duties outside the enclosed space provided that:
 - a. These duties do not distract the attendant from monitoring employees within the space or
 - b. Ensuring that it is safe for employees to enter and exit the space.

QUALIFIED EMPLOYEE

Electrically qualified employees entering enclosed spaces shall be trained and competent in the following:

1. The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment
2. The skills and techniques necessary to determine the nominal voltage of exposed live parts
3. The minimum approach distances, specified in the NFPA 70E Compliance Guide, corresponding to the voltages to which the qualified employee will be exposed and the skills and techniques necessary to maintain those distances
4. The proper use of the special precautionary techniques, PPE, insulating and shielding materials, and insulated tools for working on or near exposed energized parts of electric equipment
5. The recognition of electrical hazards to which the employee may be exposed and the skills and techniques necessary to control or avoid these hazards

TRAINING

Training shall be provided and documented for each affected employee before:

- An employee enters, supervises, monitors, or provides rescue for a confined space
- When there is a change in operations
- Or when JRE has reason to believe inadequacies are present

Training will be applicable to the employee's responsibilities in a Confined Space.

LOCKOUT PROGRAM

This policy establishes the minimum requirements for the lockout of energy sources whenever maintenance or servicing work is done on machines, equipment, or circuits. It shall be used to ensure that the machine, equipment, or circuit is stopped, isolated from all potentially hazardous energy sources, and locked out before employees perform any servicing or maintenance work where the unexpected/unintended energization or start-up of the machine or equipment, or release of stored energy could cause injury.

GENERAL REQUIREMENTS

1. Disconnecting means shall be rendered inoperable, unless its design does not permit, and then ensure that such means are tagged to indicate that employees are at work.
2. An authorized employee is a person who locks out machines and equipment to perform servicing or maintenance on that machine, circuits, or equipment who is trained to perform lockout procedures.
3. An affected employee is a person whose job required him/her to operate a machine or equipment on which servicing, or maintenance is being performed under lockout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.
4. Authorized employees trained in lockout will be issued a lock from the safety department prior to lockout activities taking place.
5. Lockout locks will be individually keyed. Lock keys shall only be in the possession of the employee performing the lockout.
6. Lockout locks shall have a durable tag attached which indicates the lockout condition and the name of the employee who attached the lock.
7. When the lockout process needs to occur in a specific order due to equipment specifications or design, this order shall be well documented in a site-specific lock out plan.

WHAT TO LOCKOUT

During servicing or maintenance, equipment utilizing any hazardous energy source such as electrical, pneumatic, steam, hydraulic, gravity, and/or air must be locked out when the unexpected energization or startup of the machine or equipment or release of stored energy could cause injury to employees. The lockout must render the machine inoperative and immovable.

WHEN TO LOCKOUT

1. **Equipment Cleaning or Jam-Clearing Tasks** - When a normally moving piece of equipment is stopped for cleaning, clearing, or adjustment during which a startup could cause injury, lockout is used.
2. **Equipment Repair** - Whenever a repair is being performed on or near equipment where there is a possibility of injury as a result of starting the equipment, lockout is used. This includes any and all equipment from which a guard or other safety device has been removed.
3. **Installation Tasks** - Frequently during installation, either part of all the components making up the installation can be operated before the installation is complete. If needed for testing, precautions must be taken to prevent injuries to personnel during the test periods and the equipment again locked out when the test is complete or interrupted.
4. **Electrical Repair Tasks** - Whenever any work other than testing is to be performed on an electrical circuit, the wiring involved must be de-energized and locked out so that it cannot be reactivated during this work.

GROUP LOCKOUT

1. Before the work begins, the lockout procedure will be reviewed with each group member. One authorized employee will be designated as responsible for the lockout.
2. If more than one company or work group is involved, one authorized employee will coordinate the lockout to ensure that all control measures are applied and there is continuous protection for the group.
3. Each authorized employee will affix their lockout lock to the group lockout box and will remove their lock when he/she stops working on the machine or equipment.

SHIFT CHANGE

The continuous safe guarding of machines or equipment shall be maintained during personnel changes, shift change, or long intervals of time. During shift change the oncoming shift will apply their own lockout lock to the equipment or group lockout box prior to the preceding shift removing their locks.

WHEN LOCKOUT METHODS ARE NOT REQUIRED

1. Minor tool changes (for example, changing a drill bit) are not covered when a stop button is used to control unexpected motion during the tool change or minor adjustment and when the start button is both visible and under the employee's immediate control.
2. Cord and plug connected equipment must be unplugged and under the exclusive control of the employee performing the service or maintenance work. The plug must physically be in the possession of the employee, or in arm's reach and in the line of sight of the employee.
3. Repair, trouble-shooting and set-up adjustments must be performed on energized equipment **only** when it is necessary to leave the machine energized. For the purpose of this procedure, the trouble-shooting process will end and a lockout will be required when:
 - Power is shut-off
 - A particular problem has been located and repairs start
 - Individual machine components are being replaced
 - Circuit changes are being made

APPLICATION OF LOCKOUT CONTROL

1. **Preparation for Shutdown** - Personal safety locks and keys will be kept by each individual operator, mechanic, electrician. Supervisors will also have their own locks and keys. Authorized employees shall review the written lockout procedure to have complete understanding of the type(s) and magnitude of the energy, the hazards of the energy to be controlled, and the methods or means to control the energy.
2. **Notification of Employees** - Affected employees shall be notified by the authorized employees that the machine or equipment is going to be locked out.
3. **Machine or Equipment Shutdown** - The machine or equipment shall be turned off or shut down using the energy control procedures established for the machine or equipment.
4. **Machine or Equipment Isolation** - All energy isolating controls that are needed to control the energy of the machine or equipment shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy sources (e.g., steam, pneumatic, hydraulic, and air). A Zero Energy State must be proven. If equipment does not permit the use of a standard lock out, another method such as a wire cable and lock can be used.
5. **Lockout Device Application** - The multiple lock adapter and lock shall be affixed in such a manner as to hold the energy isolation devices in a safe or off position.
6. **Notification of Affected Personnel** - Affected employees shall be notified by the authorized employees that the machine or equipment is locked out. In addition to verbal notification, a tag indicating a power lockout condition shall be used in conjunction with each lockout lock.
7. **Verification of Isolation** - Prior to starting work on a machine or equipment that has been locked out, each authorized employee involved shall verify that the isolation and de-energization of the machine or equipment have been accomplished by testing the effectiveness of the lockout by attempting to cycle the machine, start the equipment, or by verifying the absence of electrical energy with the appropriate testing equipment.
 - Each authorized employee will notify other authorized and affected personnel in the area that they are going to attempt to cycle the machine or equipment prior to doing so and shall ensure that personnel are free and clear of the machine or equipment prior to operating the controls.
 - If the controls activate the machine or equipment or cause any machine or equipment movement, each authorized employee will begin again at Step 1 Preparation for Shutdown.
 - If there is the possibility of re-accumulation of stored energy to a hazardous level, verification or isolation shall be continued until the servicing or maintenance is completed, or until the possibility of re-accumulation no longer exists. Stored or potential energy will be relieved, restrained, or otherwise made safe.

8. **Begin Work Activity** - Work activity will begin once each authorized employee involved has verified that the current control of hazardous energy sources has been effective.

TESTING/POSITIONING OF MACHINES/EQUIPMENT/COMPONENTS

In situations in which lockout devices must be removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment or component, the following sequence of actions shall be followed:

1. Clear the machine or equipment of tools and materials.
2. Remove employees from the machine or equipment area.
3. Notify affected employees that the lockout devices are going to be removed.
4. Each authorized employee who applied a safety lock will remove their own safety lock.
5. Notify affected employees that the safety locks have been removed and that the machine or equipment is going to be energized.
6. Energize and test the equipment.
7. De-energize all systems and reapply energy control measures.

LOCK REMOVAL

1. Each lockout lock shall be removed by the authorized employee who applied the device except for conditions specified in emergency lock removal.
2. When an authorized employee is not available to remove their lock, the supervisor of that employee has the authority to request the removal of a lock in the absence of the employee. The following procedure must be followed:
 - The supervisor must attempt to contact the employee to whom the lock belongs and determine if the employee is available to remove their lock.
 - If the employee is available, he/she alone has the authority to determine whether the lock can be removed based on the guidelines of the lockout plan.
 - If the employee is not available, the supervisor will make a reasonable effort to contact the employee and will ask the employee whether the work is complete, and the equipment is ready to be activated. The employee will be advised that his/her lock may be removed.
 - If the employee advises that the equipment is not ready to be activated, the supervisor must arrange to have another lock placed on the equipment as soon as the existing lock is removed.
 - If the employee advises that the equipment is ready to be activated, the supervisor shall inspect the work area to verify that there is no danger in re-energizing the equipment, remove the lock, and inform all affected employees that the equipment is operational.
 - If contact is not established, the supervisor will inspect the equipment for completeness of work and authorize the removal of the lock. The employee whose safety lock has been removed will be notified immediately upon return.
 - If the equipment is ready to be activated, the supervisor will inform all affected employees that the equipment is operational. At this point, the supervisor can authorize removal of the lock.
 - The person removing the safety lock is responsible for making certain that all requirements for restoring the energy source are followed prior to removing the safety lock.
3. The JRE safety department must be contacted, if an employee's lock is removed at any time without the employee being present.

TRAINING

1. Authorized employees will receive training in the recognition of applicable hazardous energy sources and the methods and means necessary for the energy isolation and control.
2. Affected employees shall be instructed in the purpose and use of the energy control procedure.
3. Employees shall be instructed about the procedure and about their responsibility not to restart or re-energize machines or equipment which are locked out.

4. Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard, or when there is a change in the energy control procedures.
5. Additional retraining shall also be conducted whenever periodic inspection reveals, or whenever there is reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.
6. All employee training will be documented.

PERIODIC INSPECTION

1. At least annually, the JRE safety department will audit a lockout plan on the job when the lockout is being performed. Documentation of this audit will be maintained on file.
2. Any deviation or inadequacies identified during this audit will be corrected and communicated to all employees.
3. The inspection will also include a review of the employee's responsibilities under the energy control procedure.

ELECTRICAL SAFETY

The Electrical Safety Policy applies to the installation and use of temporary and permanent electrical systems for construction operations for qualified and unqualified employees. This policy works in conjunction with the JRE Power Transmission and Distribution Policy.

GENERAL

1. Employees shall not engage in electrical work unless the employee is a licensed electrician, or under the supervision of a licensed electrician.
2. Access to energized electrical equipment such as switch gear, transformers, and service panels shall be limited to qualified employees.
3. Employees shall advise the customer and any other workers in the area of unique or unanticipated hazards presented by electrical work activities. Measures taken to correct any reported hazards must be reported to the customer.
4. All temporary electrical wiring shall be inspected prior to use and removed or repaired if damaged.
5. Employees shall ensure that all electrical wiring is protected from physical damage.
6. Where work requires exposure to, or handling of, energized conductors or switch gear of 440 volts or more between phases, 2 or more qualified employees shall work together.
7. Portable ladders may not have conductive side rails where the employee or the ladder could contact exposed energized parts.
8. Employees may not enter or work in spaces containing exposed energized parts unless illumination is provided that enables the employees to work safely.
9. In lieu of an assured grounding program, JRE will utilize ground fault circuit interrupters (GFCI) on all 120-volt, single phase 15 and 20 ampere outlets which are not a part of the permanent wiring of the building, structure, or portable/vehicle mounted generator, unless customer-required or GFCI's are not feasible.

SAFE WORK PRACTICES

1. Employees shall utilize special precautionary techniques, PPE, insulating and shielding materials, and insulated tools for working on or near exposed energized parts of electric equipment. ([Power Transmission and Distribution](#))
2. Insulated tools must be inspected prior to each use and immediately after any incident.
3. Testing instruments shall be verified to be in proper working order before and after an absence of voltage test is performed.
4. All live parts of electrical equipment operating at 50 volts or more shall be properly guarded against accidental contact.
5. Employees shall treat all exposed de-energized parts that have not been locked out as energized.
6. Prior to any work being performed, electrical equipment shall be de-energized and locked out per the JRE [Lockout Policy](#).

ELECTRICAL INSTALLATIONS

1. Before work begins, a qualified person shall determine whether any energized electrical equipment could come in contact with an employee, tool, or equipment.
2. Employees shall not work near any energized electrical equipment that may be contacted unless the employee is protected against electric shock by:
 - a. De-energizing the circuit and locking it out, OR
 - b. The use of electrically protective equipment such as PPE, insulated tools, and guarding.
 - c. See [Power Transmission & Distribution Policy](#)
3. An aisleway at least 3 ft. wide and 6 1/2 ft. high shall be maintained in the area of electrical equipment.
4. Barriers or other means shall be provided to ensure that the work space for electrical equipment is not used as a passageway during periods when energized parts of electrical equipment are exposed.

OVERHEAD LINES

1. If work is to be performed near overhead lines, all current carrying conductors must be de-energized or other protective measures must be taken, such as guarding, isolation or insulation.
2. Minimum distances for unqualified persons or equipment:
 - a. For voltages to ground 50kV or below - 10 feet

- b. For voltages to ground over 50kV - 10 feet plus 4 inches for every 10kV over 50kV.
3. Qualified employees working near energized lines shall observe the minimum approach distances below and shall use protective equipment as outlined with the Power Transmission and Distribution Policy.

Voltage Range (phase to phase)	Minimum Approach Distance
300 and less	Avoid contact
Over 300V, not over 750V	1 ft. 0 in.
Over 750V, not over 2kV	1 ft. 6 in.
Over 2kV, not over 15kV	2 ft. 0 in.
Over 15kV, not over 37kV	3 ft. 0 in.
Over 37kV, not over 87.5kV	3 ft. 6 in.
Over 87.5kV, not over 121kV	4 ft. 0 in.
Over 121 kV, not over 140kV	4 ft. 6 in.

4. When a qualified person is working in the vicinity of overhead lines, they may not approach or use any conductive object without an approved insulating handle closer to exposed energized parts than shown above.
5. No materials or equipment shall be stored under energized bus, energized lines, or near energized equipment if it is practical to store them elsewhere.

ENERGIZED EQUIPMENT

1. Receptacles for an attachment plug shall meet all of the following requirements:
 - a. Be of the concealed contact type.
 - b. Have a contact for extending ground continuity or be of the double insulated type.
 - c. Be designed and constructed so that the plug may be removed without leaving any live parts exposed to contact.
 - d. Not be capable of receiving attachment plugs for a voltage, frequency, or type of current different from that for which the receptacle is intended, nor shall a plug of a different style be forced into a receptacle.
2. Extension cords used with a portable electric tool or appliance shall be a 3-wire type.
3. Conductors supplying temporary wiring shall be the minimum protective qualities of type NM wire for use indoors, or type UF wire for use outdoors.
4. Trailing cords and extension cords shall meet all of the following:
 - a. Be protected against damage.
 - b. Hung in a manner which does not damage the covering.
 - c. Be insulated to prevent shock or shorts.
 - d. Have a plug body or receptacle which is either molded to the cord, is equipped with a cord clamp to prevent strain on the terminal screws, or a receptacle installed in a steel box with a cover and cord clamp.
5. Each switch, circuit breaker, and disconnecter shall meet all of the following requirements:
 - a. Be marked to indicate its purpose and secured against displacement.
 - b. Be of the weatherproof type where damp or wet conditions exist.
6. An energized transformer, and other related energized equipment over 150 volts to ground, shall be protected to prevent accidental contact.
 - a. The protection shall be an individual housing or an electrical substation fence.
 - b. Metallic enclosure shall be grounded.
 - c. Access to this equipment shall require a key or tool.
 - d. Transformers mounted on utility poles 12 feet or greater are exempt.

GROUNDING AND BONDING

1. Grounding circuits shall be continuous, capable of carrying the imposed current, and have a resistance low enough to permit sufficient current to flow to allow the fuse/breaker to interrupt the current.
2. Conductors used for bonding shall be capable of carrying the imposed current. The bonding clamps shall have a secure and positive metal-to-metal contact.

TEMPORARY LIGHTING

1. Temporary lighting shall be equipped with a guard to prevent accidental contact with the bulb.

2. Temporary lighting shall not be suspended by the electric cord, unless designed for such use.

CIRCUIT PROTECTION

1. A fuse puller shall be used to install or remove a cartridge fuse when 1 or more terminals are energized.
2. A circuit protection device shall not be placed in a grounded circuit except where the device simultaneously opens both the ground and energized circuit.

LOCATION AND PROTECTION OF ELECTRIC LINES

1. Electric lines crossing work areas shall be fastened overhead or protected by a cover capable of withstanding the imposed loads without creating a tripping hazard.
2. All wiring installed above grade and used for construction operations shall be maintained at a height which provides safe clearance for all work operations.

ELECTRICAL EQUIPMENT IN HAZARDOUS LOCATIONS

1. Electrical components and equipment used in a hazardous location shall have an approved label for the specific hazardous location.
2. All screws, gaskets, and threaded connections shall maintain a vapor tight, dust tight, or fiber tight condition as required by the type of hazard class.

BATTERY BANKS

1. When a battery room is used in conjunction with construction operations it shall meet all of the following requirements:
 - a. Be equipped with an exhaust system to remove fumes and gases from any ignition source.
 - b. Have floor and racks protected from battery acid.
 - c. Have an emergency safety shower eye wash provided within 25 feet of a battery room.
 - d. Have facilities provided for flushing and neutralizing spilled electrolyte.
 - e. Have required fire protection provided.
 - f. Provide protection of charging apparatus from damage by trucks.
 - g. Be located in an area designated for that purpose.
2. Employees shall wear face/eye protection, rubber gloves, and aprons when handling acids and non-sealed batteries.
3. When charging a battery, the vent caps shall be kept in place and maintained operable.

PPE

1. Conductive items such as jewelry shall not be worn while working on energized electrical equipment.
2. Personnel performing work on energized electrical equipment shall wear appropriate electrical protective equipment as defined in NFPA 70E and the JRE [Power Transmission & Distribution Policy](#).
3. Protective arc flash PPE including hoods, jackets, pants, gloves, and face shields must be inspected prior to each use and immediately after any incident.

TRAINING

1. All employees who face a risk of electric shock but are not qualified persons shall be trained and familiar with electrically related safety practices that pertain to their job assignments.
2. Only qualified persons may perform work on electric circuit parts or energized equipment.

POWER TRANSMISSION & DISTRIBUTION

The Power Transmission and Distribution Policy applies to safety-related work practices for qualified employees.

GENERAL

1. For the purpose of this policy, a qualified person shall be trained and have experience with the voltage and type of work being performed.
2. Qualified persons are those persons authorized by his/her supervisor as capable of working safely on energized circuits and are familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.
3. Qualified employees shall maintain the minimum approach distances listed in Table V-5 and V-6 when performing work on or near exposed energized parts.
4. For job briefings containing non-energized work see the JRE JSA Policy.
5. For job briefings covering energized work or the process of de-energizing equipment, utilize the Energized Work JHA.
6. Job briefings shall be conducted at the beginning of each day and as conditions change, and shall cover the associated hazards, work procedures, special precautions, energy source controls, and PPE requirements for the work being performed.

WORKING ON OR NEAR EXPOSED ENERGIZED PARTS

1. Only qualified employees may work on or in areas containing unguarded, uninsulated energized lines or equipment operating at 50 volts or more.
2. All electric lines and equipment shall be considered and treated as energized until de-energization is confirmed by a JRE employee.
3. At least two qualified employees shall be present when any work is being conducted on or near energized equipment, operating at 600 volts or more, where an employee could contact energized parts.
4. Exception:
 - a. Routine circuit switching where conditions allow for safe performance of this work.
 - b. Work performed with live-line tools when the position of the employee is such that they can neither reach nor contact energized parts.
 - c. Emergency repairs to the extent necessary to protect the general public.
5. Employees shall position themselves so that a slip or shock will not bring their body into contact with exposed, uninsulated parts energized at a potential different from the employee.
6. Employees performing work within reaching distance of exposed energized parts of equipment shall remove all exposed conductive articles, such as rings, watches, or bands.
7. Employees installing or removing fuses with one or both terminals energized at more than 300 volts, or with exposed parts energized at more than 50 volts shall use tools or gloves rated for the voltage.
8. Employee installing or removing expulsion-type fuses with one or both terminals energized at more than 300 volts shall use tools rated for the voltage and remain clear of the exhaust path of the fuse barrel.
9. Non-current-carrying metal parts of equipment such as transformer cases and circuit-breaker housings, shall be treated as energized at the highest voltage to which these parts are exposed, until verified otherwise.
10. Devices used to open or close circuits under load conditions shall be designed for such tasks.

LIVE WORK

1. Qualified employees performing live work shall observe and adhere to the minimum approach distances provided in Table V-2 for AC systems or Table V-7 for DC systems.
2. For voltages over 72.5 kilovolts, qualified employees shall assume the maximum anticipated per-unit transient overvoltage, phase-to-ground, in accordance with Table V-8.
3. No employee shall approach or take conductive objects closer to exposed energized parts than the minimum approach distances outlined in this policy unless:
 - a. The employee is insulated from the energized part and has control of the part therefore preventing exposure to uninsulated portions of the employee's body

- b. The energized part is insulated from the employee and from any other conductive object at a different potential
 - c. The employee is insulated from any other exposed conductive object
- 4. Appropriate protective gear, as identified in the Protection From Flames & Electric Arcs section, must be worn when working on energized electrical equipment.
- 5. Rubber insulating gloves and sleeves shall be put on outside of the minimum approach distance and shall remain on until the work is complete, and the employee is back outside of the minimum approach distance.

MAKING CONNECTIONS

1. Connecting - In connecting deenergized equipment or lines to an energized circuit by means of a conducting wire or device, employees shall first attach the wire to the deenergized part.
2. Disconnecting - When disconnecting equipment or lines from an energized circuit by means of a conducting wire or device, employees shall remove the source end first.
3. Loose conductors - When lines or equipment are connected to or disconnected from energized circuits, employees shall keep loose conductors away from exposed energized parts.

