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SP 01 EHS Safety Policy

1.0 PURPOSE:

1.1 The Kuesel Group is committed to its employees and customers to remain a world class provider of the highest quality service. The personal health and safety of each employee at The Kuesel Group is the primary importance and will always be given precedence over operating productivity.

1.2 The objective of our company Health and Safety Management Programs are to prevent work related accidents and illness and to promote health and safety in every task undertaken by employees on behalf of the company. We continually strive for zero injury accidents in the workplace.

1.3 The Kuesel Group strives to maintain a safe workplace and to employ safe workers. It is each employee's responsibility to conduct their work in a safe, responsible manner and to immediately report all work-related accidents and unsafe conditions to their supervisor. Every employee is expected to support this health and safety policy for the benefit of all.

2.0 RESPONSIBILITIES:

2.1 Project Manager/Jobsite Supervisor

2.1.1 Shall be responsible for ensuring uniform implementation and compliance with this policy by all employees and subcontractors.

2.1.2 Shall ensure that personnel under their direction attend and receive appropriate training and that they maintain compliance with this policy.

2.1.3 Shall ensure that only trained employees assume active roles and perform related work in accordance with this policy.

2.2 Safety Representative

2.2.1 Shall be responsible for providing support and guidance, as needed, to ensure that site personnel are instructed in, and trained, to the requirements of this policy and to applicable site specific requirements.

2.2.2 Shall maintain appropriate documentation as evidence of the training program and comprehension level of the personnel.

2.3 Employees

2.3.1 Shall be responsible for ensuring they understand and comprehend this policy and maintain full compliance with The Kuesel Group EHS Manual and its contents.

3.0 SAFETY POLICY STATEMENT:

3.1 The Kuesel Group recognizes that employee safety and health has a significant impact on one's overall quality of life, the management of our company is committed to providing a workplace in which recognized hazards are controlled.

3.2 The philosophy and objectives behind this commitment are:

3.2.1 The health and safety of all employees is our greatest value.

3.2.2 The only acceptable level of health and safety performance is one that prevents injury and accidents.

3.2.3 Health and safety, being an integral part of our operations and all other business functions, cannot be compromised

3.2.4 Health and safety awareness are responsibilities that must be shared equally and without exception by everyone within our organization.

3.2.5 Supervisors will be held accountable for the health and safety of personnel for whom they are responsible.

3.2.6 All employees will be required to make their safety, and the safety of their fellow workers, their top value.

3.2.7 As a condition of employment, each individual within the organization will be expected to conduct their duties in a manner that is consistent with the philosophy and objectives of this policy.

4.0 CURRENT YEAR GOALS AND OBJECTIVES:

4.1 Zero injury accidents

4.2 Prompt reporting of all near misses and incidents.

4.3 Maintain 100% compliance with all client site safe work practices and PPE requirements.

4.4 Timely and 100% closure on internal health and safety audit findings.

Mike Steiniger

President
Kuesel Excavating Company

Jill Heimann

Safety Director
The Kuesel Group

David Ilges

Kevin Keenoy

Safety Team Member
Amcon Municipal Concrete

Vice President
G.S. Grinding Services

SP 02 New Employee Orientation Program

1.0 PURPOSE:

1.1 This document will provide uniform and consistent safety orientation training and qualification guidelines for new and transferred employees at The Kuesel Group.

2.0 SCOPE:

2.1 This procedure applies to all qualifications for new transferred employees at The Kuesel Group.

3.0 REFERENCES:

3.1 Applicable OSHA 29 CFR. 1900-1910, 1926 Standards

3.2 The Kuesel Group Safety Manual

4.0 RESPONSIBILITIES:

4.1 In addition to the roles listed below, every employee without hesitation may seek additional guidance and information relating to Health and Safety from any Owner, Manager, Supervisor, or employee. See the Company Organization chart for a complete listing of roles/job titles.

4.2 Management is responsible for approving and ensuring compliance with the procedure and that all personnel under their direction receive training according to this procedure.

4.3 The Safety Representative shall provide guidance on this procedure and ensure that all new and transferred employees are trained in accordance with this program.

4.4 Employees are responsible to participate in all safety training and to utilize training and safety equipment provided in their day-to-day job activities.

5.0 GENERAL:

5.1 New employees cannot be expected to safely perform certain job functions unless they receive training and safety equipment relating to their specific work tasks.

5.2 New employees will attend a "New Employee Orientation" program provided by their Department's Supervisor and/or designated Safety Representative within the first month of employment.

5.3 All employees must be trained on the tasks they perform. New employees or transferred employees will receive training on all relevant Safety Procedures found in The Kuesel Group Safety Manual and applicable OSHA standards. Additionally, job specific training will be provided for all new or transferred employees.

5.4 The Supervisor shall determine the minimum qualifications required to perform each role. This may be a combination of education, work experience, and/or industry certifications. The Supervisor shall reference the New Employee Training Documentation Sheet and note the required training topics and/or skills required for the specific position.

5.5 Conducting regularly scheduled weekly safety meetings is essential to maintaining a heightened level of employee safety awareness. Weekly safety meetings not only provide employees with safety information regarding their work environment and work operations, but allow company management to convey its commitment to employee safety and provide employees with a forum to voice their safety concerns. Furthermore, holding regularly scheduled safety meetings gives employees the sense of their importance.

6.0 PROCEDURE:

6.1 The employee's Supervisor will prepare a New Employee Training Documentation Sheet (Appendix A) outlining the procedures to be trained on, the individual(s) responsible for training, the training completion date, and any comments including any work limitations placed on an individual until the training is completed. It should be noted that certain limitations might also be placed on an individual until they have satisfied certain time (experience) requirements. These requirements should also be listed. This sheet will be filled out for all new employees.

6.2 The employee's Supervisor, Department Manager, or other designated competent person must verify that an employee is competent to perform their roles and responsibilities before being allowed to work independently. The employee's Supervisor will sign the New Employee Training Documentation Sheet only when it is determined that the employee is qualified to perform their specific work tasks.

6.3 In addition to completing the New Employee Training Documentation Sheet, certain job positions require that the employee submit documentation that supports they meet the requirements of the specific position (ex. Confined Space Rescue Technician). This includes

applicable industry certification documentation. All required documentation will be submitted to the employee's Supervisor. If documentation is not available, all certifications will be obtained before the employee is permitted to perform the associated work tasks and/or be permitted to work independently.

6.4 The New Employee Training Documentation Sheet and applicable certifications will be given to the Safety Director when all training has been completed. Management or Human Resources Representative will enter the training dates onto the Safety Training Matrix.

6.5 The completed employee Safety Training Matrix will be maintained by Human Resources under the guidance of the Safety Director and will be used to establish when OSHA annual retraining is required for applicable topics.

6.6 All required safety training as outlined in Appendix A will be completed within one (1) month of employment unless otherwise noted on the training form.

7.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

Employee Name:_____**Dept.:**_____**Hire Date:**_____

Procedure	**Individual Instructing Training**	**Required Y/N**	**Employee Initials & Date of Completion**	**Comments** (including additional skills, certifications, restrictions or limitations)
SP-01				
SP-02				
SP-03				
SP-04				
SP-05				
SP-06				
SP-07				
SP-08				
SP-09				
SP-10				
SP-11				
SP-12				
SP-12A				
SP-13				
SP-14				
SP-15				
SP-16				
SP-17				
SP-18				
SP-19				
SP-20				
SP-21				
SP-22				
SP-23				
SP-24				
SP-25				
SP-26				
SP-27				
SP-28				

SP-28A				
SP-29				
SP-30				
SP-31				
SP-34				
SP-35				
SP-36				
SP-37				
SP-38				
SP-39				
SP-40				
SP-41				
SP-42				
SP-43				
SP-44				
SP-45				
SP-46				
SP-47				
SP-48				
SP-49				
SP-50				
SP-51				
SP-52				

I have completed all of the required training and understand the requirements of the above procedures. I have had the opportunity to ask questions (where applicable) concerning The Kuesel Group EHS procedures and their requirements.

Employee Signature (upon total completion):_____**Date:**_____

I have evaluated the above employee's knowledge and skills and have deemed the employee qualified to perform their respective work tasks.