PROTECTION FROM FLAMES & ELECTRIC ARCS

1. When determining the correct arc flash gear to be worn, employees shall:
 - a. Refer to the NFPA 70E Compliance Guide and perform a Hazard Risk Calculation, or
 - b. Observe the Hazard Risk Calculation stated on the equipment warning labels.
2. The Energized Work JHA shall be completed prior to the start of work and shall identify appropriate PPE, necessary precautions, and tasks to be performed.
3. When it's determined that arc flash gear is needed, employees shall not wear clothing that could melt onto their skin or that could ignite and continue to burn when exposed to flames or the heat energy. This prohibits clothing made from acetate, nylon, polyester, rayon, polypropylene, blended fabrics, etc.
4. Employees shall ensure that the outer layer of clothing worn is flame resistant when working under any of the following conditions:
 - a. Exposure to contact with energized circuit parts operating at more than 600 volts
 - b. Where an electric arc could ignite flammable material in the work area that, in turn, could ignite the employee's clothing
 - c. Where molten metal or electric arcs from faulted conductors in the work area could ignite the employee's clothing
 - d. Where the incident estimated heat energy exceeds 2.0 cal/cm².
5. Any employee exposed to hazards from electric arcs shall wear protective clothing and other protective equipment with an arc rating greater than or equal to the heat energy estimated in the Hazard Risk Calculation whenever that estimate exceeds 2.0 cal/cm².
6. Protective arc flash PPE including hoods, jackets, pants, gloves, and face shields must be inspected prior to each use and immediately after any incident.

DE-ENERGIZING LINES AND EQUIPMENT

1. Disconnecting means shall be rendered inoperable, unless its design does not permit, and then ensure that such means are tagged to indicate that employees are at work. See [Lockout Program](#).
2. If a system operator is in charge of the lines or equipment and their means of disconnection, one employee shall be designated to be in charge of the clearance and ensure the requirements for de-energization are met.
3. If no system operator is in charge of the lines or equipment and their means of disconnection, one employee shall be designated to be in charge of the clearance and to perform the functions that the system operator would otherwise perform.
4. Paragraphs 1, 4, and 5 of the Obtaining Clearance section below do not apply to single crews working on lines or equipment where the means of disconnection is accessible/visible to and under the sole control of the employee in charge of the clearance.
5. When two or more crews will be working on the same lines or equipment:

- a. Crews shall coordinate their activities under this section with a single employee in charge of the clearance for all of the crews, OR
 - b. Each crew shall independently comply with this section and, if there is no system operator, shall have separate locks/tags and coordinate de-energizing and re-energizing with the other crews.
6. Employees shall render any disconnecting means that are accessible to individuals outside the employer's control (for example, the general public) inoperable while the disconnecting means are open.
7. Only the employee in charge who requested the clearance may release the clearance, unless the employee transfers responsibility as outlined below.
8. Lines and equipment shall not be re-energized until all protective grounds have been removed, all crews working on the lines or equipment release their clearances, all employees are clear of the lines and equipment, and all protective locks/tags are removed from that point of disconnection.

OBTAINING CLEARANCE

1. The employee in charge of the clearance shall make a request of the system operator to deenergize the particular section of line or equipment.
2. The employee in charge of clearance shall ensure that all switches, disconnectors, jumpers, taps, network protectors, etc. feeding the particular lines and equipment to be deenergized are open.
3. Disconnecting means shall be rendered inoperable.
4. Automatically and remotely controlled switches that could cause the opened disconnecting means to close shall be tagged at the points of control and the automatic or remote-control feature rendered inoperable.
5. Locks/tags shall prohibit operation of the disconnecting means and shall indicate that employees are at work.
6. After all switches, disconnects, etc. are open and the system operator gives a clearance to the employee in charge, all lines and equipment shall be tested to verify de-energized.
7. Once verified de-energized, protective grounds shall be applied as outlined in this policy.
8. After lines 1-7 of this section have been followed, the lines/equipment may be considered de-energized.

TRANSFERRING CLEARANCE

To transfer the clearance, the employee in charge shall inform the system operator and employees in the crew; and the new employee in charge shall be responsible for the clearance. Employees shall review the energized work JHA and all control points.

RELEASING CLEARANCE

To release a clearance, the employee in charge shall:

- a. Notify each employee under that clearance of the pending release of the clearance;
- b. Ensure that all employees under that clearance are clear of the lines and equipment;
- c. Ensure that all protective grounds protecting employees under that clearance have been removed; and
- d. Report this information to the system operator and then release the clearance.

PROTECTIVE GROUNDING & SHORT CIRCUITING

1. Temporary protective grounds shall be applied whenever employees are working transmission and distribution lines or equipment.
2. Temporary protective grounds shall be placed and arranged in such a manner that will prevent employees from being exposed to hazardous differences in electric potential by establishing an equipotential zone.
3. Protective grounding equipment shall be capable of conducting the maximum fault current that could flow at the point of grounding for the time necessary to clear the fault.
4. Protective grounding equipment shall have an ampacity greater than or equal to that of No. 2 AWG copper.
5. Protective grounds shall have an impedance low enough so that they do not delay the operation of protective devices in case of accidental energizing of the lines or equipment.
6. Lines and equipment shall be tested and verified for the absence of nominal voltage before employees install any grounding equipment.

CONNECTING AND REMOVING GROUNDS

1. When connecting temporary grounding, attach the ground-end connection first, then attach the other end by means of a live-line tool.
2. When removing temporary grounding, remove the grounding device from the line or equipment using a live-line tool before removing the ground-end connection.
3. When performing work on a cable at a location remote from the cable terminal, the cable shall not be grounded at the cable terminal if there is a possibility of hazardous transfer of potential should a fault occur.
4. Grounds may be temporarily removed during testing provided that each employee is isolated from hazards involved, uses insulating equipment, and assures that additional measures are taken to protect exposed employees in the event that previously grounded lines and equipment become energized.

OVERHEAD LINES

1. Employees shall determine whether or not elevated structures, such as poles or towers, are capable of sustaining additional or unbalanced stresses as a result of climbing or the installing/removing equipment.
2. Poles or structures that cannot withstand the expected loads shall be braced or supported to prevent failure or accessed without climbing.
3. Poles that are set, moved, or removed shall avoid contact with exposed energized overhead conductors.
4. Employees handling a pole near energized lines shall wear electrical protective equipment and use insulated devices.
5. No employee shall contact the pole with uninsulated parts of his or her body.
6. Holes used for placing poles shall be monitored by an employee during work and guarded if left unattended. Holes over 6' in depth shall be guarded against falling into
7. All employees working near overhead lines shall be properly protected and equipment shall be grounded.

INSTALLING & REMOVING OVERHEAD LINES

1. The tension stringing method, barriers, or other equivalent measures shall be used when lines that employees are installing or removing can contact energized parts.
2. Precautions shall be taken to prevent accidental contact with energized parts in case of equipment failure.
3. Where practical, the automatic reclosing feature of the circuit-interrupting device shall be made inoperative.
4. Before employees install lines parallel to existing energized lines, the induced voltage shall be determined. If a determination cannot be made, work shall proceed on the assumption that the induced voltage is hazardous.
5. Where there is a possibility of the conductor accidentally contacting an energized circuit or receiving a dangerous induced voltage buildup, the conductor being installed or removed shall be grounded or provisions made to insulate or isolate the employee.
6. Reel-handling equipment, including pulling and tensioning devices, shall be in safe operating condition.
7. The manufacturer's load rating shall not be exceeded for stringing lines, pulling lines, conductor grips, and all load-bearing hardware and accessories.
8. Defective pulling lines and accessories shall be removed from service and repaired or replaced.
9. Conductor grips shall not be used on wire rope unless specifically designed to do so.
10. Reliable communications between the reel tender and pulling rig operator shall be maintained.
11. Before pulling operations being an audible signal shall be given.
12. While the conductor or pulling line is in motion, employees shall not work directly under overhead operations or on the crossarm, except to guide the stringing sock or board through the stringing sheave.

POLES & STRUCTURES

1. Employees shall not be under a pole or structure while work is in progress.
2. Tag lines shall be used to maintain control of tower sections being raised or positioned.
3. Employees shall not detach the loadline from a member or section until they safely secure the load.
4. Except during emergency restoration, work will be discontinued during adverse weather.
5. Unless using suitable protective equipment for the voltage involved, employees standing on the ground shall avoid contacting equipment or machinery when working adjacent to energized lines or equipment.

6. Lifting equipment shall be bonded to an effective ground or it shall be considered energized and barricaded when used near energized equipment or lines.

UNDERGROUND ELECTRICAL INSTALLATIONS

1. Employees shall use a ladder or lowering device to enter/exit a manhole or vault over 4 feet in depth.
2. No employee may climb into or out of a manhole or vault by stepping on cables or hangers.
3. Equipment used to lower materials and tools into manholes or vaults shall be capable of supporting the weight to be lowered and shall be checked for defects before use.
4. Employees working in the manhole or vault shall not stand under hoisted loads.
5. Duct rods shall be installed in the direction presenting the least hazard to employees.
6. An employee shall monitor the far end of the duct line being rodded to ensure that the employees maintain the required minimum approach distances from energized equipment.
7. When multiple cables are present in a work area, the cable to be worked shall be identified by electrical means, unless its identity is obvious by other readily apparent means of identification.
8. All other cables other than the one being worked shall be protected from damage.
9. Employees shall inspect energized cables for abnormalities prior to moving them.

PROTECTION AGAINST FAULTS

1. Where a cable in a manhole or vault contains abnormalities that is an indication of an impending fault, or if the work employees will perform in a manhole or vault could cause a fault in a cable, JRE shall deenergize the cable before any employee may work in the manhole or vault.
2. Exception: When service-load conditions and a lack of feasible alternatives require that the cable remain energized. Employees may enter the manhole or vault provided they are protected from possible effects of a failure using shields or other devices that are capable of containing the adverse effects of a fault.
3. Following abnormalities are indications of impending faults:
 - a. Oil or compound leaking from cable or joints
 - b. Broken cable sheaths or joint sleeves
 - c. Hot localized surface temperatures of cables or joints, or
 - d. Joints swollen beyond normal tolerance
4. When employees perform work on buried cable or on cable in a manhole or vault, the metallic-sheath continuity shall be maintained, or the cable sheath shall be treated as energized.

SUBSTATIONS

1. Employees shall maintain sufficient access and working space around electric equipment, following all minimum approach distances, to permit ready and safe operation and maintenance of such equipment.
2. Where sufficient access and working space is not feasible due to the age of the installation, guarding and personal protective equipment shall be used to protect the employee.
3. When removing or inserting draw-out type circuit breakers, the breaker shall be in the open position.
4. The control circuit shall also be rendered inoperable if the design of the equipment permits.
5. Conductive fences around substations shall be grounded. When a substation fence is expanded or a section is removed, fence sections shall be isolated, grounded, or bonded as necessary to protect employees from hazardous differences in electric potential.
6. Reasonable efforts will be made by JRE to prevent unauthorized access to spaces containing electrical supply equipment. This may include posting signs, placing barricades, or locking access points.
7. Upon entering a substation, JRE foreman shall report the presence of a work crew to the substation owner to receive information on special system conditions affecting employee safety.
8. A job briefing shall cover information on special system conditions affecting employee safety, including the location of energized equipment in or adjacent to the work area and any deenergized work areas.

GUARDING OF ENERGIZED PARTS

1. Employees shall install guards around live parts operating at more than 150 volts to ground without an insulating covering unless the location of the live parts is sufficient to prevent employee contact.
2. Guarding of energized parts shall be maintained to prevent accidental contacted except for fuse replacement or other necessary access by qualified persons.
3. Before guards are removed from energized equipment, barriers shall be installed around the work area to prevent employees who are not working on the equipment from contacting the exposed live parts.

SPECIAL CONDITIONS

CAPACITORS

1. Before working on capacitors, they shall be disconnected and the capacitor short circuited.
 - a. Employees short circuiting a capacitor shall wait at least 5 minutes from the time of disconnection before applying the short circuit.
 - b. Before handling the units, the employee shall short circuit each unit in series-parallel capacitor banks between all terminals and the capacitor case or its rack. If the cases of capacitors are on ungrounded substation racks, the employee shall bond the racks to ground.
 - c. Employees shall short circuit any line connected to capacitors using grounds before the line is treated as deenergized and the grounds shall remain in place until final connections are made to protect from induced voltage.

CURRENT TRANSFORMER SECONDARIES

1. Employees shall not open the secondary of a current transformer while the transformer is energized.
2. If the primary cannot be de-energized prior to employees working on a transformer secondary circuit, the circuit shall be bridged so that the transformer secondary does not experience an open-circuit.

SERIES STREET LIGHTING

1. Employees performing work on series street lighting in excess of 600 volts shall adhere to the Overhead Lines & Underground Electrical Installations sections of this policy.
2. Before any employee opens a series loop, the street lighting transformer shall be de-energized and isolated from the source of supply or shall bridge the loop to avoid an open circuit condition.

BACKFEED

Employees performing work where there is a possibility of voltage backfeeding shall adhere to the Protective Grounding & Short Circuiting and De-Energizing Lines & Equipment sections of this policy.

TRAINING

1. Employees performing power transmission or distribution work will be trained and familiar with the following:
 - a. Safety-related work practices and safety procedures that pertain to his or her job assignments.
 - b. Applicable emergency procedures (such as pole-top and manhole rescue).
 - c. The skills necessary to distinguish exposed live parts from other parts of electric equipment.
 - d. The skills necessary to determine the nominal voltage of exposed live parts.
 - e. The ability to calculate and maintain minimum approach distances from energized parts.
 - f. The proper use of the special precautionary techniques, PPE, insulating and shielding materials, and insulated tools for working on or near exposed energized parts of electric equipment.
 - g. The recognition of electrical hazards to which the employee may be exposed and the skills necessary to control or avoid these hazards.
2. Retraining shall be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired for compliance with these rules.
3. Retraining will be conducted any time an audit of field operations reveals deficiencies or unsafe behaviors. Field audits shall occur on a regular basis, no less than annually.
4. Employees with previous training or experience may demonstrate proficiency by:
 - a. Confirmation of required training.

- b. Examination or interview to determine that the employee understands the relevant safety related work practices before he or she performs any work.
- c. Close supervision of the employee until proficiency has been demonstrated.

TABLE V-2
LIVE-LINE WORK MINIMUM APPROACH DISTANCE

The minimum approach distance (MAD; in meters) shall conform to the following equations.

For phase-to-phase system voltages of 50 V to 300 V: 1

MAD = avoid contact

For phase-to-phase system voltages of 301 V to 5kV: 1

MAD = M + D, where

D = 0.02 m (the electrical component of the minimum approach distance)

M = 0.31 m for voltages up to 750V and 0.61 m otherwise (the inadvertent movement factor)

For phase-to-phase system voltages of 5.1 kV to 72.5V: ^{1,4}

MAD = M + AD, where

M = 0.61 m (the inadvertent movement factor)

A = the applicable value from Table V-4 (the altitude correction factor)

D = the value from Table V-3 corresponding to the voltage and exposure or the value of the electrical component of the minimum approach distance calculated using the method provided in Appendix B to this subpart (the electrical component of the minimum approach distance)

For phase-to-phase system voltages of more than 72.5 kV, nominal: ^{2,4}

MAD = 0.3048(C+a)VL-GTA+M , where

C= 0.01 for phase-to-ground exposures that the employer can demonstrate consist only of air across the approach distance (gap),

0.01 for phase-to-phase exposures if the employer can demonstrate that no insulated tool spans the gap and the no large conductive object is in the gap, or

0.011 otherwise

VL-G = phase-to-ground rms voltage, in kV

T = maximum anticipated per-unit transient overvoltage; for phase-to-ground exposures, T equals TL-G, the maximum per-unit transient overvoltage, phase-to ground, determined by the employer under paragraph (c)(1)(ii) of this section; for phase-to-phase exposures, T equals 1.35TL-G+0.45

A = altitude correction factor from Table V-4

M = 0.31 m, the inadvertent movement factor

a = saturation factor, as follows:

Table V-2 AC Live-Line Work Minimum Approach Distance (continued)					
Phase-To-Ground Exposure					
VPeak = TL-GVL-G√2	635 kV or less	635.1 to 915 kV	915.1 to 1,050 kV	More than 1,050 kV	
a	0	(VPeak-635)/ 140,000	(VPeak-645)/ 135,000	(VPeak-675)/ 125,000	
Phase-to-Ground Exposure ³					
VPeak =(1.35TL-G +0.45)VL-g√2	630 kV or less	630.1 to 848 kV	848.1 to 1,131 kV	1,131.1 to 1,485 kV	More than 1,485 kV
a	0	(VPeak-630)/ 155,000	(VPeak-633.6)/ 152,207	(VPeak-628)/ 153,846	(VPeak-350.5)/ 203,666
¹ Employers may use the minimum approach distances in Table V-5. If the worksite is at an elevation of more than 900 meters (3,000 feet), see footnote 1 to Table V-5					
² Employers may use the minimum approach distances in Table V-6, except that the employer may not use the minimum approach distances in Table V-6 for phase-to-phase exposures if an insulated tool spans the gap or if any large conductive object is in the gap. If the worksite is at an elevation of more than 900 meters (3,00 feet), see footnote 1 to Table V-6. Employers may use the minimum approach distance in Table 7 through Table 14 in Appendix B to this subpart, which calculated MAD for various values of T, provided the employer follows the notes to those tables.					
³ Use the equations for phase-to-ground exposures (with VPeak for phase-to-phase exposures) unless the employer can demonstrate that no insulated tool spans the gap and that no large conductive objects is in the gap.					
⁴ Until March 31, 2015, employees may use the minimum approach distances in Table 6 in Appendix B to this subpart					

TABLE V-3 ELECTRICAL COMPONENT OF THE MINIMUM APPROACH DISTANCE (D; IN METERS) AT 5.1 TO 72.5 KV		
Nominal voltage (kV) phase-to-phase	Phase-to-ground exposure	Phase-to-phase exposure
	D (m)	D (m)
5.1 to 15.0	0.04	0.07
15.1 to 36	0.16	0.28
36.1 to 46	0.23	0.37
46.1 to 72.5	0.39	0.59

TABLE V-4 ALTITUDE CORRECTION FACTOR	
Altitude above sea level (m)	A
0 to 900	1.00
901 to 1200	1.02
1201 to 1500	1.05
1501 to 1800	1.08
1801 to 2100	1.11
2101 to 2400	1.14
2401 to 2700	1.17
2701 to 3000	1.20
3001 to 3600	1.25
3601 to 4200	1.30
4201 to 4800	1.35
4801 to 5400	1.39
5401 to 6000	1.44

TABLE V-5
ALTERNATIVE MINIMUM APPROACH DISTANCES
(IN METERS OR FEET AND INCHES)
FOR VOLTAGES OF 72.5 KV AND LESS 1

Nominal voltage (kV) phase-to-phase	Distance			
	Phase-to-ground exposure		Phase-to-phase exposure	
	m	Ft	m	Ft
0.50 0.300 ²	Avoid contact		Avoid contact	
0.301 to 0.750 ²	0.33	1.09	0.33	1.09
0.751 to 5.0	0.63	2.07	0.63	2.07
5.1 to 15.0	0.65	2.14	0.68	2.24
15.1 to 36.0	0.77	2.53	0.89	2.92
36.1 to 46.0	0.84	2.76	0.98	3.22
46.1 to 72.5	1.00	3.29	1.20	3.94
¹ Employers may use the minimum approach distances in this table provided the worksite is at an elevation of 900 meters (3,000 feet) or less. If employees will be working at elevations greater than 900 meters (3,000 feet) above mean sea level, the employer shall determine minimum approach distances by multiplying the distances in this table by the correction factor in Table V-4 corresponding to the altitude of the work.				
² For single-phase systems, use voltage-to-ground.				

TABLE V-6
ALTERNATIVE MINIMUM APPROACH DISTANCES
(IN METERS OR FEET AND INCHES)
FOR VOLTAGES OF MORE THAN 72.5 KV 1, 2, 3

Voltage range phase to phase (kV)	Phase-to-ground exposure		Phase-to-phase exposure	
	m	Ft	m	Ft
72.6 to 121	1.13	3.71	1.42	4.66
121.1 to 145	1.30	4.27	1.64	5.38
145.1 to 169	1.46	4.79	1.94	6.36
169.1 to 242	2.01	6.59	3.08	10.10
242.1 to 362	3.41	11.19	5.52	18.11
362.1 to 420	4.25	13.94	6.81	22.34
420.1 to 550	5.07	16.63	8.24	27.03
550.1 to 800	6.88	22.57	11.38	37.34
¹ Employers may use the minimum approach distances in this table provided the worksite is at an elevation of 900 meters (3,000 feet) or less. If employees will be working at elevations greater than 900 meters (3,000 feet) above mean sea level, the employer shall determine minimum approach distances by multiplying the distances in this table by the correction factor in Table V-4 corresponding to the altitude of the work.				
² Employers may use the phase-to-phase minimum approach distances in this table provided that no insulated tool spans the gap and no large conductive object is in the gap.				
³ The clear live-line tool distance shall equal or exceed the values for the indicated voltage ranges.				

TABLE V-7 DC LIVE-LINE MINIMUM APPROACH DISTANCE (IN METERS) WITH OVERVOLTAGE FACTOR ¹					
Maximum anticipated per-unit transient overvoltage	distance (m) maximum line-to-ground voltage (kV)				
	250	400	500	600	750
1.5 or less	1.12	1.60	2.06	2.62	3.61
1.6	1.17	1.69	2.24	2.86	3.98
1.7	1.23	1.82	2.42	3.12	4.37
1.8	1.28	1.95	2.62	3.39	4.79
¹ The distances specified in this table are for air, bare-hand, and live-line tool conditions. If employees will be working at elevations greater than 900 meters (3,000 feet) above mean sea level, the employer shall determine minimum approach distances by multiplying the distances in this table by the correction factor in Table V-4 corresponding to the altitude of the work.					

TABLE V-8 ASSUMED MAXIMUM PER-UNIT TRANSIENT OVERVOLTAGE		
Voltage range (kV)	Type of current (ac or dc)	Assumed maximum per unit transient overvoltage
72.6 to 420.0	ac	3.5
420.1 to 550.0	ac	3.0
550.1 to 800.0	ac	2.5
250 to 750	dc	1.8

FORKLIFT POLICY

GENERAL REQUIREMENTS

1. Only trained and authorized operators shall be permitted to operate a forklift.
2. Lift capacity will be marked on all forklifts. Operator will assure load does not exceed rated limits.
3. Passengers may not ride on any portion of a forklift.
4. No person shall be allowed to stand or pass under the elevated portion of any truck.
5. Arms or legs shall not be placed between the uprights of the mast or outside the running lines of the truck.
6. Employees shall wear a seat belt when operating the forklift.
7. All forklifts will be equipped with an overhead carriage, fire extinguisher, rotating beacon, spec plate, horn, and back-up alarm.
8. Modifications or attachments which could affect capacity and safe operation shall be performed only with manufacturers prior written approval.
9. When a forklift is left unattended, forks shall be fully lowered, controls neutralized, power shall be shut off, and brakes set. Wheels shall be blocked if the truck is parked on an incline.
10. A safe distance shall be maintained from the edge of the ramps or platforms while on any elevated dock.
11. Loads shall not be suspended from the forklift unless using an attachment specifically designed to do so and following the JRE [Rigging Policy](#).

TRAVELING

1. The driver shall be required to look in the direction of and keep a clear view of the path of travel.
2. Grades shall be ascended or descended slowly. When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade. On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the traveling surface.
3. Loads that restrict the operator's vision will be transported backwards or by using a spotter.
4. When traveling with empty forks, forks shall be kept low.
5. Under all travel conditions the truck shall be operated at a speed that will permit it to be brought to a stop in a safe manner.
6. The driver shall slow down for wet and slippery floors.
7. Operator will sound horn and use caution when meeting pedestrians, crossing an intersection, making turns and cornering.

LOADING

1. Only stable or safely arranged loads shall be handled. Loose palletized materials shall be shrink-wrapped.
2. Trucks equipped with attachments shall be operated as partially loaded trucks when not handling a load.
3. Forks shall be placed under the load as far as possible; the mast shall be carefully tilted backward to stabilize the load.
4. Dock board or bridge plates shall be properly secured before they are driven over. Dock board or bridge plates shall be driven over carefully, and their rated capacity never exceeded.
5. Extreme care shall be used when tilting the load forward or backward, particularly when storing material in multiple tiers high off the ground.
6. Operator will verify trailer chocks, supports, trailer stands, and dock plates prior to loading/unloading.
7. The flooring of trucks and trailers shall be checked for breaks and weakness before they are driven onto.

CHANGING LPG TANKS

1. No smoking.
2. Turn off forklift.
3. LPG tanks will be removed in the following order:
 - a. Shut off service valve
 - b. Disconnect tank from hose
 - c. Unbuckle and remove tank from bracket

4. LPG tanks will be replaced in the following order:
 - a. Place tanks in bracket and re-buckle
 - b. Reconnect hose to tank and tighten firmly
 - c. Open valve slowly and assure proper seal

MAINTENANCE

1. Operator will perform a daily pre-inspection. Any damage or defects will be documented and reported to the Fleet Department. If the forklift is in any way unsafe, the unit must be identified with a “Danger Do Not Use” tag and placed out-of-service until the defect is corrected.
2. Trucks in need of repairs to the electrical system shall have the battery disconnected prior to repairs.
3. All replacement parts for any forklift shall be replaced only by parts equivalent with those used in the original design.
4. Industrial trucks shall be kept in a clean condition, free of dust, excess oil, and grease.
5. In Case of LPG Leaks or Tank Rupture:
 - a. DO NOT start or move the forklift.
 - b. If fuel hose is leaking, close the valve immediately and place forklift “Out of Service” until repaired.
 - c. If tank ruptures, warn others, immediately leave the area (at least 50 feet) and notify management. Do not re-enter the area until cleared by management. Follow the building or site emergency plan.

TRAINING

1. Training for forklift operators shall be conducted by a qualified person and under close supervision.
2. Training consists of a combination of formal instruction, practical training exercises and evaluation of the operator’s performance in the workplace. Training to include load capacity, instructions, distances, refueling, ramps, visibility, counterbalances, and the stability triangle.
3. After successful completion of the training evaluation an employee will be issued a certification card.
4. Operators with proof of previously obtained training and/or experience are required to take a written test and pass an evaluation. Permits are issued for 3 years.
5. Refresher training shall be provided to the operator:
 - When or before the operator’s permit expires.
 - When the operator has been observed to operate the vehicle in an unsafe manner.
 - When the operator has been involved in an accident or near-miss incident.
 - When the operator is assigned to drive a different type truck, not previous trained on.

When a condition in the workplace changes in a manner that could affect the safe operation of the truck.

EARTH MOVING EQUIPMENT

GENERAL REQUIREMENTS

1. Only trained and authorized employees shall operate equipment.
2. Operators shall use the equipment within all capacity limits specified by the manufacturer. No modifications or additions which affect the capacity or safe operation of the equipment shall be made without the manufacturer's written approval.
3. Equipment which is suspended by use of slings, hoists, or jacks shall be substantially blocked or cribbed to prevent falling or shifting before employees are permitted to work under or between them.
 - a. Bulldozer and scraper blades, end-loader buckets, dump bodies, and similar equipment, shall be either fully lowered or blocked when being repaired or when not in use.
 - b. All controls shall be in a neutral position, with the motors stopped and brakes set, unless work being performed requires otherwise.
4. All cab glass shall be clean and shall be free of major defects. The cab shall be kept free of clutter.
5. All mobile equipment shall be equipped with a fire extinguisher, horn, and back-up alarm.
6. All equipment left unattended at night, adjacent to a highway in normal use, or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, to identify the location of the equipment.
7. Lockout procedures must be followed during mechanical service, repairs or inspection for the protection of employees and equipment. Refer to manufacturer and company procedures on lockout.
8. The engine shall be shut off before fueling.

OPERATING EQUIPMENT

1. Equipment shall be operated in the manner for which it was designed and intended for.
2. Maintain a safe operating distance between neighboring equipment and structures.
3. Equipment shall not be operated without the protection of an enclosed cab or eye protection.
4. Operators shall maintain appropriate clearance from electrical lines, as specified by the manufacturer or this program.
5. Passengers may not ride on equipment unless equipped to accommodate passengers.
6. In the event of leak of fuel or oil, switch the machine off immediately.
7. Never lift, move or swing any attachments or load over any person or other equipment/vehicles.
8. Before leaving equipment unattended, make sure that attachments are fully lowered to the ground and that parking brakes are set. Equipment parked on an incline shall have the wheels chocked.
9. Be certain that all persons and equipment are at a safe distance before moving mobile equipment.
10. Three points of contact will be used to mount and dismount equipment. Seat belts, if available, must be worn.

INSPECTION

1. Equipment shall be inspected prior to each use by the operator using an equipment inspection checklist. The inspection shall include both a visual inspection and a function test.
2. If defects are found, the equipment shall be clearly identified with a "Danger Do Not Use" tag and placed out-of-service until the defect is corrected. The checklist shall be completed and sent to fleet@jranck.com.

CRANE POLICY

GENERAL REQUIREMENTS

1. All manufacturer procedures applicable to the operational functions of equipment, including its use with attachments, must be complied with.
2. The manufacturer must approve all modifications/additions in writing.
3. Safety devices (i.e. crane level indicator, boom stops, jib stops, foot pedal brake locks, horns) are required to be on all equipment and must be in proper working order before operations begin. If any devices are found defective, the equipment must be taken out of service.
4. A JSA and job briefing shall be completed for every crane work zone.
5. A work zone shall be identified by establishing boundaries such as flag and range limiting devices or defining the work zone as 360 degrees around the equipment up to the maximum working radius.
6. If it is determined that the use of barriers is not possible, then a combination of warning signs and high visibility markings are required.
7. All rigging must be done by a qualified rigger. Refer to JRE [Rigging Policy](#) for more information.
8. Reference the JRE Lockout program during maintenance of cranes.

CRANE OPERATOR

1. All persons operating cranes to hoist materials shall be certified by an accredited organization for the size and type of equipment they are operating. A copy of the certification shall be kept on file.
 - a. Exception: Digger derricks when used for augering holes for poles carrying electric or telecommunication lines, placing and removing the poles, and for handling associated materials for installation on, or removal from, the poles, or when used in construction work for telecommunication service.
2. Whenever there is a safety concern, the operator has the authority to stop and refuse to handle loads until the unsafe condition is corrected.
3. The operator shall have access to procedures applicable to the operation of the equipment. Procedures include rated capacities (load charts), recommended operating speeds, special hazard warnings, instructions and operator's manual.

INSPECTIONS

1. Detailed inspections will be required at the following intervals:
 - a. Pre-shift: This inspection will be documented using a JRE inspection form, crane owner, or customer inspection sheet. The qualified operator is responsible for this inspection. Pre-Shift inspections shall be kept in the cab of the crane for review during site inspection and operator change over.
 - b. Monthly: Each month that the crane is in service, a monthly inspection shall be performed and documented. "Monthly Inspection" shall be noted on the form. The qualified operator is responsible for this inspection. Minimum of 3 previous monthly inspections must be kept.
 - c. Annual: JRE employs mechanics that have been trained by the manufacturer to perform annual inspections on digger trucks. Other cranes are sent to a reputable firm for the annual inspection. For cranes not owned by JRE, the job supervisor shall ensure that the crane owner has performed or had performed the annual inspection when the crane arrives on site. If the annual inspection date renewal is due while the crane is on site, contact shall be made with the crane owner to schedule the annual inspection prior to expiration.
 - d. Post-assembly: Upon completion of assembly, the equipment must be inspected by the qualified operator to assure it is configuration in accordance with manufacturer equipment criteria.
 - e. Modified or repaired/adjusted: The inspection will be performed by the qualified operator when equipment has been modified, repaired, or adjusted.
2. A detailed inspection will also be done following an incident of suspected damage.
3. Any items found needing service must be reported immediately to the crane owner (JRE or other).
4. All inspections will be kept electronically in the JRE file storage system.
5. Only qualified persons are to perform inspections and maintenance on cranes.

ASSEMBLY/DISASSEMBLY

1. Assembly/disassembly is the act of preparing a crane to get ready to make a pick or preparing to move. This includes assembling boom, changing line part, extending boom, extending outriggers.
2. Assembly/disassembly must be directed by a qualified person.
3. For purposes of this policy, the JRE qualified crane operator, mechanic, or crane owner representative will be considered the A/D Director for all crane assembly/disassembly.
4. The manufacturer's procedures and prohibitions must be complied with when assembling and disassembling equipment.
5. The A/D Director shall have reviewed the procedures and instruct all working on the assembly as to what tasks each person is to complete and the dangers of those tasks.
6. Crane's must not be assembled or used unless ground conditions are firm, drained, and graded so that manufacturer's specifications for adequate support and degree of level of the equipment are met.
7. Assembly/Disassembly will require the use of the manufacturer's guidelines.

GENERAL OPERATING PROCEDURES

These are generic procedures, given as examples. Each specific crane will be operated per the operating manual provided by the manufacturer.

1. The safe design capacity of a crane, or other hoisting equipment, must not be exceeded.
2. No persons shall ever be under a load while it is being lifted.
3. To avoid tipping, outriggers must be fully extended and remain firmly on the ground.
4. Cribbing is necessary when the ground cannot support outriggers. Boom angle indicators, load charts, and a standard hand signal chart must be visibly posted in the crane.
5. All weights must be accounted for including all rigging (shackles, slings, spreader beams, etc.), crating, headache ball/load block and, for some cranes and lifts, amount of rope out below the boom.
6. Crane level shall be re-checked in position.
7. The effect of wind and other weather shall be carefully considered.
8. While moving a crane, the "headache" ball must be retracted or attached to the crane to avoid swinging.
9. Any temporary or permanent structure, including cranes, that exceed an overall height of 200 feet above ground level or that fall under the notification requirements shall be marked and/or lighted, in accordance with the guidelines of the FAA publication Advisory Circular AC 70/7460-1K.
10. The operator, when operating the equipment, shall maintain full attention on the task being performed.
11. The operator shall ensure that hand signals used are understood and followed by all involved in the lift.
12. Before leaving the crane unattended, the operator shall land any load, place the controls or master switch in the off position, and engage all brakes/pawls.
13. The crane operator shall not move any part of the crane without all personnel being accounted for.
14. The load block of the hoist shall be raised above head level when not in use.

CRITICAL LIFTS

1. Critical Lifts are any lift that meets any of the following:
 - Object to be lifted exceeds 75% of crane capacity at farthest needed working radius
 - Lift requires more than one crane
 - Lift requires lifting over power lines
 - Lift meets owner/customer requirements for critical lifts
2. A critical lift form will be completed (JRE form or owner supplied).
3. A lift coordinator shall be designated and shall direct the lift.
4. Operating radius shall be physically measured. Use of boom angle indicator to estimate operating radius is not permitted for critical lifts.
5. A pre-lift meeting shall be held prior to the lift discussing the following:
 - a. Critical lift checklist
 - b. Designated lift coordinator
 - c. Rigging to be used

- d. Acceptable locations for safe occupation before, during, and after the lift
- e. The following personnel shall be part of the pre-lift meeting
 - Operator(s)
 - Lift director
 - Rigger
 - Signal person(s)
 - Tagline personnel
6. A trial lift will be made prior to attaching the load.
7. When using multiple cranes, lines shall be kept vertical to prevent overloading and the planned load shall not exceed 75% of the crane's capacity.

RAISING PERSONNEL

1. All other options must be considered prior to using a crane to lift personnel. The only options to lift personnel are primarily a man basket, and in cases of drill shafts, a boatswains chair may be acceptable— contact JRE Safety prior to using a boatswain chair.
2. Raising personnel is considered a critical lift and all critical lift requirements apply.
3. A Critical Lift Checklist shall be completed prior to raising personnel.
4. Cranes may only be operated within 50% of capacity of the load charts.
5. Man basket must be load tested prior to each use.
6. All persons in the man basket shall have a harness with lanyard attached to an appropriate anchor point.
7. Lowering employees in a man basket can only be done using the power down function of the crane.
8. Operator shall not leave the controls of the crane while employees are hoisted.
9. Man baskets and boatswain chairs must have a current annual inspection by a qualified person.

ELECTRICAL POWER LINES

1. When a crane is scheduled to be used on a jobsite, the JRE Safety Department must be contacted.
2. When power lines exist on a worksite where a crane is to be used, operational limits must be examined. If the operational limits of the crane, load or rigging are within 20 feet of power lines, at least one the following precautions must be made.
 - a. Have owner de energize and visibly ground the power line
 - b. Hold a pre-task meeting with the operator and crew and maintain a 20 feet distance from the power line by:
 - Defining the work zone and limit the operation to within the defined zone
 - Erecting an elevated visible warning line, visible line of signs, or visible line of stations no closer than 20 feet from the power line
 - Using tag lines that are not electrical conductors under normal circumstances
 - And 1 of the following:
 - Spotter
 - Proximity alarm installed on crane
 - Warning device set on crane
 - Visual aid
 - Insulating link installed between load and line
3. If work must be done within 20 feet of power lines that cannot be de-energized and grounded, utility company must be contacted for actual line voltage, and operator shall maintain distances in Table A.
4. Crane work near energized lines must conform with the [Power Transmission and Distribution Policy](#).

TABLE A MINIMUM CLEARANCE DISTANCES	
Voltage (nominal., kV, alternating current)	Minimum Clearance Distance (ft)
Up to 50	10
Over 50 to 200	15
Over 200 to 350	20
Over 350 to 500	25 (contact JRE Safety Department)
Over 500 to 750	35 (contact JRE Safety Department)
Over 750 to 1,000	45 (contact JRE Safety Department)
Over 1,000	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution)

SIGNALING

1. A signal person must be provided when the point of operation is not in full view of the operator, the view is obstructed when the equipment is traveling, or when the operator or rigger determines it is necessary due to site-specific concerns.
2. All signals given to crane operators must be standard signals or an approved variation of the standard signal previously arranged with the operator.
3. All persons giving signals must be trained and evaluated by JRE or a third-party certifier.
4. Signals can be audible or visual. Visual signals can only be given by a person if full view of the load. An operator can only respond to signals that can fully be seen. An additional signal person relaying signals to the operator and the signal person can be used if the relay person is in full view of the both the operator and the signal person.
5. Audible signals must be continuous until movement is no longer needed. Audible signals may be given directly, over a 2-way radio, or by phone if the operator is using a hands-free device.
6. When a signal person or operator sees a “stop” signal, the operation must stop. Anyone can give the “stop” signal during a pick.
7. If at any time the operator loses audio or visual signal, the operator must safely stop the operation until communication is restored.

TRAINING

1. JRE shall ensure each employee is trained and/or certified and evaluated on their specific tasks relating to crane operations and provide refresher training when necessary.
2. Signal Person: Signal personnel shall be trained by a qualified third-party or JRE.
 - a. The documentation of training must specify each type of signaling for which the signal person meets the requirements.
 - b. Each signal person must:
 - Know and understand the type of signals used. If hand signals are used, the signal person must know and understand the Standard Method for hand signals.
 - Be competent in the application of the type of signals used.
 - Have a basic understanding of equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads.
 - Know and understand the relevant requirements
 - Demonstrate that he/she meets the requirements through an oral or written and practical test.
3. Operator: All persons operating cranes to hoist materials shall be certified by an accredited organization for the size and type of equipment they are operating. JRE will verify the operator is certified, train on the use of specific equipment, and verify the operator is able to run the equipment.
4. For General Industry operations, JRE will authorize, train, test, and permit all operators prior to operating equipment.

RIGGING PROCEDURES

GENERAL REQUIREMENTS

1. A person qualified in rigging must supervise every rigging activity. A qualified rigger is a person that:
 - a. Possesses a recognized degree, certificate, or professional standing, or
 - b. Has extensive knowledge, training, and experience, and can successfully demonstrate the ability to solve problems related to rigging loads.
 - c. The person designated as the qualified rigger must have the ability to properly rig the load for a job.
2. Before assembly or disassembly of operations, the qualified person shall ensure that the crew members understand their tasks and the hazards associated with their tasks.
3. Rigging equipment shall be used in accordance with the manufacturer's rated capacity and shall only be considered as strong as the lowest rated component.
4. Use of pelican hooks to rig loads is prohibited except when sorting sheets and like materials in a lay down yard area. Use of pelican hooks is prohibited for all overhead lifting. All other lifts must be lifted using safety latches on the hooks.
5. A registered professional engineer must certify any below the hook lifting device or similar lifting device.
6. Employees shall stay clear of suspended loads.
7. Rigging equipment shall be removed from the work area when not in use.
8. Tag or restraint lines shall be used whenever possible, unless the tagline would cause a greater hazard.

EQUIPMENT INSPECTIONS

1. Rigging equipment must be inspected prior to and during each use by a qualified person. Use a pass/fail method when inspecting.
2. Employees must follow manufacturers recommendations for inspections of rigging equipment.
3. All defective rigging equipment shall be tagged and immediately removed from service.
4. Employees must ensure that rigging equipment:
 - a. Has permanently affixed and legible identification markings as prescribed by the manufacturer or registered professional engineer that indicate the recommended safe working load limit
 - b. Is not loaded over the recommended safe working load

SELECTION AND USE OF SLING TYPES

1. Several types of slings are used throughout JRE and include:
 - Alloy Steel Chain Slings
 - Wire Rope Slings
 - Natural and Synthetic Fiber Rope Slings
 - Synthetic Web Slings
2. Sling selection for each task is based on:
 - Rated capacity of the sling
 - Nature of the task
 - Amount of weight required to be lifted, hoisted or moved

ALLOY CHAIN SLINGS

1. Alloy chain slings shall be inspected prior to use and annually by a qualified person.
2. Tag and remove chains from service if any of the following occur:
 - a. The chain size at any point of any link is less than that required by OSHA/MiOSHA
 - b. Chain links that are twisted, broken, cracked or otherwise damaged
 - c. The identification tag is missing or unreadable
 - d. Cracks in the chain or any components
 - e. Excessive nicks gouges or wear
 - f. Stretched, bent, twisted, or distorted chain links or components

- g. Excessive corrosion
 - h. Evidence of heat damage
 - i. Any other condition which may alter the integrity of the chain
 - j. Binding which means that wear has caused the links to not move freely
 - k. elongated or stretched links
 - l. severe corrosion or severe pitting
 - m. weld splatter or discoloration from excessive temperatures
 - n. any visual wear
3. When inspecting chains which are components of chain falls, come-a-longs or hoists, it is necessary to follow manufacturer's instructions for maintenance and inspection, plus:
 - a. Check braking mechanism for evidence of slippage under load.
 - b. Hooks must have safety latches.
 - c. Hooks having cracks or wear
 - d. Bent or twisted hooks
 4. Makeshift links or fasteners formed from bolts, cords, or other such attachments, shall not be used.
 5. Each new, repaired, or reconditioned chain sling, including all welded components in the sling assembly, shall be proof tested by the sling manufacturer or equivalent entity. JRE should request and retain a certificate of the proof test.

WIRE ROPE SLINGS

1. Wire rope slings shall be proof-tested by the manufacturer to ensure quality.
2. Tag and remove the wire rope if the following occur:
 - a. Broken wires
 - b. Distortion: Kinking, crushing, bird-caging, dog-legging, wires or strands that are pushed out of their original positions, or other damage which distorts the rope structure
 - c. Heat Damage
 - d. Damaged End Attachments: Cracked, bent or broken end fittings caused by abuse, wear or damage.
 - e. Bent Hooks
 - f. Corrosion: Severe corrosion of the rope or end attachments which has caused pitting or binding of wires should be cause for replacing the sling. Light surface rust does not substantially affect strength of a sling.
 - g. Pulled Eye Splices: Any evidence that eye splices have slipped, tucked strands have moved, or pressed sleeves show serious damage

SYNTHETIC WEB SLINGS

1. Slings shall be inspected and tagged and removed from service if any of the following defects are found:
 - a. Damaged or defective parts
 - b. Exposed to excessive heat
 - c. Cut Edges
 - d. Tears
 - e. Damaged Eyes
 - f. Abrasions
 - g. Pinches
 - h. Burns
 - i. Chemical Damage
 - j. Stitch Separation
 - k. Ultra Violet Light Damage
2. Intact synthetic web slings rigging practice should include the following items:
 - a. Double wrap slings, whenever possible, when hitching around the load.
 - b. Double wrap slings always when the sling hoist angle is greater than 60 degrees when hitching around the load.
 - c. If running a sling over sharp edge or corner use only manufactured sleeving or softeners.

HOOKS & LATCHES

1. Hooks on overhaul ball assembling, lower load block, or other attachment assemblies shall be the type that can be closed and locked, eliminating the hook throat opening.
2. Shackles used in place of hooks shall be of the alloy anchor type, and include either of the following:
 - a. A bolt, nut, and retaining pin, in place.
 - b. Of the screw type, with the screw pin secured from accidental removal.
3. The qualified rigger shall ensure that these devices are closed and secured when attached.
4. Rigging hardware, including wire rope, shackles, rings, master links, and other rigging hardware, and hooks shall be able to support at least 5 times the maximum intended load applied or transmitted to that component. Where rotation resistant rope is used, the slings must be able to support without failure at least 10 times the maximum intended load.
5. Bridles and associated rigging for suspending the personnel platform shall only be used for the platform and the necessary employees, their tools, and materials necessary to do their work. The bridles and associated rigging must not be used for any purpose other than hoisting personnel.