Supervisor or Department Manager (Signature): **Date: _____**

Procedure	**Individual Instructing Training**	**Required Y/N**	**Employee Initials & Date of Completion**	**Comments** (including additional skills, certifications, restrictions or limitations)
SP-01				
SP-02				
SP-03				
SP-06				
SP-07				
SP-09				
SP-10				
SP-12				
SP-12A				
SP-13				
SP-14				
SP-16				
SP-17				
SP-18				
SP-19				
SP-21				
SP-28				
SP-28A				
SP-34				
SP-43				
SP-50				
SP-52				

I have completed all of the required training and understand the requirements of the above procedures. I have had the opportunity to ask questions (where applicable) concerning The Kuesel Group EHS procedures and their requirements.

Employee Signature (upon total completion):_____**Date:** _____

I have evaluated the above employee's knowledge and skills and have deemed the employee qualified to perform their respective work tasks.

Supervisor or Department Manager (Signature): **Date: _____**

SP 03 Employee Disciplinary Program

1.0 PURPOSE:

1.1 The purpose of this policy is to support the enforcement of good safety performance of The Kuesel Group and to eliminate repeated or continuing safety violations by the use of appropriate disciplinary measures. Employees need to know The Kuesel Group's position on safety and health and what the Company expects of their employees. Employees need a clear understanding of the rules and the consequences of breaking those rules. This is true in all areas of work, but it is especially important for worker safety and health. As part of the policy statement, and in the employee safety handbook, this company has a written statement setting forth the Company's disciplinary policy. Company managers, foreman, and supervisors will always be on the lookout for safety violations and will conscientiously and vigorously enforce the Company's commitment to safety. The Kuesel Group believes that it is important to give employees the chance to improve their performance. The Kuesel Group has formulated a series of disciplinary steps to give them the chance to fix their performance problems.

2.0 SCOPE:

2.1 This procedure applies to all Kuesel Group employees. The primary objective of the company safety program is to provide a safe work environment for all employees. However, when Safety Policies and Procedures are violated or individuals continue to be involved in accidents or infractions, disciplinary action must be considered, in order to emphasize the gravity of the situation and bring about desired improvement.

2.2 The Kuesel Group disciplinary system does not exist primarily to punish employees. Its purpose should be to control the work environment so that workers are protected and accidents are prevented. A disciplinary system helps ensure workplace safety and health by letting the Company's employees know what is expected of them. It provides workers with opportunities to correct their behavior before an accident happens.

2.3 A disciplinary system is one of the keys to successfully implementing the Company's safety and health program. It ensures that the Company's rules and safe working practices are taken seriously by employees and are actually followed. It lets employees know how the Company expects them to operate in relation to the goals of the Company's safety and health program. It lays out the actions the Company will take if individuals do not meet the Company's expectations. The employee's supervisor and all members of management are responsible for the enforcement of this disciplinary program.

3.0 RESPONSIBILITIES:

3.1 **Project Manager/Jobsite Supervisor**- are required to issue appropriate specific safety instructions and equipment to all employees prior to assigning them work. They shall ensure that all employees under their direction understand and comply with this procedure. Project Managers, General Foremen and task Foremen Managers or supervisors are responsible for coordinating work with other non-company supervisors in the work area to ensure that all work can be accomplished safely.

3.2 **Employees**- are individually responsible for complying with each of the provisions of this program, In addition they are responsible for following those safety instructions issued by their Foreman, General Foreman and Project Manager, either verbally or in writing. Employees shall follow the provisions contained within this program to ensure their understanding of the consequences of violating company policy that prohibit the safe and orderly conduct of work.

4.0 GENERAL:

4.1 A disciplinary system cannot work in a vacuum. Before The Kuesel Group can hold employees accountable for their actions, the Company first needs to establish its safety and health policy and disciplinary rules. The Kuesel Group management is committed to reaching its safety goals. Physical inspections by company managers/supervisors that indicate an overall lack of commitment to The Kuesel Group safety goals shall be considered a violation and violators are subject to disciplinary action.

4.2 It is important that employees understand the system and have a reference to turn to if they have any questions. Therefore, in addition to issuing a written statement of the Company's disciplinary policy, the Company has drawn up a list of what it considers major violations of Company policy and less serious violations. This list specifies the disciplinary actions that will be taken for first, second, or repeated offenses.

4.3 <u>The list for immediate termination and grounds for immediate discharge are:</u>

4.3.1 Drinking alcohol, and/or drug abuse prior to or during working hours

4.3.2 Fighting, provoking or engaging in an act of violence against another person on company property

4.3.3 Theft

4.3.4 Willful damage to property

4.3.5 Failure to wear Personal Protective Equipment (eye protection, hearing protection, safety helmets, etc.).

4.3.6 Not using safety harnesses and lanyards when there is a potential for falling

4.3.7 Removing and/or making the safety guards on tools and equipment inoperative

4.3.8 Tampering with machine safeguards or removing machine tags or locks

4.3.9 Removing barriers and/or guardrails and not replacing them

4.3.10 Failure to follow recognized industry practices

4.3.11 Failure to follow rules regarding the use of company equipment or materials

4.3.12 Major traffic violations while using a company vehicle

4.3.13 Engaging in dangerous horseplay

4.3.14 Failure to notify the Company of a hazardous situation, and

4.3.15 Other major violations of company rules or policies

4.4 Violations / Minor General Offenses for which written warnings will be issued and/or work suspensions imposed are as follows: (Note. The list is not all inclusive, other violations may be added on a case by case basis.)

4.4.1 Not following written or verbal safety procedures

4.4.2 Negligent abuse of Personal Protective Equipment

4.4.3 Excessive lateness to work

4.4.4 Frequent/Excessive tardiness returning to work after breaks

4.4.5 Poor work production

4.4.6 Inappropriate personal conduct, and

4.4.7 Excessive arguing with Foremen/Project Managers

5.0 PROCEDURE:

5.1 Each employee who reports for work will be given a safety orientation as a part of the general hiring process. During this orientation, the company's positive attitude toward working safety will be stressed and the employee will be advised that safety compliance is a condition of work. The safety program will be explained and safe responsibilities will be clearly defined.

5.2 When an employee is observed committing an unsafe act, or violating policy the employee is to be informed by the following means:

5.2.1 **First Violation** – Verbal warning with documentation that the warning was given. (Days off without pay may be given depending on the violation.) The supervisor gives the employee a verbal reprimand and asks the employee to stop the behavior or improve his or her performance. The supervisor should be clear about what behavior or performance is expected. The date and nature of the reprimand should be documented briefly in the supervisor's own records, but would not normally be put in the employee's personnel file.

5.2.2 **Second Violation** – Formal written warning with potential for suspension without pay. (Days off without pay may be given depending on the violation.) The supervisor writes a letter (reprimand letter) to the employee, asking the employee to stop the behavior or improve his or her performance. The supervisor should be clear about what behavior or performance is expected. The letter indicates that a further incident will result in suspension from work without pay. A copy of the letter is put in the employee's personnel file.

5.2.3 **Third Violation** – Written warning, suspension without pay, subject to termination depending on violation. The employee is suspended for up to three days. The employee is told in writing (suspension letter) the reason for the suspension. The letter is clear about what behavior or performance is expected. The letter also tells the employee that a further incident will result in the employee being fired. A copy of the letter is put in the employee's file.

5.2.4 **Fourth Violation –** The employee is dismissed/terminated.

5.2.5 **Termination without warning –** depending on the circumstances and seriousness of the violation. Severe disciplinary problems such as, but not limited to, intoxication on the job and overt insubordination may require that initial disciplinary steps be omitted. The most severe problems may require that the initial disciplinary step result in employee dismissal.

5.3 The Kuesel Group has in-house forms for documenting employee violations as outlined in Sections 4.3 and 4.4 above. The employee's immediate Foreman or Supervisor shall complete the appropriate form to document the violation.

5.4 The exact nature of the violation and what is acceptable must be thoroughly explained to the employee.

5.5 Copies of the written warnings will be given to the employee's Supervisor and a copy placed in the employee's personnel file located in the main office in O'Fallon, Missouri.