TRAINING

JRE will ensure that employees performing rigging activities are properly trained for the type of rigging to be performed.

WELDING, CUTTING, HOT WORK PROGRAM

GENERAL REQUIREMENTS

1. Hot work is considered any task that produces spark, flame, or heat such as welding, cutting, or brazing.
2. All equipment shall be safe and in good working condition, free from oily and greasy substances.
3. Defective equipment shall be clearly identified with a “Danger Do Not Use” tag and placed out-of-service until the defect is corrected.
4. Hot work will be identified on the JSA and a hot work permit will be completed upon customer request.
5. The area for hot work shall be inspected for flammable and combustible materials prior to starting work.
6. Hot work shall not be performed in the presence of potentially explosive atmospheres such as mixtures of flammable gasses, vapors, liquids, or dust with air.
7. Torches shall be lit by use of spark igniter (no open flame igniters).

FIRE PREVENTION

1. Approved fire extinguishers shall be placed at the welding site.
2. Welding operations shall not be performed within 50 feet of explosives, stored cylinders, or stored fuel. Combustible and flammable materials located within 35 feet of a welding operation shall either be removed or covered with fire-resistant material.
3. Fire watch is required when whenever hot work is done in an area where one or more of the following conditions exists:
 - a. Appreciable combustible material is within 35 feet of the point of operation
 - b. Appreciable combustibles more than 35 feet away may be easily ignited by sparks
 - c. Wall or floor openings within 35 feet expose combustibles in adjacent areas including confined spaces
 - d. Combustibles could be ignited by conduction or radiation through meta, partitions, walls, ceilings, or roofs.
4. Fire watch must not be involved in any other activities that would conflict with fire watch duties.
5. Assigned fire watch must be trained in the use of fire extinguishing equipment and must be familiar with facilities for sounding an alarm in the event of a fire.
6. Fire watch shall remain at the site for one half-hour after welding or cutting job has been completed to monitor for smoldering fires.

HOSES & REGULATORS

1. All torches and hoses shall be protected when in use or put away in a storage area.
2. When welding operations are complete, all power will be shut down, all valves and regulators will be turned off, and all hoses and cables will be properly stored.
3. Parallel hoses shall be color coded as follows:
 - Red – fuel gas
 - Green – oxygen
 - Black – inert gas or air
4. Employees shall ensure that only approved hoses are used for LP gas.
5. A hose that has been subject to a flashback shall be removed from service and replaced.
6. A box used for the storage of a gas hose shall be ventilated.
7. Regulators shall:
 - Be used only for the gas and pressure for which they are intended.
 - Be repaired by authorized personnel or be returned to the supplier for calibration or repairs.
 - Not be removed until the cylinder valve is closed and the regulator drained.
 - Have gauges marked “Use No Oil” when used for oxygen.
8. Fuel gas and oxygen regulators shall be equipped with backflow prevention devices.
9. A cylinder equipped with a shutoff valve shall have a regulator attached to the cylinder valve or manifold during use.

CONFINED SPACE

1. Before the start of a welding operation in a confined space, the employee shall ensure that the atmosphere is tested and recorded. Ventilation shall consist of Local exhaust placed near the welder or burner, as close as practicable to the work. Ventilation shall be of sufficient capacity and so arranged as to remove fumes and smoke at the source and keep the concentration of them in the breathing zone within safe limits as defined in the [Confined Space](#) policy.
2. When working in a confined space, all gas supply valves outside the confined space shall be shut off during any prolonged period and the torch and hose shall be removed from the confined space. Open-end fuel gas and oxygen hoses shall be immediately removed from enclosed spaces when they are disconnected from the torch or other gas-consuming device.
3. When electrodes are used in a confined space and welding is suspended during any prolonged period, the electrode shall be removed from the holder and the machine shall be shut off. The holders shall be placed or protected so that they cannot make electrical contact with employees or conducting objects.
4. A cylinder or welding power source used in a confined space shall be placed and secured on the outside of the space where work is being performed.
5. After welding operations are complete, a sign or other warning shall be used to mark the hot metal.

PPE

1. Eye protection, face protection, FR clothing, welding gloves and helmet, and a filter lens are required.
2. Welding of lead, zinc, cadmium, or other toxic materials shall be done in accordance with all regulations including proper ventilation, protective gloves, and respirators.
3. Welding curtains shall be used to protect employees adjacent to welding operations.

TABLE 1	
FILTER LENS SHADE NUMBERS FOR PROTECTION AGAINST RADIANT ENERGY	
WELDING OPERATION	SHADE NUMBER
Shielded metal-arc welding 1/16-, 3/32-, 1/8-, 5/32-, inch diameter electrodes	10
Gas-shielded arc welding (nonferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	11
Gas-shielded arc welding (ferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	12
Shielded metal-arc welding 3/16-, 7/32-, 1/4-inch diameter electrodes	12
5/16-, 3/8-inch diameter electrodes	14
Atomic hydrogen welding	10-14
Carbon-arc welding	14
Soldering	2
Torch brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, over 5 inches	5 or 6
Gas welding (light), up to 1/8-inch	4 or 5
Gas welding (medium), 1/8-inch to 1/2-inch	5 or 6
Gas welding (heavy), over 1/2-inch	6 or 8

ARC WELDING & CUTTING

1. Engine fuel, cooling water, or shielding gas shall not be allowed to leak.
2. All electric current-carrying arc welding equipment and cables shall be properly insulated and grounded. Damaged welding cable or grounds shall be removed from service.
3. Welding machines shall be disconnected when being moved and turned off when not in use.
4. Electrodes shall be retracted or removed when not in use. Electrode holders not in use shall be placed so that they cannot make electrical contact with an employee, fuel, gas tanks, or conducting objects.
5. A welder shall not let live electrodes or holders touch his bare skin or damp clothing. When arc welding is performed in wet conditions or under a condition of high humidity, the welder shall be protected against electric shock.
6. Electrode holders shall not be cooled by immersion in water.
7. Before starting an arc welding operation, the welder shall do all the following:
 - Assure the magnetic work clamps are free of spatter on the contact surfaces.
 - Spread out the welding cable, if necessary, to prevent overheating, damage, and trip hazards.

- Assure grounding connections are secured to a good ground.
 - Assure the required switching equipment for shutting down the machine has been provided.
8. A welder shall not curl or loop welding cable around his or her body.
 9. An arc welding machine that has become wet shall be thoroughly dried and tested before use.

COMPRESSED CYLINDER HANDLING

1. Visual inspections shall be conducted to determine that compressed gas cylinders are in a safe condition.
2. When a cylinder cap cannot be removed by hand, cylinder shall be tagged "Do Not Use" and returned to the designated storage area for return to vendor.
3. Gas identification should be stenciled or stamped on the cylinder or affixed with a label. No compressed gas cylinder should be accepted for use that does not legibly identify its content by name.
4. Cylinders must be equipped with the correct regulators. Regulators and cylinder valves should be inspected for grease, oil, dirt and solvents.
5. Cylinders must be transported in a vertical secured position using a cylinder basket or cart and must not be rolled. Regulators should be removed and cylinders capped before movement. Cylinders should not be dropped or permitted to strike violently; protective caps shall not used to lift cylinders.
6. Leaking cylinders should be moved to an isolated, well ventilated area, away from ignition sources. If the leak is at the junction of the cylinder valve and cylinder, do not try to repair it. Contact the supplier and ask for response instructions.
7. Cylinders must be marked and clearly identified as full or empty.

COMPRESSED CYLINDER STORAGE

1. Cylinders shall be stored in a well vented area.
2. Cylinders must be secured in such a way as to avoid them being knocked over or damaged, must be stored in a vertical position, not stored in public hallways, and segregated based upon contents.
3. Oxygen cylinders shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet or by a noncombustible barrier at least 5 feet high having a fire-resistant rating of at least one-half hour.
4. Cylinders must be protected from damage, corrosion, sunlight and kept away from heat sources.
5. Cylinders should be capped when they are not being used.
6. Storage areas for full and empty cylinders must be designated and labeled.

TRAINING

1. Employees will be trained in the proper use, storage, and handling of compressed cylinders.
2. Employees performing shall trained in the safe use of equipment and welding operations.
3. Employees performing fire watch shall be trained in fire watch duties.

TOOL SAFETY

REQUIREMENTS

1. Employees shall not operate power tools or equipment unless familiar with safe operation.
2. Regardless of ownership, all tools must be inspected before use to ensure they are in proper working order. Damaged tools shall be clearly identified with a “Danger Do Not Use” tag and placed out-of-service until the defect is corrected.
3. Tools must be used for the intended purpose only and operated according to the manufacturer’s instructions.
4. The manufacturers rated capacity of a tool shall not be exceeded.
5. Tools shall not be modified. Safety devices and operating controls shall not be made inoperative.
6. Tools must be maintained in a safe condition and secured when not in use. All sharp tools shall be carried and stored with the sharp edge down or guarded.
7. Proper PPE shall be worn when operating hand or power tools.
8. Hand-held power tools must be equipped with a constant-pressure switch or control that shuts off the power when pressure is released.
9. A tool that is used in a potentially explosive atmosphere shall be intrinsically safe.
10. Compressed air shall not be used for blowing dirt or dust from face, hands, or clothing.
11. The manufacturer's safe operating pressure for hoses, pipes, valves, and other fittings shall not be exceeded.

GUARDING & ATTACHMENTS

1. Tools shall be used with the manufacturer recommended guard, shield, or attachment.
2. Tool hazards including reciprocating, rotating or moving parts of equipment shall be guarded if the parts create a hazard exposure of contact by employees.
3. Any tool attachment shall be rated greater than or equal to the rating on the tool.
4. Unplug tools or remove batteries before servicing and cleaning, when not in use, and when changing accessories such as blades, bits, and cutters.

HAND TOOLS

1. Always direct tools such as knives, saw blades, etc. away from aisle areas and away from other employees working in the line of fire.
2. Iron or steel hand tools may produce sparks that can be an ignition source for flammable substances. Spark-resistant tools made of non-ferrous materials should be used in potentially explosive atmospheres.
3. Non-conductive tools shall be used while working on electrically energized parts.

ELECTRIC POWER TOOLS

1. Electric powered tools shall be of the approved double-insulated type or grounded.
2. Tools shall not be lifted, lowered, or carried by the cord. Never pull a cord to disconnect it from a receptacle.
3. Ensure that cords from electric tools do not present a tripping hazard.
4. Replacement cords shall have an equivalent rating of the cord being replaced.
5. Only qualified persons are to repair electric tools or equipment.
6. Secure work with clamps or a vise, freeing both hands to operate the tool.

Refer to JRE [Electrical Policy](#) for GFCI information.

FUEL POWERED TOOLS

1. All fuel-powered tools shall be stopped during refueling and maintenance. Before refilling a fuel-powered tool tank, shut down the engine and allow it to cool to prevent accidental ignition of hazardous vapors.
2. Fuel must be handled, transported, and stored only in approved flammable liquid containers.
3. Fire extinguishers must be available in the area.
4. When a fuel-powered tool is used inside a closed area, effective ventilation must be utilized to avoid breathing carbon monoxide.
5. Fuel-powered tools shall be moved a minimum of 10 feet from the place it was refueled before starting.

PNEUMATIC TOOLS

1. Pneumatic tools must be checked to ensure that they are fastened securely to the air hose. A short wire (whip check) or positive locking device attaching the air hose to the tool must also be used.
2. An air supply line shall be regulated to maintain pressure at not more than the pneumatic tool rating.
3. If an air hose is more than 1/2-inch in diameter, a safety excess flow valve must be installed at the source of the air supply to shut off the air automatically in case the hose breaks.
4. When using pneumatic tools, a safety clip or retainer must be installed to prevent attachments such as chisels on a chipping hammer from being ejected during tool operation.
5. Compressed air guns should never be pointed toward anyone. Workers should never “dead-end” them against themselves or anyone else.
6. Tools shall not be lifted, lowered, or carried by the hose.

HYDRAULIC POWER TOOLS

The fluid used in hydraulic power tools must be an approved fire-resistant fluid. The exception to fire-resistant fluid involves all hydraulic fluids used for the insulated sections of derrick trucks, aerial lifts, and hydraulic tools that are used on or around energized lines. This hydraulic fluid shall be of the insulating type.

JACKS

1. The rated capacity shall be legibly marked on a jack, and the capacity shall not be exceeded. A jack shall have a positive stop to prevent overtravel.
2. A jack shall be provided a firm foundation.
3. After a load has been raised, it shall be immediately cribbed, blocked, or otherwise secured.
4. Repair or replacement parts shall be examined for possible defects.

POWDER-ACTUATED TOOLS

JRE employees operating powder-actuated tools shall be trained in the safe operation and maintenance of these tools and will be issued a training card.

TRAINING

1. JRE requires that employees demonstrate the ability to use tools in a competent manner.
2. When a foreman or supervisor witnesses improper tool use, retaining shall occur.

RESPIRATORY PROTECTION PROGRAM

GENERAL

1. This policy applies to all JRE employees who may be required to work in hazardous atmospheres in which contaminants that cannot be reduced by engineering controls and requires the utilization of respirators.
2. This may include normal work processes/operations, maintenance activities and during some non-routine or emergency operations such as a spill of a hazardous chemical.
3. SDS will prompt the need for respiratory protection if other control methods cannot be utilized.
4. All employees working in areas that require the need for respiratory protection must follow JRE's Respiratory Protection Program.

RESPONSIBILITIES

1. Overall responsibility for the respiratory protection program is assigned to the JRE Safety Director to ensure that specific requirements are followed.
2. The Safety Director must be knowledgeable of the complexity of the program, able to conduct evaluations and have the proper training.
3. This assignment is made, however, with the understanding that individual supervisors will have to implement and enforce major portions of the program. The person who will have responsibility for administering all the aspects of this program will be the Foreman or their designee.
4. The responsibilities of the Safety Director will include, but are not limited to:
 - a. Conducting an annual written evaluation of the program.
 - b. Ensuring an adequate supply of respirators, cartridges, and repair/replacement parts.
 - c. Identifying hazards and ensuring only NIOSH certified respirators must be selected and provided based on those hazards and factors affecting performance.
 - d. Ensuring that all respirator users are fit-tested at least annually and more often if other federal requirements apply.
 - e. Ensuring that respirators are selected based on the hazard that will be encountered. This program describes the basic respirators that will be used at this site and the tasks for which they will be required.
5. Respirators, training and medical exams are provided at no cost to the employee.

WORK SITE PROCEDURES

Each work site where respirators are required to protect the health of the worker shall have work site procedures that follow the guidelines of this program. Specific procedures may also be required by our client which will be followed. The following areas shall be included:

- a. Identification of specific hazard requiring respiratory protection
- b. The selection of the appropriate respiratory protection equipment based on the specific hazard and concentration levels, characteristics, etc. Specific brand and models of respiratory equipment to be used shall be identified in the procedures.
- c. Verification that each user of respiratory protection is qualified (medical approval, current fit test, annual training and demonstrates competency.

MEDICAL REQUIREMENTS

1. Every employee of JRE who is required or volunteers to wear a respirator must pass a medical exam before being permitted to wear a respirator on the job, with the exception of an N95 dust mask, for comfort, and appendix D has been given.
2. The first step is to give the attached medical questionnaire to those employees (Appendix C). Employees are required to fill out the questionnaire in private and send or give them to the physician or other licensed health care professional (PLHCP) that JRE has identified.
3. Completed questionnaires are confidential and will be sent directly to medical provider without review by management.

4. If the medical questionnaire indicates to our medical provider that a further medical exam is required, this will be provided at no cost to our employees.
5. JRE shall obtain a written recommendation regarding the employee's ability to use the respirator from the PLHCP.
6. Additional medical evaluations will be done in the following situations:
 - a. JRE medical provider recommends it
 - b. JRE respirator program administrator decides it is needed
 - c. an employee shows signs of breathing difficulty
 - d. changes in work conditions that increase employee physical stress (such as high temperatures or greater physical exertion).

RESPIRATOR SELECTION CRITERIA

1. The selection of the respiratory equipment is based on the hazards the employee is exposed to.
2. JRE will conduct a hazard evaluation for each operation, process, or work area where airborne contaminants may be present in routine operations or during an emergency.
3. This review shall be conducted by surveying the workplace, reviewing process records, reviewing job specifications, SDS, and talking with employees and supervisors.
4. An employee exposure assessment will be conducted to ensure proper respirator selection.
 - To determine the employees' exposure level, air samples of the work place representative of the employee exposure will be used. Personal sampling equipment will be used in accordance with accepted industrial hygiene standards. Respiratory protection has been selected based on recent air sampling results.

HAZARD IDENTIFICATION

1. Due to the many varied work locations JRE identification of respiratory hazards will be contained in the various work site specific safety plans. Common respiratory hazards that may be encountered include dust, fumes, gases, chemical particles, and oxygen deficiency.
2. The hazard evaluation will include an identification of the hazardous substances used in the workplace, by department, or work process and a review of work processes to determine where potential exposures to these hazardous substances may occur.

SELECTION OF RESPIRATOR

The following will determine the type of respirator and cartridges or filters to be used. The concentration is based on a sampling of the atmosphere.

- a. The concentration and type of contaminant
- b. Location of the hazardous area (confined space, nearby contaminants, etc.)
- c. Worker activity (extreme heat, cold, welding hood requirement, etc.)

Mixing parts from other respirator manufacturers is prohibited. This includes airline hoses, valves, gaskets, cartridges, etc.

1. **Air-purifying respirators** can be either full-face or half masks with mechanical or chemical cartridges to filter dusts, mists, fumes, vapors or gases.
 - a. Air-purifying respirators cannot be used in oxygen-deficient atmospheres, which can result when another gas displaces the oxygen or consumption of oxygen by a chemical reaction occurs. Oxygen levels below 19.5% require either a source of supplied air or supplied-air respirator protection, or additional ventilation techniques. To determine the proper cartridge for air-purifying respirators contact the Safety Department. You should also consult the Safety Data Sheet of the substance that needs to be filtered.
 - b. Powered air-purifying respirators use a blower to pass the contaminated air through a filter. The purified air is then delivered into a mask or hood. They filter dusts, mists, fumes, vapors and gases, just like ordinary air-purifying respirators.
 - c. All cartridges are assigned a color designating the type of contaminant they will filter, here are some examples:
 - White: Acid gas
 - Black: Organic vapors

- Green: Ammonia gas
 - Yellow: Acid gas and organic vapors
 - Purple: Radioactive materials
 - Orange: Dust, fumes and mists
 - Olive: Other gases and vapors
 - Pink: High Efficiency (HE) Filter, P100
 - Blue: Carbon Monoxide
- d. Once the wearer of the respirator can detect an odor, irritation, taste of the contaminant, or cause noticeably increased breathing resistance the cartridge shall be replaced. All cartridges and/or filters shall be replaced per cartridge recommendations.
 - e. Employee must leave the contaminated area if cartridge needs replaced.
2. **Supplied-air respirators** provide the highest level of protection against highly toxic and unknown materials or oxygen deficient atmospheres. Supplied air refers to self-contained breathing apparatuses (SCBAs) and air-line respirators.
 - a. **Air-line respirators** have an air hose that is connected to a fresh air supply from a central source. The source can be from a compressed air cylinder or air compressor that provides at least Grade D breathing air.
 - b. **Emergency Escape Breathing Apparatuses** (EEBAs) provide oxygen for 5, 10 or 15 minutes depending on the unit. These are for emergency situations in which an employee must escape from environments immediately dangerous to life or health (IDLH).
 - c. **Self-Contained Breathing Apparatus** have a limited air supply that is carried by the user, allowing for good mobility and fewer restrictions than air-line respirators. If SCBA's are maintained for use in emergency situations they shall be inspected at least monthly.

ESTIMATE OF EXPOSURES AND CONTAMINANT INFORMATION

1. No employee shall enter an immediate dangerous to life and health (IDLH) environment.
2. Normal oxygen levels shall be maintained.
3. No employee shall be exposed to an atmosphere containing concentrations that would exceed the Short-Term Exposure Limit (STEL) or the Permissible Exposure Limit (PEL) for the identified atmospheric hazard.

RESPIRATOR FIT TESTING

1. Before an employee is required to use a tight-fitting respirator, the employee must be fit tested with the same make, model, style, and size of respirator that will be used.
2. All respirator users are fit-tested at least annually and more often if other federal requirements apply.
3. JRE does fit testing using Quantitative Fit Testing (QNFT) and Qualitative Fit Testing (QLFT). QNFT uses your sense of taste or smell, or your reaction to an irritant to detect leakage into the respirator facepiece. QLFT uses a machine to measure the actual amount of leakage into the facepiece and do not rely upon your sense of taste, smell or irritation to detect leakage.
4. The Safety Department will conduct QLFT (pass or fail) using the following the approved protocol.
 - QLFT Protocols: JRE shall ensure that persons administering QLFT are able to prepare test solutions, calibrate equipment and perform tests properly, recognize invalid tests, and ensure that test equipment is in proper working order. JRE shall ensure that QLFT equipment is kept clean and well maintained as to operate within the parameters for which it was designed.
5. The Safety Director will evaluate on a case-by-case basis whether QNFT is required.
 - QNFT Protocols:
 - Using controlled negative pressure and appropriate instrumentation to measure the volumetric leak rate of a face piece to quantify the respirator have been demonstrated to be acceptable to OSHA.
 - JRE shall ensure that persons administering QNFT are able to calibrate equipment and perform tests properly, recognize invalid tests, calculate fit factors properly and ensure that test equipment is in proper working order.
 - JRE shall ensure that QNFT equipment is kept clean and is maintained and calibrated according to the manufacturer's instructions.

6. If after passing a QLFT or QNFT, the employee subsequently notifies JRE Safety Director, supervisor, or PLHCP that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator face piece and to be retested.
7. JRE shall conduct an additional fit test whenever the employee reports, or PLHCP, supervisor, or Safety Director makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.
8. No beards are allowed on wearers of tight-fitting respirators.
9. Any modifications to the respirator face piece for fit testing shall be completely removed, and the face piece restored to NIOSH-approved configuration before that face piece can be used in the hazard environment.
10. Fit-testing is not required for loose-fitting, positive pressure (supplied air helmet or hood style) respirators
11. Employees must use the Fit Test form located at the end of this section.
12. A record of the test needs to be sent to the Safety Director and kept on file, assuming the fit test was successful. The record must contain the test subject's name; overall fit factor; make, model, style, and size of respirator used; and date tested.

USE, MAINTENANCE, AND CARE

1. Respirator Cleaning Procedures (Mandatory) shall be followed.
2. Items that can affect the face to mask seal are prohibited. This may include facial hair, glasses, clothing, etc.
3. Each time a respirator is put on a positive and negative pressure check shall be performed.