6.0 TRAINING:

6.1 All employees shall be made aware of this program and the importance of conducting themselves with self discipline and professionalism. If applicable, training will include client or jobsite specific procedures for dealing with their Disciplinary Procedures.

6.2 Training on this program shall be covered in the employee's orientation training and periodically covered as part of safety briefings. Training records shall be maintained at The Kuesel Group main office in O'Fallon, Missouri.

6.3 Retraining will be conducted when an employee reveals inadequacies in knowledge or performance.

7.0 REVISION REGISTER

Date	Description of Change	Page No.	Initials

SP 04 Housekeeping and Safety Auditing

1.0 PURPOSE:

1.1 This document will provide a uniform and consistent method of implementing a program of acceptable housekeeping, waste management, as well as establishing minimum guidelines for conducting jobsite safety audits. This program is intended to provide a reasonable level of cleanliness for our project locations as well as identifying problems and hazards in the work area that could result in accidents or injuries.

2.0 SCOPE:

2.1 This program covers all employees of The Kuesel Group.

3.0 REFERENCES:

3.1 29 CFR 1910 and 1926 Regulations

3.2 The Kuesel Group EHS Manual

4.0 RESPONSIBILITIES:

4.1 Management – is responsible for:

4.1.1 Implementing this program.

4.1.2 Cleanliness of the project site

4.1.3 Ensuring that all personnel are trained.

4.1.4 Detailing the areas of cleaning responsibility to the Site Supervisor,

4.1.5 Ensuring minimum levels of cleanliness are maintained in those areas,

4.1.6 Resolving all conflicts of cleaning responsibility interfaces, and ensuring these program requirements are met when outside contractors are working at the site.

4.1.7 Ensure safety audits are conducted by employees on a routine basis and take corrective action in a timely manner to eliminate work area hazards.

4.2 Site Supervisor- responsible for assigning housekeeping duties to their people individually and/or by project locations. Site Supervisors shall ensure that safety audits are conducted and documented as outlined by this procedure.

4.3 Employees – are expected to contribute to the housekeeping efforts by completing assigned tasks and job duties in a professional manner and to maintain a level of cleanliness in their work areas. Upon completing a task, all employees (including subcontractors) shall ensure that the work area is clean. Additionally, employees shall correct work area hazards and address safety concerns in a timely manner.

5.0 GENERAL INSTRUCTIONS:

5.1 Good housekeeping practices are essential in maintaining a safe and healthy work environment. A safe and healthy work environment can only be maintained if each individual at the site fulfills his/her responsibility under this program.

5.2 Keep debris, rubbish and equipment out of walkways and stairways.

5.3 Place rubbish and waste products in proper storage containers. Waste products shall be placed in NFPA approved containers for the particular waste product (i.e., metal waste shall be separated from paper and rags; petroleum waste, including oily rags, shall be stored separately; chemical wastes shall not only be stored separately, but they shall also be stored in a manner to preclude chemical reactions which cause toxic gas or create heat).

5.4 Sweeping compounds shall be of a non-combustible type.

5.5 Storage lockers, personal as well as others, shall be kept free of combustible materials. Combustible material storage shall be protected by automatic fire protection systems.

5.6 Cleanup after maintenance or repair is the responsibility of the people performing the work. The work is not complete until the Site Supervisor is satisfied that the area has been returned to an acceptable level of cleanliness. The Site Supervisor involved shall coordinate any special cleaning required as a result of maintenance. The Department Manager shall resolve any conflicts.

5.7 Such things as worksite snow removal, grass cutting, rodent, weed and bird control shall be administered by the Department Manager and coordinate with the host client as an extension of this program.

6.0 GOOD HOUSEKEEPING PRACTICES:

6.1 Dust and Dirt Removal

6.1.1 At the project site, enclosures and exhaust ventilation systems may fail to collect dust, dirt and chips adequately. Vacuum cleaners are suitable for removing light dust and dirt. Industrial models have special fittings for cleaning walls, ceilings, ledges, machinery, and other hard-to-reach places where dust and dirt may accumulate.

6.1.2 Dampening floors or using sweeping compounds before sweeping reduces the amount of airborne dust. The dust and grime that collect in places like shelves, piping, conduits; light fixtures, reflectors, windows, cupboards and lockers may require manual cleaning. Special-purpose vacuums are useful for removing hazardous substances. For example, vacuum cleaners fitted with HEPA (high efficiency particulate air) filters may be used to capture fine particles of asbestos or fiberglass.

6.1.3 Clean air vents and filters to maintain ventilation efficiency.

6.1.4 Compressed air shall not be used for removing dust, dirt or chips from equipment or work surfaces.

6.2 Employee Facilities

6.2.1 Employee facilities need to be adequate, clean and well maintained. Lockers are necessary for storing employees' personal belongings. Washroom facilities require cleaning once or more each day. They also need to have a good supply of soap, towels plus disinfectants, if needed. These cleaning activities may be coordinated by the host facility.

6.2.2 If workers are using hazardous materials, employee facilities should provide special precautions such as showers, washing facilities and change rooms. Some facilities may require two locker rooms with showers between.

6.2.3 Smoking, eating or drinking in the work area should be prohibited where toxic materials are handled. The eating area should be separate from the work area and should be cleaned properly each shift.

6.3 Surfaces

6.3.1 Floors: Poor floor conditions are a leading cause of accidents so cleaning up spilled oil and other liquids at once is important. Allowing chips, shavings and dust to accumulate can also cause accidents. Trapping chips, shavings and dust before they reach the floor or cleaning them up regularly can prevent their accumulation.

6.3.2 Areas that cannot be cleaned continuously, such as entranceways, should have anti-slip flooring. Keeping floors in good order also means replacing any worn, ripped, or damaged flooring that poses a tripping hazard.

6.4 Aisles and Stairways

6.4.1 Aisles should be wide enough to accommodate people and vehicles comfortably and safely. Aisle space allows for the movement of people, products and materials. Warning signs and mirrors can improve sight lines in blind corners.

6.4.2 Keeping aisles and stairways clear is important. They should not be used for temporary "overflow" or "bottleneck" storage. Stairways and aisles also require adequate lighting. Keep stairways, passageways and gangways free of material, supplies and obstructions.

6.5 Spill Control

6.5.1 The best way to control spills is to stop them before they happen. Regularly cleaning and maintaining machines and equipment is one way. Another is to use drip pans and guards where possible spills might occur.

6.5.2 When spills do occur, it is important to clean them up immediately. Absorbent materials are useful for wiping up greasy, oily or other liquid spills. Used absorbents must be disposed of properly and safely.

6.5.3 Clean up spills promptly according to procedures, using personal protective equipment (PPE) where necessary.

6.6 Tools and Equipment

6.6.1 Only authorized and qualified employees (by training or experience) shall operate tools, equipment, and/or machinery.

6.6.2 Store tools, equipment and materials in their assigned location. Returning tools promptly after use reduces the chance of being misplaced or lost.

6.6.3 Workers should regularly inspect, clean and repair all tools and take any damaged or worn tools out of service.

6.6.4 Clean up tools and unused materials after finishing a job or before leaving the job site.

6.7 Storage

6.7.1 Although The Kuesel Group work activities do not typically generate waste materials, the Site Supervisor will estimate the waste that will be generated (prior to work being performed) in order to determine the type, proper size, and number of waste containers that will be required to be at the site.

6.7.2 Waste materials will be properly stored, segregated, and handled to minimize the potential for a spill or impact to the environment. It is The Kuesel Group's philosophy to continually seek opportunities for recycling or reuse. All recyclables (paper, plastic, cardboard, metals, etc.) shall be placed into the appropriate recycling container(s).

6.7.3 During outdoor activities, receptacles must be covered to prevent dispersion of waste materials and to control the potential for run-off.

6.7.4 The location of the stockpiles should not interfere with work but they should still be readily available when required.

6.7.5 Stored materials should allow at least one meter (or about three feet) of clear space under sprinkler heads.

6.7.6 Stacking cartons and drums on a firm foundation and cross tying them, where necessary, reduces the chance of their movement.

6.7.7 Stored materials should not obstruct aisles, stairs, exits, fire equipment, emergency eyewash fountains, emergency showers, or first aid stations.