CLEANING & DISINFECTING

1. All respirators shall be clean and disinfected by following respirator manufacturer's instructions.
2. Respirators issued for the exclusive use of an employee shall be cleaned and disinfected by the employee as often as necessary to be maintained in a sanitary condition.
3. Respirators used in fit testing and training shall be cleaned and disinfected after each use by the Safety Director or designated person.
4. Everyone who is assigned a cartridge respirator is responsible for seeing that the respirator is cleaned, inspected and properly stored.
5. The following procedure shall be used for cleaning and disinfecting all respirators:
 - a. Disassemble respirator, removing any filters, canisters, or cartridges.
 - b. Wash the face-piece and associated parts in mild detergent with warm water. (Do not use organic solvents. They will deteriorate the face-piece.)
 - c. Rinse completely in clean warm water.
 - d. Wipe the respirator with a disinfectant wipe to kill germs.
 - e. Allow to air dry in a clean area or hand dry with a clean lint-free cloth.
 - f. Reassemble the respirator and replace any defective parts.
 - g. Place in a clean, dry plastic bag or other air tight container.

STORAGE & INSPECTION

1. Respiratory equipment shall be stored in a manner to protect it from damage, contamination, temperature extreme, etc.
2. Respiratory equipment intended for emergency use shall be stored in an area that is readily accessible and be clearly marked.
3. All respirators used in routine situations shall be inspected by the employee before each use and during cleaning.
4. A check must be performed by the employee for respirator function, tightness of connections, and the condition of the various parts.
5. A check must be performed by the employee for elastomeric parts for pliability and signs of deterioration.
6. Emergency respiratory equipment will be inspected at least monthly, and before and after each use.
7. Escape only respiratory equipment will be inspected before being carried into workplace.
8. All employees shall conduct user seal checks each time that they wear their respirator. Employees shall use either the positive or negative pressure check.

BREATHING AIR QUALITY & USE

1. A minimum of Grade D breathing air will be supplied to compressed air tanks for respirators.
2. Grade D breathing air may be provided in cylinders or by an air compressor system that has routine air quality checks, to ensure the quality of the breathing air being provided.
3. Compressed oxygen shall not be used in atmosphere-supplying respirators that have previously used compressed air
4. JRE shall ensure that oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution.
5. Compressors used to supply breathing air must have suitable in-line air-purifying sorbent beds and filters and must have high heat alarms/shut-off, carbon monoxide monitor/alarm, oil filter/trap, and a water removal trap.
6. For compressors that are not oil-lubricated, JRE shall ensure that carbon monoxide levels in the breathing air do not exceed 10 ppm.
7. For oil-lubricated compressors, JRE shall use a high-temperature or carbon monoxide alarm, or both, to monitor carbon monoxide levels. If only high-temperature alarms are used, the air supply shall be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 ppm.
8. A tag noting the date of most recent filter change must be signed by the employee who performed the change.

REPAIRS

Respirators that fail an inspection or are otherwise found to be defective are immediately removed from service, and are discarded or repaired or adjusted in accordance with the following procedures:

- a. Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator
- b. Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed

VOLUNTARY USE

If an employee chooses to voluntarily wear a respirator when not required by this program (contaminants do not meet protection standards, odors, etc.) they will be advised of the following in their training:

1. Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for employees.
2. If a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the employee. Sometimes, employees may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.
 - a. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirator's limitations.
 - b. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
 - c. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
 - d. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

WORKPLACE MONITORING

A program of monitoring potential employee exposures has been implemented through safety department. Direct-reading instruments may also be used in the characterization of potential exposures. All the data collected is used to determine the appropriateness of the respiratory equipment.

RECORDKEEPING

1. JRE will establish and retain written information regarding medical evaluations, fit testing and the respirator program. Records of medical evaluations required by this section must be retained and made available. JRE shall provide the employee with an opportunity to discuss the questionnaire and examination results with the PLHCP.
2. Records will be treated confidentially and maintained on file in the JRE corporate office by the Safety Director.

PROGRAM EVALUATION

1. JRE shall conduct evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.
2. JRE shall regularly consult employees required to use respirators to assess the employees' views on this program's effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed and verified include, but are not limited to:
 - a. Respirator fit (including the ability to use the respirator without interfering with effective workplace performance)
 - b. Appropriate respirator selection for the hazards to which the employee is exposed
 - c. Proper respirator-use under the workplace conditions the employee encounters
 - d. Proper respirator maintenance.

TRAINING

1. All employees will receive respirator training prior to being required to wear a respirator. Training shall address employee knowledge of respirators, fit, use, limitations, emergency situations, wearing, fit checks, maintenance & storage, medical signs and symptoms of effective use and general requirements of the OSHA standard.
2. Retraining shall be administered annually, and when the following situations occur:
 - a. Changes in the workplace or the type of respirator render previous training obsolete
 - b. Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill
 - c. Any other situation arises in which retraining appears necessary to ensure safe respirator use.

J. Ranck Electric, Inc. Qualitative Respiratory Fit Test Record Sheet

Note: Employee Must Have Completed Respiratory Protection Training and Passed Airway Exam Prior To Fit Testing

Test Date: _____ **Employee Name:** _____ **SS#** _____

Test Agent: Irritant Smoke (Stannic Chloride)

Respirator Identification:

Model: North 7700 Series Half Mask

Size (circle one): Small Medium Large

Manufacturer: North Safety Products

Approval No: 42 CFR 84

Additional Information: Respirator must be equipped with North HEPA filters

Fit Test Protocol (Test Subject Initials indicate steps were performed):

___ **Told to keep eyes closed during smoke exposure**

___ Test subject smelled irritant smoke before fit test

___ Wore respirator 5 minutes before fit test

___ Protocol reviewed before fit test

___ Test subject did not have hair in fitting area

___ Shown how to wear respirator

___ Performed positive pressure & negative fit check successfully after seating respirator

___ Mirror available for use by subject

___ Must wear PPE (hard hat, etc.) if needed

Fit Test Steps (1 minute each except Grimace = 15 seconds)

___ Breath normally

___ Breathe deeply

___ Turned head side to side

___ Nod up and down

___ Talking (Read Rainbow Passage)

___ Grimace

___ Jog in place

___ Breath normally

"When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond his reach, his friends say he is looking for the pot of gold at the end of the rainbow".

Fit Test Results: ___ Pass ___ Fail

Test Subject Signature: _____ Date: _____

Examiner's Name: _____ Examiner's Signature: _____ Date: _____

Distribution: Employee File – J. Ranck Electric, Inc. Safety Dept

SILICA PROGRAM

PROGRAM REQUIREMENTS

1. The written exposure control plan must be evaluated at least once per year and as necessary. Situations where reevaluation may be necessary include regulatory updates, changes in equipment, and exposure incidents. Any changes resulting from this process must be communicated to affected employees.
2. The written exposure control plan shall be available to all employees.

SILICA HEALTH HAZARDS

1. Crystalline Silica (silica) is a mineral commonly found in rock, stone, sand, concrete, asphalt, and masonry material. Silica becomes a health hazard when these materials are broken up or crushed into very fine respirable, meaning able to be breathed in, silica dust. Silica dust damages lung tissue and can lead to silicosis, a serious and sometimes fatal lung disease. Other diseases that can occur from breathing in silica dust are chronic bronchitis, tuberculosis, chronic obstructive pulmonary disease (COPD), and lung cancer.
2. Below are some common work practices that can lead to silica dust exposure:
 - a. Drilling, cutting, grinding, chipping or hammering concrete, stone or masonry
 - b. Abrasive blasting
 - c. Crushing rock or concrete, mixing concrete
 - d. Milling concrete and asphalt
 - e. Loading, dumping, and hauling rock and concrete
 - f. Tunneling operations
 - g. Dry sweeping or using compressed air to move dust, sand or rock

GENERAL REQUIREMENTS

1. The silica rules apply to any work operation that generates silica dust except where employee exposure to the silica dust will remain below the action level of 25 micrograms of respirable crystalline silica per cubic meter of air ($25 \mu\text{g}/\text{m}^3$) calculated as an 8-hour time-weighted average (TWA) under any foreseeable conditions. There are a few work operations that can reasonably be expected to remain below the action level such as pouring concrete and mixing small batches of concrete, however most tasks that create silica dust will be at or above the action level.
2. Employees who are exposed to silica dust must be protected with engineering controls (wet or vacuum), work practice controls, and sometimes respirators so as not to exceed the permissible exposure limit (PEL) of $50 \mu\text{g}/\text{m}^3$ calculated as an 8-hour time-weighted average (TWA). Respirators will be provided to employees who are exposed to respirable crystalline silica.

STEP 1: DETERMINE WHICH COMPLIANCE METHOD

When a work operation creates silica dust, the competent person (typically the foreman) must determine which of the two compliance method options described below will be used to control exposure to silica dust before work begins:

Option #1: Table 1

Refer to Table 1 (Pages 5-10) to determine if the work operation is listed as one of the 18 common equipment/tasks and if all the engineering controls, work practices, and respiratory protection that are specified in the table can be fully and properly implemented. If Table 1 can be used, no additional assessments or engineering controls are required unless exposure conditions change.

Option #2: Exposure Assessment and Alternative Exposure Controls

If the task to be completed is NOT listed in Table 1, or where engineering, work practices, and respiratory protection are not utilized, the foreman is required to contact JRE Safety Department before the task is performed. For tasks not listed in Table 1, JRE Safety Department will complete an assessment to determine any hazards to the employee. Assessment results from tasks frequently performed by JRE employees will be compiled and referenced as needed.

1. **Exposure Assessment:** An independent exposure assessment must be conducted to determine who may be exposed to silica dust at or above the **action level** of 25 µg/m³ calculated as an 8-hour TWA during the work operation. The assessment is based on any air monitoring data or objective data that is sufficient to accurately characterize exposures.
2. If **objective data** is used for the exposure assessment, the information must demonstrate how the employee is exposed to silica dust based on the specific material, process, or work operation. The data must reflect workplace conditions closely resembling or with a higher exposure potential than the types of material, control methods, work practices, and environmental conditions in the employer's current operations. An accurate record of the information must be kept when relying on objective data to comply with the silica standard. The record must include:
 - The date of the measurement for each sample taken;
 - The task monitored;
 - Sampling and analytical methods used;
 - The number, duration and results of sample taken;
 - The identity of the laboratory that performed the analysis;
 - The type of personal protective equipment used (e.g., type of respirator worn); and
 - The name, social security number, and job classification of all employees represented by the monitoring.
3. If **air monitoring data** is used for the exposure assessment, the employer shall assess the exposure of each employee who is or may reasonably be expected to be exposed to respirable crystalline silica at or above the action level in accordance with either the performance option or the scheduled monitoring option. All results of air monitoring will be made available to the employee within 5 business days of analysis.
 - a. **Scheduled Monitoring:** The employer shall perform initial monitoring to assess the 8-hour TWA exposure for each employee based on one or more personal breathing zone air samples that reflect the exposures of employees on each shift, for each job classification, in each work area. Where several employees perform the same tasks on the same shift and in the same work area, the employer may sample a representative fraction of these employees to meet this requirement. In representative sampling, the employer shall sample the employees who are expected to have the highest exposure to respirable crystalline silica.
 - If initial monitoring indicates that employee exposures are below the action level, the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring.
 - Where the most recent exposure monitoring indicates that employee exposures are at or above the action level but at or below the PEL, the employer shall repeat such monitoring within six months of the most recent monitoring.
 - Where the most recent exposure monitoring indicates that employee exposures are above the PEL (50 µg/m³, calculated as an 8-hour TWA), the employer shall repeat such monitoring within three months of the most recent monitoring.
 - Where the most recent (non-initial) exposure monitoring indicates that employee exposures are below the action level, the employer shall repeat such monitoring within six months of the most recent monitoring until two consecutive measurements, taken seven or more days apart, are below the action level, at which time the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring.
4. **Alternate Exposure Controls:** Alternate exposure controls must be used to limit employee exposures to the PEL of 50 micrograms of respirable crystalline silica per cubic meter of air (50 µg/m³) calculated as an 8-hour time-weighted average (TWA). The alternate exposure controls are as follows:
 - **Engineering controls** are wet method and HEPA-filtered vacuuming. Wet methods involve applying water or foam at the point where dust is created to keep the dust from getting into the air (i.e. an integrated water delivery system on a stationary masonry saw). HEPA-filtered vacuuming removes dust by capturing it at or near the point where it is created (i.e. a dust collector on a handheld grinder).

- **Work practice controls** are performing a task in a way that reduces or limits exposures (i.e. following the manufacturers' recommendations for equipment usage and maintenance.) or limiting the duration that an employee is exposed (i.e. rotating employees).
- **Respirators** are typically required only when engineering controls cannot reduce exposures to acceptable levels.

Respiratory Protection Requirements

1. A written respiratory protection program must be on site when work operations require the use of a respirator. The designated competent person (typically the foreman) must implement all the program requirements (i.e. proper selection, clean shaven, fit testing, and training). Refer to the **Respiratory Protection Program** for additional information.
2. Medical exams (including chest X-rays and lung function tests) must be offered to employees who are required to wear respirators for 30 or more days per year. An accurate record must be kept which includes the following information about the employee:
 - a. Name and social security number
 - b. A copy of the physicians and other licensed health care professionals (PLHCPs) and specialists' written opinions (See Appendix B)
 - c. A copy of the information given to PLHCPs and specialists (i.e. a description of the employee's former, current and anticipated duties and exposure levels; a description of the PPE used by the employee; and information from previous employment-related medical examinations that is currently within the control of the employer)

STEP 2: RESTRICT ACCESS TO OTHER WORKERS

Other workers shall be prevented from entering areas where silica dust is at or above the action level (typically in the areas where respirators are required) using signs, barricades, enclosures, spotters, or by only performing work when the area is clear of other contractors and workers.

STEP 3: HOUSEKEEPING

1. Only use wet-sweeping or a HEPA-filtered vacuum for cleaning surfaces or clothing unless the competent person determines that dry sweeping is the only feasible method.
2. Compressed air should not be used to clean clothing or surfaces unless the compressed air is used in conjunction with a ventilation system that effectively captures the dust cloud created by the compressed air.

STEP 4: WRITTEN EXPOSURE CONTROL PLAN

The competent person must complete the **Silica Exposure Control Plan - Appendix A** for each work operation/task that generates silica dust (whether using Table 1 or alternative exposure control methods).

STEP 5: REASSESS WHEN WORK CONDITIONS HAVE CHANGED

Exposures, engineering controls, and work practices must be reassessed whenever a change in the work operation, equipment, personnel, or work practices may result in new or additional exposures at or above the action level.

TRAINING

1. Employees must be trained in the recognition of work operations that generate silica dust, the hazards associated with silica dust, and ways to limit exposures.
2. The employer shall ensure that each employee covered by this section can demonstrate knowledge and understanding of at least the following:
 - a. The health hazards associated with exposure to respirable crystalline silica;
 - b. Specific tasks in the workplace that could result in exposure to respirable crystalline silica;
 - c. Specific measures the employer has implemented to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and respirators to be used;
 - d. The identity of the competent person designated by the employer; and
 - e. The purpose and a description of the medical surveillance program.
3. The competent person shall be trained to identify existing and foreseeable silica hazards in the workplace and have the authorization to take prompt corrective measures. The competent person must be trained to make frequent and regular inspections of job sites, materials, and equipment to implement the written exposure control plan.

4. The written exposure control plan must be evaluated at least once per year and as necessary. Situations where reevaluation may be necessary include regulatory updates, changes in equipment, and exposure incidents. Any changes resulting from this process must be communicated to affected employees.

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(i) Stationary masonry saws	-Use saw equipped with integrated water delivery system that continuously feeds water to the blade. -Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(ii) Handheld power saws (any blade diameter)	-Use saw equipped with integrated water delivery system that continuously feeds water to the blade. -Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. - When used outdoors. - When used indoors or in an enclosed area.	None None APF 10	None APF 10 APF 10
(iii) Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)	For tasks performed outdoors only: - Use saw equipped with commercially available dust collection system. - Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. - Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.	None	None
(iv) Walk-behind saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. - When used outdoors. - When used indoors or in an enclosed area.	None APF 10	None APF 10
(v) Drivable saws	For tasks performed outdoors only: - Use saw equipped with integrated water delivery system that continuously feeds water to the blade. - Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(vi) Rig-mounted core saws or drills	-Use tool equipped with integrated water delivery system that supplies water to cutting surface. -Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None

(CONTINUED) TABLE 1: SPECIFIED SILICA EXPOSURE CONTROL METHODS			
Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	-Use drill equipped with commercially available shroud or cowl with dust collection system. - Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. - Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. - Use a HEPA-filtered vacuum when cleaning holes.	None	None
(viii) Dowel drilling rigs for concrete	For tasks performed outdoors only: - Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism. - Use a HEPA-filtered vacuum when cleaning holes.	APF 10	APF 10
(ix) Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector.	None	None
	OR Operate from within an enclosed cab and use water for dust suppression on drill bit.	None	None
(x) Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact. - When used outdoors. - When used indoors or in an enclosed area.	None APF 10	APF 10 APF 10
	OR Use tool equipped with commercially available shroud and dust collection system. -Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. -Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. -When used outdoors. - When used indoors or in an enclosed area.	None APF 10	APF 10 APF 10

(CONTINUED) TABLE 1: SPECIFIED SILICA EXPOSURE CONTROL METHODS

Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(xi) Handheld grinders for mortar removal (i.e., tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	APF 10	APF 25
(xii) Handheld grinders for uses other than mortar removal	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	None	None
	- When used outdoors.	None	None
	- When used indoors or in an enclosed area.	None	APF 10

(CONTINUED) TABLE 1: SPECIFIED SILICA EXPOSURE CONTROL METHODS			
Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(xiii) Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface.	None	None
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None	None
(xiv) Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None
(xv) Large drivable milling machines (half-lane and larger)	For cuts of any depth on asphalt only:		
	-Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. -Operate and maintain machine to minimize dust emissions. -For cuts of four inches in depth or less on any substrate:	None	None
	-Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. -Operate and maintain machine to minimize dust emissions. OR -Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None

(CONTINUED) TABLE 1: SPECIFIED SILICA EXPOSURE CONTROL METHODS			
Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(xvi) Crushing machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points). Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions. Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote-control station.	None	None
(xvii) Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab. When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None None	None None
(xviii) Heavy equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions. OR When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None None	None None

APPENDIX A

SILICA EXPOSURE CONTROL PLAN

Person Completing this Plan:

Date:

WORK OPERATION DESCRIPTION

(1) Identify the silica-containing material. Check all applicable boxes.

- | | | | | |
|-----------------------------------|--------------------------------|-------------------------------------|---|--|
| ☐ Sand | ☐ Brick | ☐ Asphalt | ☐ Mortar | ☐ Sand Blasting |
| ☐ Concrete | ☐ Block | ☐ Stone/Rock | ☐ Other (Specify): _____ | |

(2) Describe the work operation (include the tools/equipment, task):

Example: Using a walk-behind saw to cut concrete sections; then removing sections from roadway.

(3) Where will the work operation be performed? ☐ Indoors ☐ Outdoors

COMPLIANCE METHOD

(1) Which compliance method will be used to control silica dust during the work operation?

- ☐ **Table 1 - Only complete page 1.** Which Equipment/Task # will be used from Table 1? _____
- ☐ **Alternative Control Methods - Complete pages 1 and 2.**

RESPIRATOR PROTECTION

(1) Does the work operation require the use of a respirator?

- ☐ **No**
- ☐ **Yes** - Complete the following questions:

- | | |
|--|------------------------------|
| a. Are respirators provided and worn by employees where required? | ☐ Yes |
| b. Are respirators provided to employees if requested? | ☐ Yes |
| c. Is a copy of the Respiratory Protection Program (RPP) available at jobsite? | ☐ Yes |
| d. Are all RPP requirements being followed (i.e. clean shaven, fit testing, training)? | ☐ Yes |

RESTRICTED AREAS

(1) How is access to work areas being restricted to prevent other workers from exposures to silica dust that is at or above the action levels, (i.e. where respirators are required)? Check all applicable boxes. ☐ N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-----------------------------------|
| ☐ Signage | ☐ Barricades | ☐ Enclosures | ☐ Spotters |
| ☐ Other (Describe) _____ | | | |

HOUSEKEEPING

(1) What housekeeping measures are being used to limit exposures? Check all applicable boxes.

- ☐ Wet Sweeping
- ☐ HEPA-Filter Vacuuming
- ☐ Hand Washing Facilities are available
- ☐ Other (Describe) – _____

ALTERNATIVE CONTROL METHOD REQUIREMENTS

(This section is only required to be completed when Table 1 cannot be used)

(1) EXPOSURE ASSESSMENT: Complete the information below to describe how initial air monitoring is performed:

a. Date sample was taken: _____

b. The specific task monitored:

c. Sampling and analytical methods used:

d. The number, duration and results of sample taken:

e. Identity of laboratory that performed the analysis: _____

f. Type of PPE (i.e. respirator) used: _____

g. Name, SS#, and job classification of employees who were monitored:

h. Additional Information:

(2) ENGINEERING CONTROLS: Describe the engineering controls being used to limit exposures. Check applicable boxes.

- ☐ Wet Method - applying water or foam to keep dust from getting into air.
- ☐ HEPA Vacuum Method - removing dust by capturing it at or near the point where it is created.
- ☐ Enclosed Cab for Operator – must meet specific requirements (i.e. maintained, sealed doors, filtered air, heat/cool).
- ☐ Other (Describe) -

(3) WORK PRACTICES: Describe the work practices that are being used to limit exposures (i.e. rotating employees to limit exposures to less than 4 hours).

APPENDIX B:
SILICA MEDICAL SURVEILLANCE REPORTS (4 reports)

EMPLOYEE AUTHORIZATION OF MEDICAL EXAMINATIONS
(Report 1 of 4)

Medical examinations are available to every employee who is required by the silica standard to wear a respirator for 30 or more days per year. The medical examinations are intended to (1) identify silica-related diseases so you can take actions to protect your health; (2) determine if you have any condition, such as a lung disease, that may make you more sensitive to silica; and (3) determine your fitness to use respirators.

The frequency for the medical examinations is as follows:

- (1) **Initial Medical Examination:** Conducted within 30 days of when an employee starts working a job/task in which he/she will be required by the silica standard to wear a respirator for 30 or more days per year, unless an examination that meets the requirements of the silica standard occurred within the last 3 years.
- (2) **Periodic Medical Examination:** Conducted every 3 years from an employee's last examination that met the requirements of the silica standard, or more frequently if recommended by the physician or other licensed health care professional (PLHCP), if the employee will continue to perform tasks that require a respirator under the silica standard for 30 or more days per year.