6.7.8 Stack pipe on solid, level sills only. Block pipes to prevent them from rolling. Place lagging between layers to reduce the pressure and prevent the pile from spreading. Do not stack pipe higher than 1.5 meters (5 ft.).

6.7.9 Containers shall be provided for the collection and separation of waste, trash, oily and used rags, and other refuse. Containers used for garbage and other oily, flammable, or hazardous wastes, such as caustics, acids, harmful dusts, etc. shall be equipped with covers. Garbage and other waste shall be disposed of at frequent and regular intervals. Storage of these containers and cleanup supplies shall be provided for in the warehouse.

6.7.10 Wastes that are classified as hazardous shall be disposed in accordance with local, state, federal regulations (i.e. EPA, DOT).

6.8 Flammable/Explosive materials

6.8.1 Flammable, combustible, toxic and other hazardous materials should be stored in approved containers with contents clearly marked and in designated areas that are appropriate for the different hazards that they pose. Keep oily rags in covered metal containers and regularly dispose.

6.8.2 Post signs prohibiting smoking, open flames and other ignition sources in areas where flammable and explosive materials are stored.

6.8.3 Store and chain all compressed gas cylinders in an upright position. Ventilate all storage areas properly.

6.8.4 Ensure that all electric fixtures and switches are explosion-proof where flammable materials are stored. Use grounding straps equipped with clamps on containers to prevent static electricity buildup.

7.0 HOUSEKEEPING PROCEDURE:

7.1 Clean up during the shift will be conducted by shift personnel every shift.

7.2 The Site Supervisor will ensure clean up is done by the end of the shift.

7.3 Waste shall be removed and disposed of in regular intervals and by safe means.

7.4 Removal of unused materials shall be the responsibility of the user of the materials and shall be inspected by the Site Supervisor. Inspection to ensure clean-up is complete can be conducted by any Site Supervisor or qualified designee at the site.

7.5 The Site Supervisor or designee shall conduct a general walk down before accepting site responsibility when coming on shift at the beginning of rotation.

7.6 Responsibility of cleanliness of the site is that of the employees and Site Supervisor.

7.7 The Department Manager shall have a thorough walk down at least quarterly or other determined frequency.

8.0 AUDITING PROCEDURE:

8.1 Each project location will complete one safety audit per week or at a frequency as determined by the level of activity at the jobsite. Note: depending on the site activities and duration of the project, a site safety audit may not be conducted or may be conducted at more frequent intervals. The Department Manager to determine the auditing schedule. The audit will be conducted by a competent person (a person capable of identifying and predicting hazards and who has the authority to take prompt corrective actions). The form found in Appendix A should be used to document the audit. This form can also be used to document and report unsafe conditions. Completed audits are to be turned in to the site supervisor.

8.2 Each site will use the attached Safety Audit form to document the required inspection for their project site. Checking the yes ("Y") column indicates compliance or an acceptable condition. Any check in the no ("N") column indicates a deficiency and requires corrective action. If an inspection item does not apply to the area place a check in the Not Applicable ("N/A") column.

8.3 This attached audit form covers the most common hazards that may arise at the site. If additional areas of concern or potential hazards are found, address them on the last page in the space provided.

8.4 Additionally, the auditor should be looking for unsafe acts. If an employee, contractor, or visitor is observed performing an unsafe act, document the act in the space provided. Unsafe acts should be corrected immediately (preferably at the time that they are observed).

8.5 When complete, the form shall be given to the Site Supervisor (when not conducted by him/her) to be reviewed. At this time, the Site Supervisor will initiate corrective actions or submit applicable information to the client for the deficient areas.

8.6 After reviewing the completed audit, the Site Supervisor will sign the audit form and forward it to the Department Manager. The Department Manager shall review the audit and ensure that corrective actions have been initiated.

8.7 Site Safety Audit forms shall be maintained for 3 months.

9.0 Training:

9.1 All Kuesel Group employees will receive training on this program as part of their new hire orientation training and/or as part of their site specific training at a project site.

9.2 Each employee will be trained in the recognition and avoidance of unsafe conditions and the regulations applicable to their work site to control or eliminate any hazards or other exposures to illness or injury.

9.3 The Kuesel Group will conduct training for all employees on proper housekeeping practices, waste handling and disposal methods as well as recycling. This will include general instruction on disposal of hazardous waste, non-hazardous waste, trash, or scrap materials. Note: if wastes are classified as hazardous, only employees who have been properly trained (i.e. RCRA and DOT) shall dispose the hazardous wastes in accordance with local, state, federal EPA & DOT regulations.

9.4 Training will encourage proper segregation of waste materials to ensure opportunities for reuse or recycling.

10.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

COMPANY: _____ PROJECT: _____

INSPECTED BY: _____ INSPECTION DATE: _____

GENERAL SAFETY AND HEALTH	YES	NO	N/A	TRAFFIC CONTROL	YES	NO	N/A
EMERGENCY PROCEDURES AND PHONE NUMBERS POSTED?				APPROVED TRAFFIC CONTROL PLAN AVAILABLE AT THE WORKSITE?			
OSHA AND OTHER GOVERNMENT POSTERS DISPLAYED?				BARRICADES/BARRELS/CONES PROPERLY PLACED TO DIVERT TRAFFIC?			
HAZARD COMMUNICATION MATERIALS AT WORKSITE?				SIGHNS TO WARN APPROACHING TRAFFIC OF ROADWAY HAZARDS?			
COPY OF WRITTEN SAFETY PROGRAM AT WORKSITE?				FLAGMEN PROPERLY EQUIPPED AND TRAINED FOR WORK ASSIGNMENT?			
NEW WORKER ORIENTATIONS CONDUCTED AND DOCUMENTED?				**FIRE PREVENTION AND PROTECTION**			
WEEKLY SAFETY TRAINING CONDUCTED AND DOCUMENTED?				FIRE EXTINGUISHERS WELL MARKED AND READILY ACCESSIBLE?			
FIRST AID SUPPLIES ADEQUATE AND AVAILABLE?				EMPLOYEES TRAINED TO USE FIRE EXTINGUISHERS?			
FIRST AID TRAINED PERSONNEL ON SITE?				ARE FIRE EXTINGUISHER INSPECTIONS CURRENT?			
DRINKING WATER AND CUPS AVAILABLE?				FLAMMABLE MATERIAL STORAGE AREAS POSTED?			
ADEQUATE AND CLEAN TOILET FACILITIES AVAIABLE?				FLAMMABLE LIQUIDS STRD IN SAFETY CANS OR ORIGINAL CONTAINERS?			
EMPLOYEE WASHING FACILITY/SUPPLIES AVAILABLE?				FLAMMABLE LIQUIDS STRD INDOORS PLACED IN APPROVED CABINETS?			
WORK AREA LIGHTING ADEQUATE FOR WORK OPERATIONS?				**HAND AND POWER TOOLS**			
LOCK-OUT / TAG-OUT IN FORCE DURING REPAIR/MAINTENANCE?				DEFECTIVE TOOLS REMOVED FROM SERVICE AND TAGGED FOR REPAIR?			
HOUSEKEEPING				IMPACT TOOLS HAVE HEADS DRESSED AND SHARPENED AS NEEDED?			
WALKWAYS AND WORK AREAS FREE OF TRIP AND FALL HAZARDS?				WOODEN HANDLES ON TOOLS FREE OF SPLITS/SPLINTERS?			
TRASH BARRELS/DUMPSTERS PROVIDED FOR TRASH AND SCRAP MTRLS?				ELECTRICAL TOOL CORDS, PLUGS, AND CASES FREE OF DEFECTS?			
TRASH AND SCRAP REMOVED FROM WORKSITE AT REGULAR INTERVALS?				SAFETY CLIPS USED TO SECURE AIR HOSES?			
PERSONAL PROTECTIVE EQUIPMENT				POWER TOOLS (ALL TYPES) HAVE GUARDS IN PLACE?			
EMPLOYEES PROPERLY DRESSED FOR THE JOB?				GASOLINE DRIVEN TOOLS ALLOWED TO COOL BEFORE REFUELING?			
HARD HATS WORN WHEN REQUIRED?				ONLY TRAINED PERSONNEL ALLOWED TO OPERATE POWER TOOLS?			
SAFETY GLASSES/OTHER EYE AND FACE PROTECTION WORN AS RQRD?				**ELECTRICAL**			
PERSONAL FALL ARREST SYSTEMS PROPERLY WORN AND USED?				EXTENSION CORDS - HEAVY DUTY OUTDOOR RATED - 3 WIRE TYPE?			
RESPIRATORS USED WHEN REQUIRED? RESPIRATOR USERS TRAINED?				PLUGS AND CORD INSULATION IN GOOD COND. WITH NO TAPE REPAIRS?			
EMPLOYEES WEAR SAFETY VESTS DURING TRAFFIC EXPOSURE?				GFCI(S) USED WITH 110 VOLT PERM AND TEMP ELEC. CIRCUITS?			