You must give authorization before your employer can schedule a medical examination. Your employer is responsible for arranging and covering costs of the initial and periodic medical examinations.

Please check applicable box:

- ☐ I authorize my employer to conduct medical examinations.
- ☐ I do not authorize my employer to conduct medical examinations.

Employee Name (printed)

Employee Signature

Date

Employer/Company Name

**WRITTEN MEDICAL REPORT FOR EMPLOYEE
(Report 2 of 4)**

EMPLOYEE NAME: _____ **DATE OF EXAMINATION:** _____

TYPE OF EXAMINATION: ☐ Initial examination ☐ Periodic examination ☐ Specialist examination

☐ Other: _____

RESULTS OF MEDICAL EXAMINATION:

Physical Examination: ☐ Normal ☐ Abnormal (see below) ☐ Not performed

Chest X-Ray: ☐ Normal ☐ Abnormal (see below) ☐ Not performed

Breathing Test
(Spirometry): ☐ Normal ☒ Abnormal (see below) ☐ Not performed

Test for Tuberculosis: ☐ Normal ☐ Abnormal (see below) ☐ Not performed

Other: _____ ☐ Normal ☐ Abnormal (see below) ☐ Not performed

Results reported as abnormal: _____

☐ **Your health may be at increased risk from exposure to respirable crystalline silica due to the following:**

RECOMMENDATIONS:

☐ No limitations on respirator use

☐ Recommended limitations on use of respirator: _____ ☐

Recommended limitations on exposure to respirable crystalline silica: _____

Dates for recommended limitations, if applicable: _____ to _____
MM/DD/YYYY MM/DD/YYYY

☐ **I recommend that you be examined by a Board-Certified Specialist in Pulmonary Disease or Occupational Medicine**

☐ Other recommendations* _____

Your next periodic examination for silica exposure should be in: ☐ 3 years ☐ Other: _____

Examining Provider: _____ Date: _____
(signature) MM/DD/YYYY

Provider Name: _____ Office Phone: _____

Office Address: _____

*These findings may not be related to respirable crystalline silica exposure or may not be work-related, and therefore may not be covered by the employer. These findings may necessitate follow-up and treatment by your personal physician. Respirable Crystalline Silica standard (§ 1910.1053 or 1926.115)

WRITTEN MEDICAL OPINION FOR EMPLOYER
(Report 3 of 4)

EMPLOYER: _____

EMPLOYEE NAME: _____

DATE OF EXAMINATION: _____

TYPE OF EXAMINATION:

- ☐ Initial examination ☐ Periodic examination ☐ Specialist examination
☐ Other: _____

**USE
OF**

RESPIRATOR:

- ☐ No limitations on respirator use
☐ Recommended limitations on use of respirator: _____

Dates for recommended limitations, if applicable: _____ to _____
MM/DD/YYYY MM/DD/YYYY

The employee has provided written authorization for disclosure of the following to the employer (if applicable):

- ☐ This employee should be examined by an American Board-Certified Specialist in Pulmonary Disease or Occupational Medicine.
☐ Recommended limitations on exposure to respirable crystalline silica: _____

Dates for exposure limitations noted above: _____ to _____
MM/DD/YYYY MM/DD/YYYY

NEXT PERIODIC EVALUATION:

- ☐ 3 years ☐ Other: _____
MM/DD/YYYY

Examining Provider: _____ Date: _____
(signature)

Provider Name: _____ Provider's specialty: _____

Office Address: _____ Office phone: _____

- ☐ I attest that the results have been explained to the employee.

The following is required to be checked by the Physician or other Licensed Health Care Professional (PLHCP):

- ☐ I attest that this medical examination has met the requirements of the medical surveillance section of the OSHA Respirable Crystalline Silica standard (§ 1910.1053(h) or 1926.1153(h)).

AUTHORIZATION FOR CRYSTALLINE SILICA OPINION TO EMPLOYER
(Report 4 of 4)

This medical examination for exposure to crystalline silica could reveal a medical condition that results in recommendations for (1) limitations on respirator use, (2) limitations on exposure to crystalline silica, or (3) examination by a specialist in pulmonary disease or occupational medicine. Recommended limitations on respirator use will be included in the written opinion to the employer. If you want your employer to know about limitations on crystalline silica exposure or recommendations for a specialist examination, you will need to give authorization for the written opinion to the employer to include one or both of those recommendations.

I hereby authorize the opinion to the employer to contain the following information, if relevant. (Please check all that apply):

☐ Recommendations for limitations on crystalline silica exposure

☐ Recommendation for a specialist examination

OR

☐ I do not authorize the opinion to the employer to contain anything other than recommended limitations on respirator use.

Please read and initial:

_____ I understand that if I do not authorize my employer to receive the recommendation for specialist examination, the employer will not be responsible for arranging and covering costs of a specialist examination.

Name (printed)

Signature

Date

NOISE EXPOSURE IN CONSTRUCTION

GENERAL REQUIREMENTS

1. JRE shall ensure that protection against the effects of noise exposure is provided when sound levels exceed the action level of 90 dBA.
2. If administrative or engineering controls fail to reduce the sound levels within the levels listed in Table 1, proper PPE will be required.
3. Follow all manufacturer requirements for equipment. Even if the sound level does not exceed those listed in Table 1, the manufacturer may require hearing protection for the equipment being used.

TABLE 1 PERMISSIBLE NOISE EXPOSURES	
Duration per day, hours	Sound level dBA, slow response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

4. If the daily noise exposure is composed of 2 or more periods of noise exposures at different levels, their combined effect shall be considered.

HEARING PROTECTION

1. Hearing protection shall be worn by all employees when sound levels exceed the levels listed in Table 1, or when the manufacturer requires.
2. Hearing protection will be provided by JRE.
3. Employees will be given an opportunity to select their hearing protection.

TRAINING

1. Noise awareness training shall be performed before initial assignment and on an annual basis.
2. Training will consistent with changes in PPE and work processes and will include instruction on the proper use and fit of hearing protection.

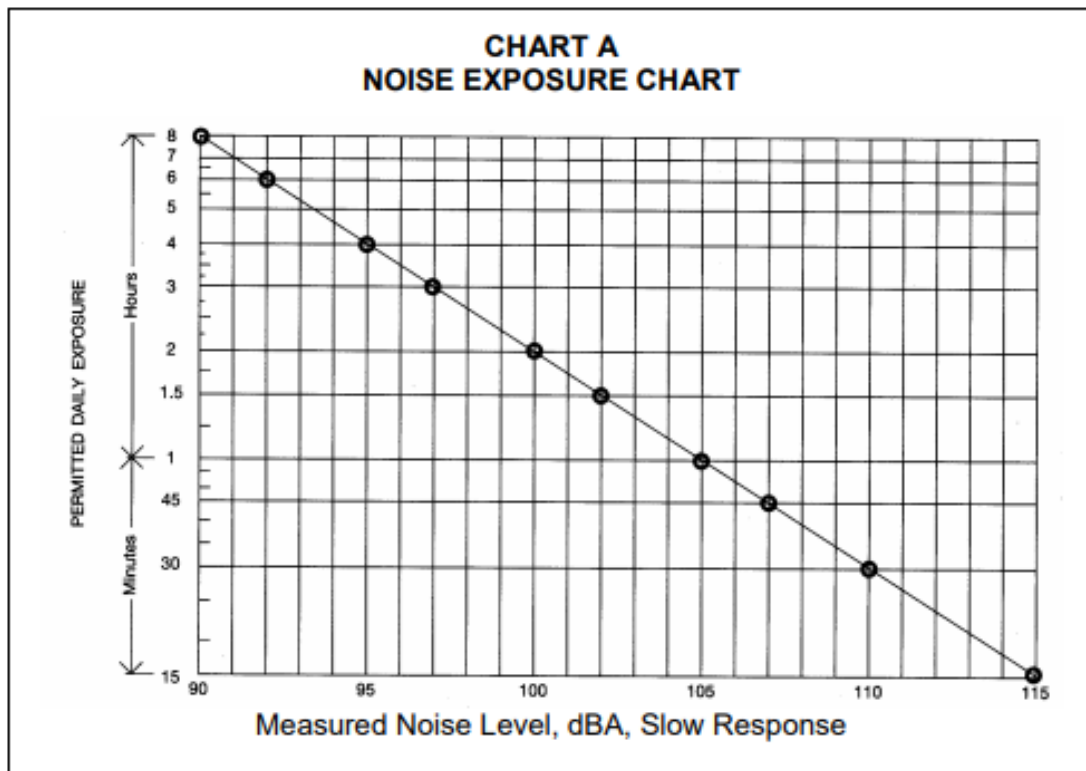
NOISE EXPOSURE IN GENERAL INDUSTRY

GENERAL REQUIREMENTS

1. The JRE Safety Department will administer a continuing, effective hearing conservation program whenever employee noise exposures are at or above the action level 8-hour time-weighted average (TWA) of 85 decibels (dBA). This program applies to all employees who are exposed to noise levels at or exceeding 85 dBA.
2. If administrative or engineering controls fail to reduce the sound levels with the levels listed in Table 1, proper PPE will be required.

TABLE 1 PERMISSIBLE NOISE EXPOSURES	
Duration per day, hours	Sound level dBA, slow response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

3. If a noise level is between 2 listed permissible noise levels prescribed in Table 1, Chart A shall be used to determine the permitted daily exposure time.



MONITORING

1. The sampling strategy is designed to identify employees for inclusion in the hearing conservation program and to enable the proper selection of PPE.
2. Where circumstances such as high worker mobility, significant variations in sound level, or a significant component of impulse noise make area monitoring not feasible, JRE shall use representative personal sampling to comply with the monitoring requirements of this paragraph unless JRE can show that area sampling produces equivalent results.
3. Monitoring for noise exposure levels will be coordinated by the Safety Department. It is the responsibility of foreman/supervisor to notify the Safety Department when there is a possible need for monitoring.
4. Instruments used to measure employee noise exposure shall be calibrated to ensure measurement accuracy.
5. Monitoring shall be repeated whenever a change in production, process, equipment or controls increases noise exposures to the extent that:
 - a. Additional employees may be exposed at or above the action level
 - b. The attenuation provided by hearing protectors may be rendered inadequate to comply with Table 1.
6. JRE shall notify each employee exposed at or above an 8-hour time-weighted average of 85 dBA of the results of the monitoring.

AUDIOGRAMS AND BASELINE TESTING

1. Employees subject to the Hearing Conservation Program who have TWA noise exposures of 85 dBA or greater for an 8-hour work shift will be required to have both a baseline and annual audiogram.
2. Within 6 months of an employee's first exposure at or above the action level, JRE shall establish a valid baseline audiogram against which subsequent audiograms can be compared.
3. Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protectors may be used as a substitute for the requirement.
4. At least annually after obtaining the baseline audiogram, JRE shall obtain a new audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 dBA.

EVALUATION OF AUDIOGRAM

1. Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred. This comparison may be done by a technician.
2. If the annual audiogram shows that an employee has suffered a standard threshold shift, JRE may obtain a retest within 30 days and consider the results of the retest as the annual audiogram.
3. The affected employee will be notified in writing of a standard threshold shift within 21 days of determination.

FOLLOW-UP PROCEDURES

1. Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, JRE shall ensure that the following steps are taken:
 - a. Employees not using hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them.
 - b. Employees already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.
2. If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour TWA of 85 dBA indicates that a standard threshold shift is not persistent, JRE may discontinue the required use of hearing protectors for that employee.

HEARING PROTECTION

1. JRE shall ensure that hearing protectors are worn:
 - a. By any employee who is exposed to an 8-hour time-weighted average of 85 dBA or greater
 - b. By an employee who has experienced a standard threshold shift
2. Signage is required in areas that require hearing protection.
3. Employees shall be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided by JRE.

4. JRE shall ensure proper initial fitting and supervise the correct use of all hearing protectors.

HEARING PROTECTOR ATTENUATION

1. JRE shall evaluate hearing protector attenuation for the specific noise environments in which the protector will be used.
2. The adequacy of hearing protector attenuation shall be re-evaluated whenever employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation. JRE shall provide more effective hearing protectors where necessary.

TRAINING PROGRAM

1. All employees who are exposed to noise at or above an 8-hour time-weighted average of 85 dBA shall be trained before initial assignment and annually on the JRE Noise Exposure Program.
2. Information provided in the training program shall be updated to be consistent with changes in protective equipment and work processes.
3. JRE shall ensure that each employee is informed of the following:
 - The effects of noise on hearing
 - The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care
 - The purpose of audiometric testing, and an explanation of the test procedures
 - Review of the hearing protection regulations
 - Locations within JRE property where hearing protection is required
4. The program is reviewed at least annually to ensure both the safety of the JRE employees and compliance with the regulatory standards, as well as any state and local requirements.

RECORD RETENTION

JRE shall retain records for at least the following periods:

- a. Noise exposure measurement records shall be retained for two years.
- b. Audiometric test records shall be retained for the duration of the affected employee's employment.

BLOODBORNE PATHOGENS

EXPOSURE CONTROL PLAN

1. Employees covered by this bloodborne pathogens policy will receive initial and annual refresher training. All employees have an opportunity to review this plan at any time during their work shifts by contacting their foreman or the Safety Department.
2. Job Classifications, within JRE, in which all employees in those classifications have occupational exposure:
 - a. First Aid Response Personnel
 - b. Jobsite Foreman
3. Personnel performing work inside a wastewater treatment facility. Tasks and procedures in which occupational exposure occurs and that are performed by employees in job classifications include:
 - a. C.P.R/First-Aid Treatment
 - b. Clean up/disposal of Biohazardous Substances

ENGINEERING AND WORK PRACTICE CONTROLS

1. Engineering and work practice controls shall be used to eliminate or minimize employee exposure; however, personal protective equipment shall also be used.
2. Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure effectiveness.
3. JRE will provide hand-washing facilities, which are readily accessible to employees.
4. Where provision of hand washing facilities is not feasible, JRE shall provide an appropriate hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. When antiseptic cleansers or towelettes are used, hands shall be washed with soap and running water as soon as feasible.
5. Employee shall wash their hands and any other skin with soap and water, or flush mucous membranes with water immediately after contact with blood or other potentially infectious substances.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

1. Employees will be provided with PPE at no cost.
2. PPE will be removed before leaving the work area or after a garment becomes contaminated.
3. Used PPE will be placed in designated containers.
4. Gloves will be worn when the employee may have contact with blood or other potentially infectious substances. Employees shall wash hands immediately after removing gloves.
5. Gloves will be replaced if torn, punctured or contaminated.
6. Decontaminated disposable gloves will never be reused.
7. Appropriate face and eye protection will be worn when splashes, sprays, spatters or droplets of blood or other potentially infectious materials pose a hazard to the eyes, nose or mouth.
8. Appropriate protective body covering will be worn when occupational exposure is anticipated.

HOUSEKEEPING & LABELING

1. All equipment and work surfaces that have been contaminated with blood or other potentially infectious materials will be cleaned and decontaminated with an appropriate disinfectant.
2. Tongs, forceps or a brush and dust pan shall be used to pick up contaminated broken glass.
3. All infectious waste will be placed in red-colored plastic bags for disposal.
4. Contaminated sharps will be discarded in containers that are closeable and puncture resistant. The containers will then be discarded into red-colored plastic bags.
5. All regulated waste will be discarded according to federal, state and local regulations.
6. All infectious waste containers will be labeled with a biohazard symbol and the word biohazard.
7. Employees should notify the Safety Department if they discover regulated waste containers or contaminated equipment without proper labels.

HBV PRE-EXPOSURE PROGRAM

1. The Hepatitis B vaccine and vaccination series will be offered within 10 working days of initial assignment to employees who have occupational exposure. (Occupational Exposure: Reasonably anticipated employee contact with blood or other potentially infectious materials that may result from performing an employee's duties. This contact includes specific eye, mouth, other mucous membrane, nonintact skin or parenteral contact.)
2. The vaccine will be made available at no cost to all employees with the potential for occupational exposure.
3. Vaccinations will be administered according to current recommendations of the U.S. Public Health Service.
4. Each employee who declines the vaccination will sign a declination form.

HBV POST-EXPOSURE PROGRAM

1. JRE post-exposure procedures will be followed for any employee who is not initially identified as occupationally exposed but who voluntarily or inadvertently becomes exposed in the workplace.
2. The HBV vaccine will be administered within 24 hours of any reported exposure incident.
3. The routes of exposure and how exposure occurred will be documented.
4. The source individual will be identified and documented.
5. If consent is given, the source individual's blood will be tested and documented as soon as possible to determine HIV, HBV and HCV infectivity.
6. The exposed employee will be provided with the source individual's test results and information about applicable laws and regulations concerning source identity.
7. If the employee does not give consent for HIV serological testing, the baseline blood sample will be preserved for at least 90 days.
8. Recommendations by the U.S. Public Health Service will be followed.
9. The health care provider who is responsible for administering the vaccine and post exposure evaluation will be given a copy of the MiOSHA standard.
10. After an exposure incident occurs, the health care provider will receive a description of the exposed employee's job duties relevant to the exposure incident, documentation of the route of exposure and circumstances of exposure, results of the source individual's blood tests and all relevant employee medical records, including vaccination status.
11. The employee will be provided with a copy of the health care provider's written opinion within 15 days after the evaluation.

TRAINING

1. Employees who have the potential for occupational exposure to bloodborne pathogens will be trained annually on the requirements of the MiOSHA standard, symptoms of bloodborne diseases, ways in which bloodborne pathogens are transmitted, how to recognize tasks that might result in occupational exposure and what measures are provided by the company's Written Exposure Control Plan (which will include receiving a copy of the plan).
2. Training records are completed for each employee upon completion of training. These documents will be kept for at least 3 years.
3. Medical records are maintained for each employee with occupational exposure in accordance with 29 CFR 1910.1020, "Access to Employee Exposure and Medical Records." These confidential records are kept for at least the duration of employment plus 30 years.

INFECTIOUS DISEASE CONTROL PLAN

GENERAL

J. Ranck Electric (JRE) will take proactive steps to protect its employees, subcontractors, and customers from the spread of infectious diseases in the workplace. It is the goal of JRE to strive to operate effectively, ensure that all essential services are continuously provided, and that employees are safe within the workplace.

JRE is committed to providing authoritative information about the nature and spread of infectious diseases, including signs and symptoms to watch for, as well as required steps to be taken in the event of illness, exposure, or confirmed diagnosis. This plan is not intended to be all-inclusive and may be supplemented with additional measures. These additional measures will be documented on the site-specific plan or attached separately to this plan as supplemental disease specific information. This plan will be implemented in conjunction with the J. Ranck Electric Business Continuity Plan to ensure continuation of operations during an infectious disease outbreak.

All forms, communications, and outbreak information communicated to employees will be made available to all employees, customers, vendors, and suppliers via jranck.com/ (insert disease name)

Employees covered by this policy will receive initial and annual refresher training. Additional training will be provided in the event of an infectious disease outbreak. All employees have an opportunity to review this plan at any time during their tenure by contacting their foreman or the Safety Director.

Following a pandemic event, the JRE Safety Director will evaluate this policy and JRE's response to the event to identify changes or corrective actions that need to be taken. Implemented changes and corrective actions will be communicated to all applicable personnel. This policy will be reviewed on an annual basis. A copy of this policy will be available to all employees.

RESPONSIBILITIES

Implementation of this program is a team responsibility, led by the Emergency Leadership Team and requires the dedication of all employees to take proactive measures to prevent the spread of infectious diseases. Individuals covered by this guidance document include employees of JRE, subcontractors, suppliers, vendors, service providers, consultants, local agencies, regulatory agencies, etc.

- Employees who have been exposed or develop symptoms must immediately report them to the Emergency Leadership Team and their supervisor.
- Subcontractors must immediately notify JRE of any subcontractor employee who has been exposed to or has developed symptoms of an infectious disease.
- Foremen and supervisors are responsible for conducting a daily job briefing that covers any updated company communications regarding an infectious disease outbreak. Foremen and supervisors shall reinforce social distancing, good hygiene practices, and assess employees for symptoms or potential exposures outside of work. Report any potential exposures or conflicts with this policy to the Emergency Leadership Team. All infectious disease outbreak communications must be posted at the jobsite.
- Foremen are responsible for notifying the safety department in the event that subcontractors need to be trained further or are non-compliant with this plan.
- Purchasing and warehouse department heads will be responsible for issuing statements to suppliers notifying them of this policy and their responsibility to limit exposure to JRE employees.
- Project managers and foremen must communicate these expectations to their subcontractors.
- The safety department must communicate potential exposures that may have occurred to subcontractor employees due to their interaction with JRE employees.
- Department Heads are responsible for sharing communications, preventative measures being taken, and expectations for customers, subcontractors, vendors, and suppliers.

- Management will monitor and coordinate events around an infectious disease outbreak, as well as create work rules that can be implemented to promote safety through infection control. Management will also seek guidance from federal, state, local, and/or tribal health agencies in an effort to protect employees and provide relevant and up-to-date information.

SYMPTOMS

Symptoms can vary between different types and strains of infectious diseases. When an infectious disease outbreak has been identified, management will provide continuous updates to employees regarding signs and symptoms of the disease and emergency warning signs.

Employees who report having symptoms or who have been diagnosed will be directed to stay home per the direction of the CDC and/or their health care provider until symptoms have subsided. Employees who report to work ill will be sent home in accordance with these health guidelines.

When available, employees are encouraged to obtain immunizations to protect themselves and prevent the spread of disease within the workplace.

WORKPLACE ACCESS SCREENING

During an infectious disease outbreak, employees may be asked to complete a screening questionnaire prior to starting work. Responses to these questionnaires allow for an accurate record of how the virus is affecting our workforce and creates a proactive approach to protecting employees from exposure. All responses will be tracked, and additional follow-up will be made with employees who screen positive for symptoms or potential exposure to the disease. Disciplinary action may be taken if employees fail to meet these requirements.

Subcontractors must enact similar screening policies and must be able to produce screening documentation for verification or review upon request.

SELF-QUARANTINE

If You or Anyone in Your Household is Sick

If you think you have been exposed to an infectious disease and develop symptoms, **stay home** and call your healthcare provider for medical advice. If someone in your household has tested positive for an infectious disease, keep the entire household at home. Do not report to work.

If You Develop Symptoms While at Work

Immediately notify your foreman or supervisor. Foremen should immediately isolate potentially infectious employees from other workers. Those with mild to moderate symptoms should seek medical attention from their primary care provider. Seek immediate medical attention for employees with severe symptoms. Restrict the number of personnel entering isolation areas. Cleaning and disinfection should take place once the ill employee has been removed from the jobsite.