MATERIAL HANDLING AND STORAGE	YES	NO	N/A
MATERIALS STORED NEAT AND ORDERLY?			
ADEQUATE AISLE SPACE PROVIDED BETWEEN MATERIAL PILES?			
MATERIALS STACKED NO HIGHER THAN 4 TIMES LEAST BASE DIM.?			
LOOSE MATERIALS CONTAINERIZED OR PALLETIZED?			
PIPE CRIBBED OR BLOCKED TO PREVENT SPREADING?			
SLINGS AND CHOKERS FREE OF DEFECTS?			
RIGGING EQUIPMENT INSPECTED BEFORE FIRST USE OF THE SHIFT?			
RIGGING EQUIPMENT MARKED / TAGGED WITH WEIGHT CAPACITY?			
RIGGING EQUIPMENT STORED OUT OF THE WEATHER?			
CRANES / VEHICLES / HEAVY EQUIPMENT			
CRANES / EQUIPMENT OPERATED IN SAFE MANNER?			
CRANE ANNUAL INSPECTION REPORT AVAILABLE AT WORKSITE?			
OPERATORS PERFORM DAILY INSPECTIONS?			
CRANES / EQUIPMENT EQUIPPED WITH ON-BOARD FIRE EXTINGUISHER?			
SAFE WORKING LOADS MARKED ON ALL CRANES?			
MIN. 10' CLEARANCE MAINTAINED NEAR ELECTRICAL CONDUCTORS?			
EQUIPMENT OPERATORS WEAR SEAT BELTS?			
RIDERS PROHIBITED ON CRANES AND EQUIPMENT?			
SIGNALMEN USE PROPER ARM AND HAND SIGNALS?			
WORKERS MOVE OUT FROM UNDER SUSPENDED LOADS?			
RIGGERS ATTACH TAG LINES TO SUSPENDED LOADS?			
EMPLOYEES RIDING IN VEHICLES REMAIN SEATED AT ALL TIMES?			
CONFINED SPACES			
ONLY TRAINED EMPLOYEES ALLOWED TO ENTER CONFINED SPACES?			
CONFINED SPACE ATMOSPHERES TESTED PRIOR TO ENTRY?			
MECHANICAL RETRIEVAL DEVICE USED FOR EMERGENCY RESCUE?			
CONFINED SPACE ENTRY PERMIT SYSTEM USED FOR ALL SPACE ENTRIES?			

EXCAVATION AND TRENCHING	YES	NO	N/A
TRAINED "COMPENENT PERSON" ASSIGNED TO WORKSITE?			
DAILY EXCAVATION INSPECTION LOGS MAINTAINED ON FILE?			
EXCAVATIONS 5 OR MORE FEET DEEP HAVE PROTECTIVE SYSTEMS?			
PROTECTIVE SYSTEM TABULATED DATA OR DESIGN ON SITE?			
LADDER PROVIDED IN EXCAVATIONS 4 OR MORE FEET IN DEPTH?			
BARRICADES ERECTED TO PROTECT THE PUBLIC?			
EXCAVATIONS DE-WATERED AS NEEDED?			
WORK PERFORMED ONLY WITHIN PROTECTED AREAS OF EXCAVATION?			
LADDERS AND SCAFFOLDS			
ONLY LADDERS RATED TYPE 1 OR 1A USED?			
EXTENSION LADDERS ERECTED ON 4V:1H RATIO?			
TOPS OF EXT. LADDERS EXTEND 3' ABOVE TOP LANDING AND SECURED?			
STEP LADDER ONLY USED IN FULLY OPENED AND LOCKED POSITION?			
METAL LADDER USE PROHIBITED NEAR ELECTRICAL CONDUCTORS?			
EMPLOYEES CLIMB LADDERS USING THREE POINT CONTACT?			
STANDING ON TOP STEP / CROSS BRACES OF STEP LADDERS PROHIBITED?			
EMPLOYEES PROHIBITED FROM OVERREACHING OR STRADDLING?			
EMPLOYEES USE TAG LINE TO RAISE AND LOWER TOOLS AND MATERIALS?			
SCAFFOLDS BUILT UNDER THE SUPERVISION OF A COMPETENT PERSON?			
SCAFFOLD BUILT ON SOLID, STABLE SURFACE?			
SCAFFOLDS BUILT W/ MUDSILLS, BASE PLATES, AND LEVELING SCREWS?			
SCAFFOLD DECKS FULLY PLANKED AND SECURED / CLEATED?			
SCAFFOLDS 10 FEET OR HIGHER HAVE GUARDRAILS ON ALL OPEN SIDES?			
CONCRETE AND MASONRY			
EXPOSED REBAR CAPPED OR OTHERWISE PROTECTED?			
MASONRY WALLS OVER 8' HIGH ADEQUATELY WIND BRACED?			
LIMITED ACCESS ZONES ESTABLISHED?			

GUARDRAILS AND HOLE COVERS	YES	NO	N/A	WELDING AND CUTTING	YES	NO	N/A
GUARDRAILS PROTECT EXPOSED EDGES 6 OR MORE FEET HIGH?				COMPRESSED GAS CYLINDERS STORED IN A SECURE UPRIGHT POSITION?			
GUARDRAILS STURDY AND CONTINUOUS WITH TOP AND MID RAIL?				OXYGEN STORED 20' FROM FUEL GASES AND FLAMMABLE MATERIALS?			
TOEBOARDS USED TO PREVENT MATERIAL FROM FALLING OVER EDGES?				CYLINDER CAPS PLACED ON STORED GAS CYLINDERS?			
GUARDRAILS REPLACED AFTER TEMPORARY REMOVAL?				CYLINDERS PLACED ON CYLINDER CARTS WHEN IN USE?			
FLOOR HOLES EITHER PROTECTED BY GUARDRAILS OR COVERS?				VEHICLE MOUNTED CYLINDERS EQUIPPED WITH GAUGE GUARDS?			
HOLE COVERS SUBSTANTIAL & SECURED TO PREVENT DISPLACEMENT?				HOSES, REGULATORS, AND TORCHES IN GOOD CONDITION?			
HOLE COVERS IDENTIFIED AS TO THEIR PURPOSE?				WELDING LEAD AND STINGERS IN GOOD CONDITION?			
HOLE COVERS REPLACED AFTER TEMPORARY REMOVAL?				HOT WORK PERMITS ISSUED?			

COMMENTS (INSPECTION FINDINGS TO BE ADDRESSED, AND / OR DAMAGED EQUIPMENT REMOVED FROM SERVICE, OR REPAIRED)

SP 05 Fatigue Management

1.0 PURPOSE:

1.1 This purpose of this policy is to increase awareness and understanding of the issues of fatigue, manage the risk factors and hazards, and prevent related injury and illness.

1.2 This policy should serve as a guideline for setting work schedules. Staffing levels should be adequate to manage workloads and minimize the potential for employees to work in excess of 14 consecutive days or 16 hours in a single day.

1.0 REFERENCE DOCUMENTS

1.1 American Petroleum Institute (API) RP-755

2.0 RESPONSIBILITIES:

2.1 **Project Management/Site Management** shall be responsible for ensuring uniform implementation and compliance with this program by site employees and subcontractors.