Reporting Infectious Disease Illness

JRE is required to notify other employees who may have been exposed to an infectious disease. If you develop signs or symptoms, notify a member of the Emergency Leadership Team, in addition to letting your supervisor know you won't be at work.

Reporting your illness or potential illness is critical for gathering the required information needed to notify other employees who may have been exposed, especially with the geographic widespread nature of our work.

Our policy is to treat any medical information as a confidential medical record. In furtherance of this policy, any disclosure of medical information is in limited circumstances with supervisors, managers, first aid and safety personnel, and government officials as required by law.

SOCIAL DISTANCING GUIDELINES

Employees are responsible for keeping a safe distance from others whenever possible. During an infectious disease outbreak, employees are requested to:

- Minimize face-to-face meetings and gatherings. Employees are encouraged to use telephones, online conferencing, or email to conduct business as much as possible, even when participants are located nearby.
- Employees who are able to work remotely shall coordinate with their supervisor and HR to implement an effective work-from-home arrangement. Only business critical employees shall report to office locations; time spent working from the office shall be kept to a minimum.
- If a face-to-face meeting is unavoidable, minimize the meeting time and attendees; utilize outdoor and well-ventilated areas.
- Minimize distance from other people; if the scope of work does not allow for this, employees must wear a face mask if available or adjust the work to accommodate this spacing.
- Avoid person-to-person contact such as shaking hands.
- Limit any unnecessary travel and cancel or postpone nonessential meetings or gatherings.
- Avoid carpooling and sharing lodging with others whenever possible.
- Do not congregate. If jobsites have tight working areas where multiple people need to work, consider spacing out the timing of work, if possible.
- Consider flexible hours and staggering work shifts when work tasks take place in close proximity to other trades. This may require coordination with the labor department and the customer.
- Bring lunch and eat in your vehicle or away from others. Stagger break times if needed.
- Do not share food, snacks, drinks, or containers.
- Request that orders or materials from vendors be ready for fast pick-up or delivery.
- Limit one employee in each bucket at the same pole within the minimum approach distance (MAD) of energized primary.
- Field employees should limit the time they spend and surfaces they touch at JRE locations when picking up materials or tools.

OUTSIDE ACTIVITIES

Employees are encouraged to the extent possible to:

- Avoid public transportation or adjust arrival to avoid rush-hour crowding on public transportation.
- Avoid recreational or other leisure classes, meetings, activities, etc., where employees might come into contact with contagious people.

PERSONAL HYGIENE

Clean Your Hands Often

Wash your hands often with soap and water, vigorously rubbing together front and back for at least 20 seconds. If soap and water are not readily available, use a hand sanitizer that contains at least 60% alcohol. Cover all surfaces of your hands and rub them together until they feel dry.

Avoid Touching Your Eyes, Nose, and Mouth

Germs need an entry point, and the average adult touches his or her face once every three or four minutes.

Cover Your Mouth & Nose if You Sneeze or Cough

Cough or sneeze into a tissue and throw it away; use your arm or sleeve to cover your mouth if you do not have a tissue. Never cough or sneeze into your hands. Throw used tissues in the trash and immediately wash your hands.

Keep Your Immune System Strong

- Drink lots of water
- Get plenty of rest
- Get fresh air and increasing ventilation by opening windows, as the weather warms
- Manage your worry and stress

WORKPLACE HYGIENE

JRE strives to ensure a clean workplace, including providing means for regular cleaning of objects and areas that are frequently used. Consider the following workplace cleaning practices:

- Use disinfectants to clean commonly touched items such as cell phones, door handles, vehicle interiors, break areas, job trailers, and common areas regularly; a minimum of twice per week.
- Avoid sharing phones, vehicles, tools, PPE, etc. that have not been disinfected.
- Perform or request daily cleaning of hotels and other lodging arrangements.
- Make cleaning products regularly available in common areas.
- Keep tissues and trash collection readily available for employee use.
- Foremen should consider the lack of public restrooms and request temporary/portable toilets as needed. Request additional/increased sanitation of portable toilets and restocking of supplies.
- Do not use a common water cooler. Water should be provided in individual bottles.
- Avoid cleaning techniques, such as using pressurized air or water sprays that may result in the generation of bioaerosols.
- Employees should consider changing work clothes prior to arriving home and washing clothes in hot water with laundry sanitizer.
- Sanitary aids, such as Clorox wipes, Lysol spray, and hand sanitizer may be unavailable to purchase. Resources may be LIMITED; these are NOT for personal or home use.
- Consider hand washing with soap and water, utilizing a designated water cooler spigot.
- Employees should reference epa.gov for an approved list of effective cleaning agents.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Do not share personal protection equipment (PPE) unless properly sanitized.
- Sanitize reusable PPE per manufacturer's recommendation prior to each use.
- Ensure used, disposable PPE is disposed of properly.
- Utilize disposable gloves if required for the task; employees must wash hands after removing gloves.
- Employees responsible for trash removal must wear proper PPE and wash hands once complete.
- PPE shall be removed before leaving the work area.
- Gloves will be replaced if torn, punctured or contaminated.
- Contaminated disposable gloves must never be reused.
- Voluntary use of a face mask during an infectious disease outbreak is acceptable provided that supplies are available.

Appendix A – Core Emergency Leadership Team

Title	Member Name	Phone	E-mail
President	Adam Ranck	989-334-3124	ajranck@jranck.com
Vice President & HR Director	Angie Wood	989-334-3113	awood@jranck.com
Safety & Security Director	Joseph Rowley	989-334-3155	josephrowley@jranck.com
Safety Manager	Travis Gandy	989-334-3163	tgandy@jranck.com
Operations Specialist	Loren Wilcox	989-334-3127	lwilcox@jranck.com
Labor Department Director	Bob Hemminger	810-691-3517	bhemminger@jranck.com
Marketing & Communications Director	Morgan Mabry	989-334-3158	mmabry@jranck.com

Appendix B – Additional Resources & Information

Resource Name	E-mail
J. Ranck Electric SharePoint Site	https://jranck.sharepoint.com/sites/Our-Current
JRE Team Infectious Disease Resource Page	https://www.jranck.com/ (insert <u>disease name</u>)
Centers for Disease Control & Prevention	https://www.cdc.gov/
MI Occupational Safety & Health Administration	https://www.michigan.gov/leo/0,5863,7-336-78421_11407---,00.html
US Department of Health & Human Services	https://www.hhs.gov/
World Health Organization	https://www.who.int/

PROCESS SAFETY MANAGEMENT PROGRAM

GENERAL REQUIREMENTS

JRE is committed to the protection of hazardous chemical processes and the prevention of accidental releases of toxic, reactive, flammable, or explosive chemicals. JRE will adopt and comply with client procedures and best practices for safe work on and around hazardous processes. These include but are not limited to:

- Confined Space Entry
- Lockout/Tagout
- Line Breaks/Opening of Process Equipment
- Control Over Entrance to the Facility

COMPLIANCE

All JRE employees, contractors, and subcontractors shall:

- Immediately advise the client of any hazards discovered on the jobsite.
- Communicate any hazards that may arise as a result of JRE's work.
- Obtain a hot work permit from the client prior to performing any hot work.
- Reported all incidents and near misses immediately.
- Respect and protect the confidentiality of all trade secret information.

TRAINING

JRE will:

- Ensure all affected employees are trained in the work practices necessary to perform their job safely.
- Ensure that employees are trained in the hazards and the potential for fire, explosive, or toxic release hazards related to their job and the process.
- Document and maintain record of all employee training.
- Frequently evaluate employee performance in process areas.
- Retraining shall be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired through compliance with these rules.

HAZARD COMMUNICATION PROGRAM

LABELING

1. All employees will be responsible for seeing that all containers entering the workplace from a manufacturer, importer or distributor are properly labeled.
2. All labels shall be checked for:
 - Product identifier;
 - Signal word;
 - Hazard statement(s);
 - Pictogram(s);
 - Precautionary statement(s); and,
 - Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party.
3. JRE shall ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with either:
 - a. The information specified for labels on shipped containers; OR
 - b. Product identifier and words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under the hazard communication program, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical.

SAFETY DATA SHEETS

1. The Safety Department will be responsible for compiling and maintaining the master SDS file. The file will be kept in an electronic folder.
2. Additional copies of SDSs for employee use are located at jranck.com/safe365.
3. SDSs will be available for review to all employees during each work shift. Copies will be available upon request to the Safety Department.
4. Materials which can be purchased by the ordinary household consumer, and which are used for the intended purpose and amount as by the ordinary household consumer, are not required to be included in this list.
5. Posters identifying the person responsible for maintaining SDSs and where the SDSs are located are posted on all jobsites. Posters notifying employees when new or revised SDSs are received will be located in the same location.
6. If a required SDS is not received, the Safety Department shall contact the supplier, in writing, to request the SDS.
7. Subcontractors shall provide an SDS for all hazardous materials brought onsite and maintain SDS at each jobsite.

HAZARDOUS NON-ROUTINE TASKS

Occasionally, employees are required to perform non-routine tasks. Prior to starting work in such areas, each employee will be given information about the hazards of the area and procedure. This information will include:

1. Specific chemical hazards.
2. Protection/safety measures the employee can take to lessen risks of performing the task.
3. Measures the company has taken to eliminate or control the hazard, including:
 - Air monitoring,
 - Ventilation requirements,
 - Use of respirators,
 - Use of attendants to observe procedures, and
 - Emergency procedures.

MULTI-EMPLOYER WORKSITES - INFORMING CONTRACTORS

1. If JRE exposes any employee of another employer to any hazardous chemicals that we produce, use, or store, the following information will be supplied to that employer:
 - The hazardous chemicals they may encounter.
 - Measures their employees can take to control or eliminate exposure to the hazardous chemicals.

- The container and pipe labeling system used on-site.
 - Where applicable SDSs can be reviewed or obtained.
2. Periodically, our employees may potentially be exposed to hazardous chemicals brought on our site by another employer. When this occurs JRE will obtain from that employer information pertaining to the types of chemicals brought on-site, and measures that should be taken to control or eliminate exposure to the chemicals.
 3. It is the responsibility of the Safety Department to ensure that such information is provided and/or obtained prior to any services being performed by the off-site employer.

PIPES AND PIPING SYSTEMS

Information on the hazardous contents of pipes and piping systems will be identified by the labeling of the pipes every 75 ft. and at all hose-reels.

STORAGE OF HAZARDOUS WASTE

1. Any potentially hazardous material will be placed in the appropriate storage area, avoiding sources of fire, ex. static electricity, unprotected electrical equipment, cigarettes and naked flames
2. All hazardous waste will be stored and collected in special areas, safe and well ventilated.
3. No hazardous material will be abandoned on the job site.
4. Incompatible chemicals will be prevented from being mixed by spillage or damage to packaging etc.
5. Warning signs will be displayed in the hazardous material and chemical storage/disposal area to warn site personnel of the hazards and dangers present.

HANDLING OF HAZARDOUS WASTE

1. All spills are to be cleaned up and disposed of immediately. The Safety Department shall be notified immediately of any chemical spills.
2. All workers will be issued with the personal protective equipment appropriate & recommended for the type of material handled.
3. Approved type of eye wash will be provided near hazardous chemical storage.
4. Hazardous waste material will be packed into airtight containers to prevent unexpected leakage before being collected by the licensed disposal contractor. JRE shall keep records of hazardous chemical disposal.

TRAINING

1. The Safety Department shall coordinate and maintain records of employee hazard communication training, including attendance rosters.
2. Before their initial work assignment, each new employee will receive hazard communication information and training. This will include the following:
 - The requirements of the JRE Hazard Communication Program
 - All operations in their work area where hazardous chemicals are present
 - Location and availability of the written hazard communication program, the list of hazardous chemicals, and the SDS
 - Methods and observations that can be used to detect the presence or release of hazardous chemicals in the work area
 - The physical, health, simple asphyxiation, combustible dust and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area
 - Measures the employees should take to protect themselves from these hazards
 - How employees can obtain and use hazard information
3. The employee shall be informed that JRE is prohibited from discharging, or discriminating against, an employee who exercises his/her rights to obtain information regarding hazardous chemicals used in the workplace.
4. Before any new physical or health hazard is introduced into the workplace, each employee who may be exposed to the substance will be given information in the same manner as during the hazard communication training.

ASBESTOS AWARENESS

GENERAL REQUIREMENTS

1. Exposure to asbestos has been shown to cause lung cancer, asbestosis, mesothelioma, and cancer of the stomach and colon. Asbestos-related illnesses often take 20 to 50 years to develop.
2. Common materials that may contain asbestos include:
 - Sprayed on insulation on ceilings or walls
 - Sprayed on insulation on beams
 - Insulation around or in ductwork
 - Boiler insulation
 - Pipe coverings
 - Ceiling, floor, and wall tiles or panels
 - Fire walls and doors
 - Sprayed on decorative surfaces
 - Gaskets in piping or other systems
 - Automotive braking systems
 - Electrical insulators
3. Asbestos fibers have no detectible odors or taste. They are all solids that do not move through soil and are insoluble in water. In general, asbestos-containing iron may display a green color ranging from a hint of green to solid green depending upon the amount of iron present.
4. For JRE facilities, JRE will contract with a licensed asbestos abatement professional who can take samples from materials to determine if they contain asbestos.
5. JRE employees shall not work in or near the area of asbestos abatement activities.
6. If there is reason to suspect that something is asbestos do not disturb it. If materials need to be analyzed or tested for asbestos, contact the Safety Department immediately. Employees shall never attempt to take a sample of asbestos.
7. If an employee is unsure whether something is asbestos or not, assume that it is until it is verified otherwise.
8. Never drill, hammer, cut, saw, break, damage, move or disturb any asbestos-containing materials or suspected material.

TRAINING

Awareness training is required annually for employees who work in areas that contain or may contain asbestos. This training is documented.

BENZENE/CHEMICAL EXPOSURE

GENERAL

Of all the hydrocarbons, benzene poses the most serious long-term threat. Exposure over time, to even low levels of Benzene can cause leukemia, blood changes, and aplastic anemia.

CHARACTERISTICS

1. Benzene is a colorless to light-yellow liquid with a pleasant sweet odor.
2. Benzene is a flammable liquid that can accumulate static electricity.
3. Benzene vapors are heavier than air and may travel to a source of ignition and flash back.
4. The vapors are readily dispersed by wind movement and/or air currents.
5. Liquid benzene tends to float on water and may travel to a source of ignition and spread fire.
6. Benzene is highly reactive with no oxidizing materials.
7. Benzene is not soluble in water.

USES OF BENZENE

1. Benzene is a component of gasoline, both in the manufacturing process and found naturally in crude oil.
2. Benzene is also used as a feed stock for chemical manufacturing.
3. Examples of locations where benzene is commonly used are petrochemical facilities, petroleum refineries, coal chemical manufacturing plants, rubber tire manufacturing plants, etc.

HEALTH EFFECTS

1. Benzene is a cancer-causing agent in humans.
2. All contact should be reduced to the lowest possible level.
3. Benzene is one of the most hazardous of all petroleum products because of its adverse health hazards and high flammability.
4. The below exposure limits are for air levels only. Skin contact may also cause overexposure.
 - a. Acute: At high concentrations (1000 PPM) benzene has an acute effect on the central nervous systems causing headaches, dizziness, drowsiness, unconsciousness, and possible death. Acute exposure can also cause breathlessness, irritability, and giddiness.
 - b. Chronic: Benzene has the chronic exposure effect on bone marrow. Chronic exposure can also cause convulsions, liver damage, blood diseases (aplastic anemia), and cancer (leukemia). These symptoms can take months or years to surface and can develop without physical or visible indications.
 - c. Repeated skin contact leads to irritant contact dermatitis (rash); as with any petroleum solvent (which benzene is also classified as), it will leach the natural oils out of the skin. Direct contact with the skin can cause erythema and/or blistering.
 - d. Benzene is irritating to eyes and mucous membranes.
 - e. Flammability: Benzene has a very low flash point making it dangerous to have any open flame, spark, or source of ignition when vapors are present.
 - f. Explosive limits in air 1.5 to 8% by volume: benzene is highly flammable at low levels of vapor quantity in air.

PERSONAL PROTECTIVE MEASURES

1. JRE employees are not permitted to work in areas where there may be a potential for Benzene exposure, without the appropriate training and PPE.
2. It is the responsibility of the Safety Department and the on-site supervisor/foreman to see that any jobsite that may expose employees to benzene is not manned with personnel until it is proven that it is safe to work within the acceptable OSHA limits without PPE.
3. JRE employees shall be informed of the exposing entity's contingency and emergency plans when working in any areas where benzene may be used or stored.
4. JRE employees will be made aware of provisions in site-specific safety plans.

SPECIAL REQUIREMENTS

1. If it is necessary to perform any work where the exposure to benzene is above the acceptable limits, then JRE must implement a comprehensive safety plan and procedure that includes special elements of exposure monitoring, formal medical program, special personal protective equipment, and any additional requirements.
2. If work shall be performed in an environment with acceptable benzene limits, the following personal protective equipment must be used by competent, qualified workers who have been trained in the usage and application of said equipment:
 - a. Eye and Face Protection: Splash-proof safety goggles and a face shield must be worn at any time where there is any possibility of contact or splashing of benzene liquid near the designated work area.
 - b. Respirators: Employees will be required to use respirators for any work performed in areas where engineering controls or work practice controls do not provide a feasible solution for reducing benzene exposure to the permissible level. Please refer to the [Respiratory Protection Program](#) for more information.
 - c. Protective Clothing: Gloves, sleeves, boots, aprons, etc. shall be worn in a manner to cover any parts of your body that could potentially be exposed to liquid benzene. Care shall be given to the high flammability of benzene. There shall be no smoking where benzene is being used or stored and fire extinguishers shall be readily available.

TRAINING

All employees will be provided awareness training in this program to become familiar with the potential hazards and proper safe work procedures to follow if exposed to this health hazard.

HYDROGEN SULFIDE PROGRAM

GENERAL REQUIREMENTS

1. Permissible Exposure Levels (PEL): While not definitive, Hydrogen Sulfide (H₂S) levels below 10 ppm can cause minor short-term effects.
2. Employees assigned to job-sites where exposure to H₂S may be possible shall participate in the identification, evaluation, and control of H₂S hazards.
3. H₂S is heavier than air and can collect in low-lying and enclosed, poorly ventilated areas such as basements, manholes, sewer lines, and underground telephone/electrical vaults.
4. As part of the work of JRE, employees may be exposed to H₂S especially when working in excavations or confined spaces that are in/near refineries, or waste water treatment plants.
5. If H₂S is suspected please contact the JRE Safety Department for air monitoring. JRE Safety Department will detect H₂S by use of fixed or portable monitors that alarm at the appropriate permissible exposure limits.

CHARACTERISTICS & HEALTH EFFECTS

1. Sulfur and sulfur compounds may be present in crude oil as H₂S, as compounds, or as elemental sulfur.
2. H₂S is toxic, colorless, soluble in water, flammable, and may have a rotten egg odor.
3. Inhalation, ingestion, and physical contact are methods by which H₂S can affect the body.
4. The effects may range from irritation of the eyes, nose, and throat to temporary loss of smell. Headaches, dizziness, and upset stomach are more intense symptoms caused by higher concentrations.
5. Inhalation of high concentrations of H₂S may cause instant paralysis of the respiratory system causing loss of consciousness and death.

METHOD OF COMPLIANCE

Exposures to H₂S can generally be controlled by using engineering controls, work practices, and personal protective equipment. The following engineering controls, work practices, and personal protective equipment should be used when dealing with H₂S.

- Ventilate spaces to mitigate accumulation of hydrogen sulfide or other gases.
- Notify the foreman upon detection of H₂S
- Should an alarm sound on an H₂S detector, immediately evacuate the area and notify your supervisor.

TRAINING

JRE will provide employees with regulatory training that includes the following: health effects, background information, engineering controls, PPE, medical surveillance, communication of hazards, hygiene, and methods of compliance at a minimum.

LEAD EXPOSURE SAFETY PROGRAM

GENERAL LEAD AWARENESS

1. JRE employees may encounter lead containing materials on the job. Awareness is the key in recognizing lead use materials and employees must err on the side of caution on their jobsites.
2. Employee exposure to lead on the job site can occur through inhalation of lead dust, fumes, or mists.
3. JRE employee shall not disturb lead containing material.
4. If lead containing materials are contacted, the employee must wash hands and face immediately.
5. When working on multi-contractor worksites, JRE employees will be protected from exposure through barricades and site-processes.

HEALTH EFFECTS OF LEAD EXPOSURE

Overexposures to lead are commonly found in the construction industry and are a significant cause of illness in the workplace. Some of the common symptoms include:

- Loss of appetite
- Constipation
- Nausea
- Excessive tiredness
- Headache
- Fine tremors
- Colic with severe abdominal pain
- Metallic taste in the mouth
- Weakness
- Nervous irritability
- Hyperactivity
- Muscle and joint pain or soreness
- Anxiety
- Pallor
- Insomnia
- Numbness
- Dizziness

EMPLOYEE EXPOSURE

1. If an employee is planning to work on any job site that contains a structure that appears to be built before 1980, it is more likely to have lead-containing materials present.
2. Workers at the highest risk of lead exposure are those involved in:
 - Abrasive blasting
 - Welding
 - Cutting
 - Burning on steel structures
3. Other operations with the potential to expose workers to lead include:
 - Lead burning
 - Using lead-containing mortar
 - Power tool cleaning without dust collection systems
 - Rivet busting
 - Cleanup activities where dry expendable abrasives are used
 - Movement and removal of abrasive blasting enclosures
 - Manual dry scraping and sanding

- Manual demolition of structures
 - Heat-gun applications
 - Power tool cleaning with dust collection systems
 - Spray painting with lead-based paint
 - Lead cable removal
4. Until JRE performs an exposure assessment and documents that employees are not exposed above the PEL, JRE will treat employees performing the above operations as if they were exposed above the PEL providing interim protections such as respiratory protection, protective work clothing and equipment, changing areas, hand washing facilities, medical monitoring and training.

LEAD AWARENESS TRAINING

1. JRE employees will be trained in lead-exposure as part of the onboarding process and annually thereafter. This training will be documented.
2. Additional training beyond the awareness level will be site specific for employees exposed to lead levels above 30 ug/m³ air averaged over an 8-hour time-weighted average (TWA).
3. Lead awareness training will include a review of the contents of this policy.