2.2 **Safety Representative** shall be responsible for:

2.2.1 Providing support and guidance as needed to ensure that site personnel are instructed in and trained, initially and annually, to the requirements of this program and to applicable site specific requirements.

2.2.2 Maintaining appropriate documentation as evidence of the training program and comprehension level of the personnel.

2.2.3 Responsible for ensuring employee schedules are developed in accordance with this guideline.

2.2.4 Periodically review and evaluate work tasks and workplace conditions to ensure proper fatigue management.

2.3 **Supervisor Responsibilities**

2.3.1 Ensuring that personnel under their direction attend and receive appropriate training and that they maintain compliance with this program.

2.3.2 Ensuring that only trained employees assume active roles and perform related work(s) in accordance with this program.

2.3.3 Recognition of possible fatigue related errors and the associated mitigation

2.3.4 Investigate Employee reports of fatigue and take appropriate actions.

2.4 Employees

2.4.1 Shall be responsible for ensuring they understand and comprehend this program and maintain full compliance with this program and its contents.

2.4.2 Must report fatigue and lack of mental acuity to supervision.

2.4.3 Must not chronically use over-the-counter or prescription drugs to increase mental alertness.

2.4.4 Are discouraged from taking any substance known to increase fatigue.

4.0 DEFINITIONS:

4.1 **Call-out** - Summoning an employee to the work site to perform work that he/she was not scheduled to perform.

4.2 **Extended shifts** - Time an employee is assigned to work that extends outside their regularly scheduled shift hours and into other shifts.

4.3 **Fatigue** - Reduced mental and physical functioning caused by sleep deprivation and/or being awake during normal sleep hours. This may result from extended work hours, insufficient opportunities for sleep, failure to use available sleep opportunities, or the effects of sleep disorders, medical conditions, or pharmaceuticals which reduce sleep or increase sleepiness.

4.4 **Holdovers** - A periodic, occasional extended shift, where employees are at work beyond their regular shift to participate in training, safety meetings and the like. This does not include time needed for normal shift handoff.

4.5 **Shift work** - An organization of work where workers succeed each other at the same workplace while performing similar operations at different times of the day thus allowing longer hours of operation than feasible for a single worker.

4.6 **Work sets** - Consecutive shifts with a minimum of 36 hours off before starting another work set.

5.0 WORK SCHEDULES:

5.1 This section will set work hour limitations and will control job rotation schedules to control fatigue, allow for sufficient sleep, and increase mental fitness in an effort to control employee turnover and absenteeism. In general, work shifts will be limited to 16 hours. Work shifts may be extended beyond 16 hours, not to exceed 18 hours, provided the extension request is approved by Site Supervision.

5.2 Work Sets and Time Off

5.2.1 Work Sets and Time Off schedules should be in accordance with Appendix A.

5.2.2 The work set does not reset until the employee has 36 consecutive hours off.

5.3 Call Outs

5.3.1 The first call out of a work set in which an employee works five hours or less and has at least eight consecutive hours off will not be counted as a shift toward the work set.

5.3.2 Initial call outs that do not meet the above criteria and any subsequent call outs during a work set, regardless of time off, will be counted as a shift toward the work set.

5.4 Breaks

5.4.1 To control fatigue and increase mental fitness, employees will be given breaks at intervals appropriate for their work shift.

5.4.2 Break areas should have chairs or other acceptable means for the employees to sit down.

6.0 WORK TASKS AND WORKPLACE CONDITIONS:

6.1 Work tasks will be analyzed and evaluated periodically to identify the potential for fatigue. Where applicable, work tasks may be evaluated as part of the task's job safety analysis (JSA).

6.2 Work tasks and workplace conditions such as those listed below can aggravate fatigue.

6.2.1 high noise areas both inside and outside.

6.2.2 extreme weather, hot or cold

6.2.3 poor ventilation

6.2.4 standing for extended periods

6.2.5 being away from home for long periods

6.2.6 wearing personal protective equipment (ex. respirators, heavy clothing, etc.)

6.3 Appropriate workplace controls shall be used as appropriate to mitigate potential workplace fatigue and improve workplace conditions:

6.3.1 anti fatigue mats

6.3.2 personal protective equipment (ex. hearing protection, respirators, etc.)

6.3.3 lift assist devices

6.3.4 cool vests

6.3.5 proper lighting, ventilation, and control of temperature

7.0 TRAINING:

7.1 All employees will be trained initially on this procedure. Training to include:

7.1.1 The requirements of this procedure

7.1.2 How to recognize and control fatigue through appropriate work and personal habits

7.1.3 How to report fatigue to supervision

7.2 All personnel will receive annual training on this procedure. The training may be conducted as part of toolbox talks or safety meetings.

8.0 **REVISION REGISTER**

Date	Description of Change	Page No.	Initials

Work Schedule/Situation	12-hour shift	10-hour shift	8-hour shift
Maximum consecutive shifts in a work set	14 shifts	16 shifts	19 shifts
Minimum time off after a work set	36 hours	36 hours	36 hours
Holdovers shall not exceed	2 hours	2 hours	4 hours
Extended shift: Maximum for an unscheduled shift	18 hours	16 hours	16 hours
Extended shift: **Time off after shift:** ● 10 to 16 hour shift ● 12 to 16 hour shift ● 14 to 16 hour shift ● >16 to 18 hour shift	 N/A N/A 8 hours 10 hours	 N/A 8 hours 8 hours N/A	 8 hours N/A N/A N/A
Maximum number of extended shifts/work set	1 (>14-hours)	14-hour shift: 1 12-hour shift: 2 Note: for 3 or more 12-hour shifts, follow the 12-hour shift schedule	>12-hour shift: 2 Note: Extended shifts must be non-consecutive; For 3 or more 12-hour shifts, follow the 12-hour shift schedule

The table above is based on API RP-755 Fatigue Risk Management Systems for Personnel in the Refining and Petrochemical Industries.

SP 06 Stop Work Authority

1.0 PURPOSE:

1.1 The purpose of this program is to ensure that all employees are given the responsibility and authority to stop work when employees believe that a situation exists that places them, their coworker(s), contract personnel or the public at risk or in danger; could adversely affect the safe operation or cause damage to the facility.

1.2 This program extends the authority to stop work to situations where an employee believes there is a need to clarify work instructions; or to propose additional controls.

2.0 SCOPE:

2.1 This program is applicable to all Kuesel Group employees and subcontract personnel working on any Kuesel Group job site or facility.

3.0 RESPONSIBILITIES:

3.1 All personnel

3.1.1 In supporting safe execution of work, all personnel have the responsibility and authority to stop work or decline to perform any assigned task without fear of reprisal, to discuss and resolve work and safety concerns. The Stop Work may include discussion with coworker(s), supervision or safety representative to resolve work related issues, address potential unsafe conditions, clarify work instructions, propose additional controls, etc.

3.1.2 All employees have the responsibility and authority to initiate a Stop Work **IMMEDIATELY**, without fear of reprisal, when the employee believes a situation exists which places himself/herself, coworker(s), or the environment in danger or at risk.

3.1.3 All employees have the responsibility to report any activity or condition the employee believes is unsafe or for which they have initiated a Stop Work. Notification should be made to the affected worker(s) and to the supervisor or their supervisor's designee and the location where the activity or condition exists.

3.1.4 All employees have the responsibility to notify their supervisor if a raised Stop Work issue has not been resolved to their satisfaction through established channels prior to the resumption of work. Alternatively, contact the safety representative.

3.1.5 Employees can contact their safety representative with a concern or to initiate a Stop Work order, if the employee prefers to remain anonymous

3.2 Management/Supervisor/Foreman

3.2.1 Management and supervision are committed to promptly resolving issues resulting from an employee-raised Stop Work.

3.2.2 Management/Supervisor responsibilities are to:

3.2.2.1 Resolve any issues that have resulted in an individual stopping a specific task(s) or activity.

3.2.2.2 Review the Stop Work to determine the quality of the interventions, trend common issues, identify opportunities for improvement and facilitate sharing of learning's.

3.2.2.3 Provide feedback to the individual(s) and the affected work group who have exercised their Stop Work responsibility on the resolution of their concern prior to resuming work. If the employee that issued a Stop Work is not available due to reasons such as vacation, shift change or training, then the supervisor provides the feedback to the safety representative prior to resuming work.

3.2.2.4 Ensure no actions are taken in reprisal or retribution against individuals who raise safety concerns or stop an activity they believe is unsafe.

3.2.2.5 Promote a culture wherein an employee exercising their right to issue their Stop Work Authority will do so without fear of reprisal or retaliation.

3.2.3 Safety Representative:

3.2.3.1 Assist employees, supervision and management in the resolution of safety issues and concerns.

3.2.3.2 Immediately contact management and work to resolve issues when an employee has called a situation to their attention that has not been resolved.

3.2.3.3 Discuss resolution with employees involved in a work stoppage where resolution was completed after their shift or when they were unavailable, or when he/she acted as their representative in reaching resolution.

3.2.3.4 Work as the agent of an employee that prefers to remain anonymous to work directly in the resolution of the Stop Work.

4.0 PROGRAM REQUIREMENTS:

4.1 Every employee has a right to a safe workplace which is free from recognized hazards. This program utilizes the following process when an unsafe condition arises: stop, report, correct and resume.

4.2 **STOP:** Every Kuesel Group employee or subcontractor, regardless of employer, has the responsibility and authority to stop work **IMMEDIATELY**, without fear of reprisal, when the employee believes:

4.2.1 Conditions exist that pose a danger to health and safety of workers or the public; or

4.2.2 Conditions exist that, if allowed to continue, could adversely affect the safe operation of, or could cause serious damage to a facility.

4.2.3 Control of the health, environmental and safety risk is not clearly understood or established.

4.2.4 To clarify work instructions or to propose additional controls.

4.3 No work will resume until all stop work issues and concerns have been adequately addressed. No forms of retribution or intimidation directed at any individual for exercising their right to issue a stop work authority will be tolerated.

4.4 **REPORT:** Employees are expected to report any activity or condition which he/she believes is unsafe. Notification should be made to the affected worker(s) and then to the supervisor or designee at the location where the activity or condition exists. Following notification, resolution of the issue resides with the responsible supervisor.

4.5 Supervisors will ensure the work/activity is in, or placed in, safe condition. Management will be immediately notified when affected workers issue a Stop Work Authority and/or decline to perform the work activity. All Stop Work orders shall be documented by the supervisor or safety representative for the purpose of initiating an investigation, developing corrective measures and for communicating lessons learned. A near-miss or similar type of report can be used to document the Stop Work Authority.

4.6 **CORRECT:** Issues must be resolved that have resulted in an employee stopping work or an activity.

4.6.1 Involve individuals who initiated the Stop Work or their appropriate safety representative if the individual is not available, in order to reach a mutual agreement on the resolution or proposed actions necessary to return to work.

4.6.2 Along with the initial Stop Work order, be sure any necessary corrective actions are taken before resuming an activity.

4.6.3 If a Stop Work has not been resolved to the mutual agreement of a supervisor and employee, then the Stop Work remains in place and the supervisor will notify the appropriate company management and safety representative.

4.7 **RESUME:** Work may be resumed when the employee(s) and management agree that the issue has been resolved. The objective is to reach a resolution at the lowest levels of engagement. It

is the desired outcome of any Stop Work Intervention that the identified safety concern(s) have been addressed to the satisfaction of all involved persons prior to the resumption of work. Most issues can be adequately resolved in a timely manner at the job site, occasionally additional investigation and corrective actions may be required to identify and address root causes. Additional follow-up may be required after the Stop Work order has been initiated and closed.

4.8 Stop Work reports shall be reviewed by supervision/management/safety in order to measure participation, determine quality of interventions and follow-up, trend common issues, identify opportunities for improvement and facilitate sharing of learning's.

5.0 TRAINING:

5.1 All employees shall receive Stop Work Authority training before their initial or next assignment. The training shall be documented, including the employee's name, the date of the training and subject.

5.2 Any employee that is observed failing to use his/her Stop Work Authority when prudent to do so, may be required to retake the Stop Work Authority training.

6.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 07 Worksite Safety Management

1.0 PURPOSE:

1.1 In today's complex construction environment, a good job safety record can be achieved only by active, purposeful accident prevention planning. Ninety-eight percent of all accidents are preventable, and the contractor should assume his/her responsibility for seeing that the work place is as safe as is humanly possible.

2.0 SCOPE:

2.1 This procedure covers all employees of The Kuesel Group, as well as all project site clients/owners, subcontractors, visitors, and vendors. This procedure also addresses safety of the general public and off-site safety of employees.

3.0 SUBCONTRACTORS:

3.1 General –

3.1.1 One of the most often neglected aspects of the contractor's safety program is the coordination between the accident prevention activities of the contractor and his/her subcontractors. This becomes a serious problem when the subcontractor does not require safe practices of workers, operates unsafe tools and equipment, fails to provide personal protective equipment, ignores accepted accident prevention methods, and otherwise defeats the purpose of a general contractor's efforts to maintain a safe job site.

3.1.2 It is impossible for a general contractor to maintain a complete and effective safety program on a construction project if one or more of his/her subcontractors operate in an unsafe manner. When a subcontractor allows practices such as those mentioned above, he/she endangers the employees of other contractors on the site. In addition, such actions are certain to have an adverse effect on the attitudes of the other employees toward safety.

3.1.3 To promote his/her own interest, therefore, as well as the safety of the employees, the general contractor must demand proper accident prevention and related action by those to whom subcontracts are awarded.

3.1.4 Before pursuing this discussion further, it is worth noting that there are many subcontractors who have already developed excellent safety programs. Often such subcontractors find themselves working for general contractors who do not have safety programs of their own. The subcontractor then finds himself/herself in the same dilemma to which we have referred in these first paragraphs. It is possible, therefore, for

a good, reliable subcontractor who is safety conscious to decline to submit a bid to a general contractor who has a bad reputation in the line of safety. It is certainly worth noting that subcontractors have been heard to say that their price may be lower for the contractor with a responsible safety program and may be less than the price quoted to a contractor without a safety program.

3.2 Subcontract Documents –

3.2.1 Safety coordination between the general contractor and his/her subcontractors should begin with the inclusion of specific safety related language in the subcontract documents. Such language should spell out which safety related activities the general contractor will hold the subcontractor responsible for performing. For example:

"The general contractor shall designate a specific area or container adjacent to the work area for the accumulation of trash. Subcontractors shall be responsible for placing their waste and rubbish in said area or container as it accumulates. The general contractor will arrange and pay for removal from the site as required."

With such a clause in the contract documents, there can be no doubt later on as the job progresses as to the responsibility of each party for job site cleanup.

3.2.2 When safety responsibilities are spelled out in the contract, subcontractors can give a more realistic bid to the general contractor. The following list covers many of the areas that should be spelled out in the contract between the general and subcontractor. This list is by no means all-inclusive, and will not necessarily apply to every project:

3.2.2.1 Compliance with general contractor's safety program.

3.2.2.2 First aid facilities, emergency transportation, and other medical care.

3.2.2.3 Furnishing of personal protective equipment.

3.2.2.4 Drinking water.

3.2.2.5 Toilets, job sanitation, etc.

3.2.2.6 Designation of storage areas.

3.2.2.7 Clean-up and trash disposal.

3.2.2.8 Temporary water, air, and heat.

3.2.2.9 Guard rails, hand rails, scaffolds, stairs, etc.

3.2.2.10 Fire protection, fire extinguishers, etc.

3.2.2.11 Lighting and ventilation.

3.2.2.12 Job site parking.

3.2.2.13 Job site hoisting facilities.

3.2.3 If you are the general contractor, you should (as a part of your contract with a subcontractor) require full compliance with your safety program.

3.3 Named Insureds and Certificates of Insurance –

3.3.1 Construction owners, general contractors, prime contractors, and even subcontractors can become involuntary participants in the financial food chain when an act of negligence on the part of an under or uninsured lower-tier subcontractor results in claims for damages from a third party. For example, Missouri and many other states have workers' compensation laws that allow claims for compensation filed by the employees of uninsured contractors to become the responsibility of the upper-tier contractor. The same holds true for general liability claims. In many cases these types of claims are insured. However, there are cases when such claims are not insured based upon the upper-tier contractor's insurance coverage's. Regardless, claims of this type affect profits, due to out-of-pocket settlements and/or increased insurance premiums.