LEAD EXPOSURE PROGRAM REQUIREMENTS

1. This program is designed to reduce exposures to or below the permissible limits outlined below.
2. The action level (AL) is 30 ug/m³ of air averaged over an 8-hour time-weighted average (TWA). The action level triggers exposure monitoring, medical surveillance, and training.
3. The permissible exposure limit (PEL) for lead is 50 ug/m³ of air averaged over an 8-hour TWA.
4. Exposures at or above the PEL mandates additional precautions to be taken to protect the worker.
5. Exposures at or above the AL but below the PEL requires additional safeguards to avoid reaching the PEL.
6. Worksites where lead is present will have signs posted stating "AUTHORIZED PERSONNEL ONLY."

EXPOSURE MONITORING

1. The JRE Safety Department will identify jobs that could create airborne lead levels at or above the AL and arrange for air monitoring to determine initial exposure. An adequate amount of data will be acquired to determine the type of exposure, if any, which is occurring with specific jobs.
2. Results from the monitoring will be shared with the involved employees. If a job is found to exceed the Permissible Exposure Level (PEL), that job type will be suspended until controls (engineering and/or administrative) have been put into place to reduce the exposure level below the PEL.
3. If initial air monitoring reveals that lead exposure is above the AL, monitoring will be conducted every 6 months until 2 consecutive results are below the AL.

EXPOSURE CONTROLS

ENGINEERING

1. In all cases, engineering controls will be viewed as the preferred method of controlling the potential hazard. Areas where lead is present will be separated off from the rest of the jobsite.
2. Engineering controls will also be considered in terms of how to minimize the exposure to workers to a level as low as possible and preferably below the action level. This should be accomplished by analyzing each task to determine what feasible controls are available.
3. Each job should be evaluated to determine the method which will create the least amount of exposure.
4. Respirators shall be used during the time necessary to implement engineering or work practice controls.

PPE

1. Where exposure to lead is suspected, information concerning on-the-job personal hygiene, smoking or eating habits in work areas, laundry procedures, and use of any protective clothing or respiratory protection equipment should be noted.
2. Where engineering and work practice controls are insufficient and in emergencies, respirators shall be used to protect the worker.

3. Respirators shall be used when installing engineering or work practice controls.
4. Protective clothing will be provided for employees with the potential for lead exposure at or above the AL, or where possibilities for eye or skin irritation exist. Workers must remove contaminated clothing prior to leaving the worksite.
5. Contaminated clothing will be disposed of properly according to local, state, and federal regulations.
6. Food and tobacco products will not be allowed to be present or consumed in the lead work areas. Cosmetics may not be applied in the lead work area.
7. Employees shall wash their hands after working on a lead exposure project and shower if necessary. JRE will provide hand wash stations and showers as needed.

HOUSEKEEPING

1. All surfaces will be maintained as free as practicable from lead accumulation.
2. Floors and other surfaces where lead accumulates shall wherever possible, be cleaned by vacuuming or other methods that minimize the likelihood of lead becoming airborne.
3. Where vacuuming methods are selected, the vacuums shall be equipped with HEPA filters and used and emptied in a manner which minimizes the reentry of lead into the workplace.
4. Post-job dust sampling may be completed to assure adequate cleaning of area or to determine potential hazards.

MEDICAL SURVEILLANCE

1. JRE will institute a medical surveillance program for all employees who are or may have been exposed to lead at or above the AL for more than 30 days per year.
2. Employees hired into positions which will require potential exposure to airborne lead for 30 days per year or more, will be offered a medical examination prior to their initial assignment.
3. The blood sampling and monitoring should be conducted every 6 months until two consecutive blood samples and analysis are acceptable.
4. The sampling and monitoring should be performed at least monthly during the removal period.
5. Employees should be notified in writing within five days when blood lead levels are not acceptable.

MEDICAL REMOVAL

1. In the event an employee's blood lead level exceeds the AL of 30 ug/100 g, the employee will be removed from the lead exposure and other work shall be provided.
2. The employee shall be removed from service on each occasion that a periodic and a follow-up blood sampling test conducted indicates that the employee's blood lead level is at or above 30 µg/dL.

LEAD EXPOSURE TRAINING

1. Employees with potential exposure to airborne lead will be trained prior to initial assignment where lead is suspected.
2. Annual retraining is required for those employees subject to exposures at or above the AL or for whom the possibility of skin, respiratory, or eye exposure exists.

HEXAVALENT CHROMIUM

GENERAL REQUIREMENTS

1. Some major industrial sources of hexavalent chromium are:
 - Chromate pigments in dyes, paints, inks, and plastics
 - Chromates added as anti-corrosive agents to paints, primers and other surface coatings
 - Fume from welding stainless steel or nonferrous chromium alloys
2. Employees can inhale airborne hexavalent chromium as a dust, fume or mist while:
 - Welding and hot-working stainless steel, high chrome alloys and chrome-coated metal
 - Applying and removing chromate-containing paints and other surface coatings.
3. Workplace exposure to hexavalent chromium may cause the following health effects:
 - Lung cancer in workers who breathe airborne hexavalent chromium
 - Irritation or damage to the nose, throat, and lung if hexavalent chromium is breathed at high levels
 - Irritation or damage to the eyes and skin if hexavalent chromium contacts these organs in high concentrations.
4. JRE shall ensure that no employee is exposed to an airborne concentration of hexavalent chromium more than 5 micrograms per cubic meter of air (5 µg /m³), calculated as an 8-hour time-weighted average (TWA).
5. Regulated areas must be established when an employee's exposure is or is expected to be more than the PEL. Regulated areas shall be marked with warning signs to alert employees. Access is restricted to authorized persons.
6. JRE shall use engineering and work practice controls to reduce and maintain employee exposure to hexavalent chromium to or below the PEL unless JRE can demonstrate that such controls are not feasible.

EXPOSURE DETERMINATION

1. JRE shall determine the 8-hour TWA exposure for each employee based on any combination of air monitoring data, historical monitoring data, or objective data sufficient to accurately characterize employee exposure to Hexavalent Chromium.
2. JRE shall perform initial monitoring to determine the 8-hour TWA exposure for each employee based on a sufficient number of personal breathing zone air samples to accurately characterize full shift exposure on each shift, for each job classification, in each work area.
3. If initial monitoring indicates that employee exposures are below the action level, JRE may discontinue monitoring for those employees whose exposures are represented by such monitoring.
4. If monitoring reveals employee exposures to be at or above the action level, JRE shall perform periodic monitoring at least every six months.
5. If monitoring reveals employee exposures to be above the PEL, JRE shall perform periodic monitoring at least every three months.
6. JRE shall perform additional monitoring when there has been any change in the production process, raw materials, equipment, personnel, work practices, or control methods that may result in new or additional exposures to hexavalent chromium, or when JRE has any reason to believe that new or additional exposures have occurred.
7. Within 5 work days after making an exposure assessment, JRE shall individually notify each affected employee in writing of the results of that determination or post the results in an appropriate location accessible to all affected employees.
8. JRE shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to hexavalent chromium.

RESPIRATORY PROTECTION

Where respiratory protection is required by this section, JRE must provide each employee an appropriate respirator that complies with the requirements of this policy. Respirators must be used when engineering controls and work practices

cannot reduce employee exposure, during work operations where engineering controls and work practices are not feasible, and in emergencies.

PPE

1. Where a hazard is present or is likely to be present from skin or eye contact with hexavalent chromium, JRE will provide appropriate PPE at no cost to employees.
2. Employees shall remove all protective clothing and equipment contaminated with hexavalent chromium at the end of the work shift or at the completion of their tasks involving hexavalent chromium exposure, whichever comes first.
3. Changing rooms shall be equipped with separate storage facilities for protective clothing and equipment and for street clothes, and that these facilities prevent cross-contamination.
4. No employee shall remove hexavalent chromium-contaminated protective clothing or equipment from the workplace, except for those employees whose job it is to launder, clean, maintain, or dispose of such clothing or equipment.
 - a. When contaminated protective clothing or equipment is removed for laundering, cleaning, maintenance, or disposal, the employee shall ensure that it is stored and transported in sealed, impermeable bags or other closed, impermeable containers. These bags shall be labeled in accordance with the requirements of OSHA and MIOSHA.
 - b. JRE shall clean, launder, repair and replace all protective clothing and equipment required by this section as needed to maintain its effectiveness.

HYGIENE AREAS AND PRACTICES

1. Employees shall not enter eating and drinking areas with contaminated PPE or equipment.
2. Changing areas shall be provided for decontamination. Washing facilities shall be readily accessible for removing chromium from the skin. Workers must wash their hands and face or any other potentially exposed skin before eating, drinking or smoking.
3. Employees shall not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in areas where skin or eye contact with hexavalent chromium occurs.
4. Surfaces shall be maintained as free as practicable of accumulation of chromium.
5. All spills and releases of chromium shall be cleaned promptly.
6. Methods of cleaning include HEPA filtered vacuums, dry or wet sweeping, shoveling or other methods to minimize exposure.

MEDICAL SURVEILLANCE

JRE will make medical surveillance available at no cost to the employee, and at a reasonable time and place, for all employees:

- Who are or may be occupationally exposed to hexavalent chromium at or above the action level for 30 or more days a year
- Experiencing signs or symptoms of the adverse health effects associated with hexavalent chromium exposure
- Exposed in an emergency

WORKING NEAR WATER

This JRE policy is intended to reduce hazards to personnel who work over or near water and to prevent injury or fatality from falling into the water. The following requirements apply to all JRE employees required to perform work over or near water.

HAZARDS/RISKS

Working on a construction site that is located over or near water comes with a set of very serious dangers. Even if you are a good swimmer, working around water means that you are exposed the risk of:

- Slipping and falling
- Drowning
- Being trapped
- Being hurt on impact when falling into the water
- Hypothermia
- Infections transferred through water

REQUIREMENTS

1. A pre-task plan is required to be completed and signed by all members of the crew that may be working over or near water before the work may begin.
2. Employees who will be performing work over or near water, where the danger of drowning exists, are not permitted to work alone at any time.
3. Employees working over or near water shall be provided with a U.S. Coast Guard-approved life jacket or buoyant work vest when the danger of drowning exists.
 - a. Employees shall inspect buoyant work vests or life preservers for defects which could alter their strength or buoyancy prior to, and after, each use. Defective units shall not be used.
 - b. Ring buoys must be provided with at least 90 feet of line and the distance between ring buoys may not exceed 200 feet.
4. When working above water, JRE will provide fall protection if the distance of the walking/working surface to the water is 6 ft. or more. When fall protection eliminates the drowning hazard, employees do not need to wear life jackets or buoyant work vests.
5. At least one lifesaving skiff shall be made immediately available when employees are working over or adjacent to water.
6. Make sure that your working platform is secure and free of any tripping hazards, such as tools, wire, timber or bricks.
7. Ensure that surfaces do not become slippery by cleaning, gritting them or applying industrial salt or sand. Use caution when walking on wet surfaces.
8. Check that access ladders, guardrails and toe boards are firmly fixed in position.

TRAINING

Employees working over or near water must be adequately trained in their responsibilities and the safe work practices associated with this task.

TREE TRIMMING OPERATIONS

GENERAL REQUIREMENTS

1. Prior to any tree trimming operation, employees shall assess the following and document on the JSA:
 - Jobsite and potential hazards
 - Procedures
 - Expectations of all employees
 - Environmental conditions
2. This assessment should be ongoing throughout the operation and should focus on hazardous conditions that threaten the safety of employees and/or negatively affects the felling of a tree.
3. All felling operations shall be stopped if hazardous conditions prevent a tree from falling in a desired direction or if the visibility of the feller is impaired for any reason.
4. Hand signals or audible equipment such as air horns or two-way radios shall be used whenever communications are restricted by noise or distancing.
5. Constant communications shall be maintained between aloft employees and the ground crews.
6. No employee shall climb a tree to remove limbs, bark, or conduct any part of the tree trimming operation. All work shall take place either on the ground or from an aerial work platform.
7. Logs or trees being felled, bucked, or limbed shall be done uphill from or on the same level as previously felled trees where potential exists for the trees to roll or slide due to sloping.
8. An employee on the ground shall not be directly under tree trimming operations.
9. A tree trimmer is an employee who conducts tree trimming operations but is not qualified to work within the proximity outlined in Table 2.
10. A qualified line clearance tree trimmer is an employee trained to work in the proximity of energized conductors (Journeyman Lineman).
11. Reference the JRE [Aerial Work Platform Policy](#) for information regarding safety and rescue procedures.
12. Equipment operators shall make reasonable efforts to prevent the buildup of combustible materials such as leaves and pine needles on or around equipment.
13. Parking over tall grass should be prevented due to fires that could be caused by the exhaust system.
14. Employees shall not burn or chip poisonous plants.

PERSONAL PROTECTIVE EQUIPMENT

1. In addition to the JRE Personal Protective Equipment Program, the following job-specific PPE shall be worn by all JRE employees and sub-contractors while conducting tree trimming operations:
 - a. Steel Wire/Nylon Mesh Face Shield (when operating or working around a chain saw)
 - b. Hearing Protection
 - c. Cut-Resistant Chaps
 - Must cover the full length of the thigh to the top of the boot on both legs.
 - Not required for employees operating a chain saw from an aerial work platform.
 - a. Employees working near or around moving machinery such as a wood chipper shall not wear loose sleeves, gauntlet gloves, watches or rings.
2. Employees shall not wear jewelry of any kind while conducting tree trimming operations.
3. Employees conducting tree trimming operations near or around an area containing poison ivy, poison oak, or poison sumac shall apply Ivy X® Pre-Contact Skin Solution or a comparable product as directed to exposed skin before starting work and periodically throughout the work day to prevent exposure.
4. Minimize skin exposure whenever possible and remove and launder clothing and PPE immediately at the end of shift.

ELECTRICAL HAZARDS

1. All electrical conductors or communication lines shall be considered energized unless the facility/utility owner indicates otherwise and have visibly grounded the conductor/line.
2. Employees conducting tree trimming operations shall not make contact with an energized conductor.

3. The voltage of all electrical conductors shall be determined prior to conducting tree trimming operations.
4. A tree trimmer who is not classified as a Journeyman Lineman, shall maintain the minimum clearance distances listed in Table 1 from his/her body and tools.
5. A qualified line clearance tree trimmer, classified as a journeyman lineman, shall maintain the minimum clearance distances listed in Table 2 from his/her body and tools.
6. A qualified line clearance tree trimmer, classified as a journeyman lineman, may remove branches hanging on an energized conductor using rated insulated tools and PPE provided that the voltage does not exceed 10kV.
7. Branches or limbs hanging on an energized conductor exceeding 10kV shall not be removed until the line is deenergized or removed by the facility/utility owner.

TABLE 1 MINIMUM WORKING DISTANCES FOR TREE WORKERS	
Voltage	Minimum Distance
0 to 300 V	1 ft.
301 to 750 V	2 ft.
751 to 50 kV	10 ft.
50 kV or more	10 ft. plus 4 inch per 1000 volts

TABLE 2 MINIMUM WORKING DISTANCES FOR QUALIFIED LINE CLEARANCE TREE TRIMMERS	
Voltage Range (Phase to Phase)	Minimum Working Distance
0 to 750	1 ft
751 V to 35 kV	2 ft 4 in
35.1 kV to 46 kV	2 ft 6 in
46.1 kV to 72.5 kV	3 ft
72.6 kV to 121 kV	3 ft 4 in
138 kV to 145 kV	3 ft 6 in
161 kV to 169 kV	3 ft 8 in
230 kV to 242 kV	5 ft
345 kV to 362 kV	7 ft
500 kV to 552 kV	11 ft
700 kV to 765 kV	15 ft

TRIMMING/LIMBING

1. The aloft employee shall check the area below and give a verbal warning before dropping a limb.
2. Limbs that cannot be dropped shall be lowered using a rope with a block and tackle configured per manufacturers recommendations and controlled by an employee on the ground.
3. Cut branches or limbs shall not be left aloft overnight or for an extended amount of time.
4. Branches bent under tension shall be considered hazardous and the situation corrected immediately.
5. A crane shall be used to lower topped branches or limbs if the tree cannot stand the strain of topping.

RIGGING LIMBS AND TRUNK SECTIONS

1. All rope shall be inspected before use for the following conditions:
 - a. Externally for abrasions
 - b. Cut or broken fibers
 - c. Decay
 - d. Burns
 - e. Lack of Strength or softness
 - f. Variation in size or roundness of the strands.
 - g. Presence of grit, mildew or mold
 - h. Color change of the fibers

- i. Powdering and short loose fibers
2. Wear or damage of a work rope where the taut line hitch is used. The section showing wear or damage shall be cut off.
3. Rope showing any defects shall be removed from service and replaced.
4. Rope shall be stored in a dry location in coils or on a reel and shall not kinked or run over sharp corners.
5. Ropes shall not be used when frozen or left in freezing temperatures when wet.
6. Limbs or branches to be connected shall be brought to position by a block and tackle, hand winch or come-along, configured per manufactures instructions.
7. A tackle block and pulley shall be inspected before each use and removed from service if defective.
8. An employee shall be off to 1 side when releasing a block and tackle, hand winch, or come along in case the fasteners let loose.
9. Rope lines used for lowering limbs or tree sections shall not be wrapped or looped around an employee or an employee's extremities. Care should be taken to prevent the standing end of the rope to become wrapped around an employee.

FELLING

1. Prior to starting a cut, a feller shall take into consideration the following factors:
 - a. Other Employees
 - b. Angle of the Tree
 - c. Interior Rot or dead limbs
 - d. Splitting or Cracking of the Trunk
 - e. Wind Conditions
 - f. Location of Other Trees and Hazards
2. A feller shall develop a retreat path based on the above information. The retreat path shall extend diagonally away from the expected felling line. An alternate path may be used if the feller believes a diagonal retreat poses a greater hazard.
3. Each assisting employee on the ground shall be instructed on their responsibilities. All other employees shall be cleared from the area.
4. The feller shall ensure the area is clear of other employees and equipment.
5. A barrier or traffic control shall be used if an employee, pedestrian, or vehicular hazard is present.
6. A notch or undercut shall be large enough (about 1/3 of the diameter) to safely guide the tree and reduce the possibility of the tree splitting.
7. A back cut shall be made in each tree being felled. Back cuts shall leave a sufficient amount of hinge wood to guide the tree's fall in the desired direction and hold the tree to the stump during most of the fall. Back cuts shall be approximately 2" above the undercut and as level as possible.
8. Once the back cut has been made, the feller shall shut off the saw and retreat to a safe distance.
9. Just before the tree is ready to fall, an audible warning shall be given.
10. If there is danger of a tree falling the wrong way, wedges, block and tackle, or rope shall be used.

BUCKING

1. Logs or limbs to be bucked shall be blocked to prevent rolling.
2. Wedges shall be used on trunks and limbs of large trees to prevent binding the saw guide bar or chain.

BRUSH REMOVAL/BRUSH CHIPPERS

1. Cut brush and logs shall not create a hazard in the work area.
2. All brush chippers used by JRE shall be equipped with emergency stop bars around the chipper table. Emergency stop bars shall be tested at the beginning of each shift and shall not be wedged or disabled.
3. Chippers shall be fed from the side of the center line of the opening and from the curb side if possible.
4. The employee feeding the chipper shall immediately turn away when brush is taken into the rotor chamber.
5. An employee shall not place any part of the body on the chipper table nor shall the discharge chute be raised while the rotor is turning.
6. Foreign material, such as stones, bottles, nails or sweepings, shall not be fed into the chipper.
7. Access panels for maintenance and adjustment shall be closed and secured before operating equipment.
8. A trailer type chipper, when detached from a vehicle shall be chocked or otherwise secured.

9. Employees shall not approach or drag brush directly toward the chipper table while the rotor is turning.
10. If equipped, winch lines shall not be pulled from the machine by wrapping or looping the line around an employee or an employee's extremities.
11. The infeed hopper or table of a chipper shall be of such design as to prevent an employee reaching the rotor blades or knives during normal operation.

TRAINING

1. JRE employees working on tree trimming operations will be trained in the skills and techniques necessary to work safely around line clearances appropriate for their classification.
2. Employees performing tree trimming operations must have the ability to recognize unsafe acts or hazardous conditions and take prompt corrective action to eliminate such issues.
3. Employees performing tree trimming operations must be trained to safely operate chainsaws, woodchippers, and grapple block and tackle setup as needed.

APPROVAL GROUP/TEAM MEMBERS

Adam Ranck
Angie Wood
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Travis Gandy

POLICY REVIEW/REVISION LOG

Date	By	Revision Description
03/05/2019	Approval Group	All policies have been reviewed
04/03/2019	Approval Group	Added equipment shut off while fueling requirement (Pg 8 & 91)
05/23/2019	Approval Group	Added GI Fall Protection requirements & ERP alarm system
06/04/2019	Jordan Devereaux	Changed LOTO to Lockout
10/18/2019	Jordan Devereaux	Added Personal Conduct Policy
10/23/2019	Jordan Devereaux	Workplace inspections are conducted to ensure employees are following safety rules and policies added to Disciplinary Action Policy.
10/24/2019	Jordan Devereaux	Updated Fall Protection, Confined Space, and ERP.
08/06/2020	Kate Gohs	Updated formatting, page numbers, table of contents
12/21/2020	Patrick Caylor	Updated formatting; added training section under MCS policy
01/26/2021	Patrick Caylor	Updated Hours of Service section to reflect changes from the DOT
04/29/2021	Patrick Caylor	Addition of ISN requirements to Electrical and PTD policies
06/30/2021	Patrick Caylor	Grammar/punctuation corrections; supplemental IDC plan verbiage added
4/12/2023	Lonna Allen	Updated office addresses on cover sheet
8/29/2023	Chris Brown	Updated First aid kit seal requirement, changed stop work reporting to "most" not all, added telemed as an option for injuries, replaced DOT Coordinator from Safety Department in multiple locations, Update to JSA and Fleet management to include app usage, removed verbiage from Aerial work platform, Changed Gold Shovel to Common Ground Alliance, updated exception for N95 dust mask, Updated Patrick Caylor with Travis Gandy
06/27/2024	Morgan Mabry	Updated Joseph Rowley to Safety Director
12/09/2025	Shelbi Nunamaker	Updated Substance Abuse Policy
02/17/2026	Shelbi Nunamaker	Updated the Lightning Policy under Weather-Related Events
03/30/2026	Shelbi Nunamaker	Updated Substance Abuse Policy section to include MUST and DCCHT policy links.
05/28/2026	Shelbi Nunamaker	Updated the Refusal of Medical Treatment Form.
06/25/2026	Shelbi Nunamaker	Updated Morgan Mabry to Marketing & Communications Director.