3.3.2 Contractual agreements should require subcontractors and their subcontractors, as may be permitted by state statute, to indemnify upper-tier contractors from acts which cause any damages. The indemnification should be backed up by contractual language that specifies the types and limits of the insurance required and a requirement for the subcontractor to name upper-tier contractors and construction owners as additional insured's. Furthermore, the contractual language should require the subcontractor to provide certificates of liability insurance prior to the start of work and whenever the subcontractor's insurance picture changes (i.e., upon the renewal or cancellation of policies or a change in insurance carriers).

3.3.3 The next step is to assure that subcontractors are in compliance with the contract. This is done by verifying that the certificates of insurance have been received, and reviewing the certificates to be certain that needed coverage is provided. Furthermore, upper-tier contractors must be prepared to play hard ball in the event a subcontractor fails to meet the indemnification and insurance requirements. The first logical step should be to prevent any subcontractor from starting work until the insurance requirements have been met. If, however, a subcontractor has already started work, it may be necessary to remove the subcontractor from the worksite or withhold contract payments until the subcontractor complies with the contract.

3.4 Pre-Job Conference –

3.4.1 To make sure that a new project gets started properly from a safety point of view, the general contractor should hold a pre-job conference with representatives of his/her subcontractors. Such a meeting could be restricted to safety discussions only, but since there are many matters which need to be discussed prior to starting a project, it is more reasonable to expect that safety would be just one of the items put on the agenda in a

general pre-job meeting. In any event, it is important that safety-related matters be discussed with subcontractor management officials so that they will be aware of the general contractor's overall safety program, and of what will be expected of each subcontractor on the project. Presumably, because all or most of the subcontractors will be in attendance, the pre-job conference presents an excellent forum for planning coordination of safety as well as other construction-related activities. The individual subcontractors should have their own pre-job meeting to assure that everyone knows his/her responsibilities relative to safety and job execution.

3.5 Job Site Coordination –

3.5.1 Prior to starting subcontracted work on the job site, the project superintendent should meet with the subcontractor's representative to discuss safety related matters. At this meeting, the superintendent should review with the subcontractor his/her safety responsibilities on the project. If those responsibilities have been spelled out in the contract documents, this should be a simple matter. If they have not, then the superintendent should make clear what the subcontractor's responsibilities are, and what safety services will be provided by the general contractor.

3.5.2 As work on the project progresses, the project superintendent should monitor the safety practices of each subcontractor. The project superintendent should hold regularly scheduled (preferably weekly) meetings with subcontractor representatives to review the accident experience at the site, and to discuss any safety related problems or exposures anticipated in the work scheduled during the next period.

3.6 Multi-Employer Worksites –

3.6.1 With the recent trend in the construction industry toward construction manager-type projects, there may be several different contractors on the site who are not in the traditional contractor/subcontractor relationship with the general contractor, but have separate direct or prime contracts with the owner or the construction manager. Thus, a general contractor, who has traditionally been responsible for the management of the total project, finds himself/herself in a position of not controlling and coordinating all the work on the site. Furthermore, he/she has no control over the safety practices of other contractors on the site, and if the owner or construction manager is not particularly safety conscious, the contractor may be faced with many safety problems. Each contractor should request that the owner or construction manager hold a pre-job conference with all contractors to discuss job site safety, as well as regularly scheduled safety meetings as the project progresses.

3.7 Contractor/Subcontractor Relationship Under OSHA –

3.7.1 The Construction Standards deal with the relationship between the contractor and the subcontractor in 1926.16 which is reproduced here in part:

The prime contractor and any subcontractors may make their own arrangements with respect to obligations which might be more appropriately treated on a job site basis rather than individually. Thus, for example, the prime contractor and his/her subcontractor may wish to make an express agreement that the prime contractor or one of the subcontractors will provide all required first aid or toilet facilities, thus relieving the subcontractors from the actual, but not any legal, responsibility. In no case shall the prime contractor be relieved of overall responsibility for compliance with the requirements of the standards for all work to be performed under the contract.

3.7.2 To the extent that a subcontractor of any tier agrees to perform any part of the contract, he/she also assumes responsibility for complying with the standards with respect to that part. Thus, the prime contractor assumes responsibility with respect to his/her portion of the work. With respect to subcontracted work, the prime contractor and any subcontractor or subcontractors shall be deemed to have joint responsibility.

3.7.3 Where joint responsibility exists, both the prime contractor and his/her subcontractor or subcontractors, regardless of tier, shall be considered subject to enforcement provisions of the Act.

3.7.4 The general contractor is well advised to make a literal interpretation of the above standards, thus assuming responsibility for the whole project. Specific safety responsibilities may be contractually assigned to the subcontractor, but it behooves the general contractor to make sure that subcontractor carries out these responsibilities. If you are the general contractor you should (as a part of your contract with a subcontractor) require full compliance with your safety program. For the subcontractor to know what is expected of him/her, the contractor should include a copy of his/her safety program when proposals are issued to the subcontractor.

4.0 INSURANCE AND HIDDEN COST OF ACCIDENTS:

4.1 The average contractor does not realize the influence that a bad accident experience can have in bidding a job. Too many contractors feel that their insurance costs are too high, because it is something that is required by law. They, therefore take the "head in the sand" attitude of doing nothing about it. They do this primarily because they do not realize that this cost can be materially reduced by maintaining an effective accident prevention program that will keep the accidents on their jobs at a minimum.

4.2 Under the various acts or laws covering Workers' Compensation in most states, the commissioner or director of insurance sets what are known as manual rates for all the various job classifications, such as carpenters, ironworkers, masons, etc.

4.3 Practically all states have an experience-rating plan that is applicable to contractors carrying on operations within the state. Through this plan, a contractor who has an effective safety program and a low accident experience can reduce his/her Workers' Compensation premium cost to an amount below the established manual rate. The experience rating, known as the Experience

Modification Rate or EMR, is based on three years of experience compared to an average experience of employers performing similar work. The EMR is then multiplied by the rate set by the state in order to establish an insurance premium.

4.4 If a contractor has a greater than average number of incidents, he/she gets an EMR of something greater than 1.0 which will increase his/her insurance cost above the state average. A contractor with a good safety record can look forward to an EMR of less than 1.0 and, thus, an insurance premium lower than the average premium in his/her state.

4.5 It is very important for all employees to know that their employer carries Workers' Compensation insurance to protect them and their families. If an employee is injured, the incident should be reported immediately to the supervisor/foreman. The claim will be handled in accordance with the Missouri Workers' Compensation law. There is no need to contact an attorney.

4.6 In analyzing the costs of accidents, the contractor must take into consideration the following factors:

4.6.1 Downtime of personnel and equipment.

4.6.2 Interference with operation.

4.6.3 Spoiled work, damage to equipment, and cost of replacement.

4.6.4 Effect of accidents on other workers (because of sympathy for the injured person).

4.6.5 Investigation time by company personnel.

4.6.6 Incidental factors: reputation, obtaining and hiring of new employees, etc.

4.7 In the above list of items there is no mention of the cost of insurance premiums or the medical or compensation costs because those figures are considered actual costs as the result of any accident. Were the contractor to take this list and place the total cost of all items against the actual accident costs of any accident, he/she would find that the proportion would be approximately 6-to-1 hidden costs over actual costs. In past years the proportion was 4-to-1; however, with increased wages, increased cost of equipment, increased compensation payments, and higher awards by the courts, the totals now assume the higher figures.

5.0 PUBLIC SAFETY:

5.1 The safety of the general public is as important as the prevention of accidents to employees. People are innately curious, and are capable of many thoughtless actions in their attempts to

observe construction operations. The contractor must accept the fact that the public will know what is going on; how they find out is up to him/her. If an attempt is made to shut people out completely, they will feel compelled to climb over the fences, follow trucks through the gates, or do some other equally human but hazardous act. Verbal admonitions or warning signs seem to do little good, and positive action must be taken to protect the public against its own unthinking acts. The best scheme is for the contractor to allow the public to view the proceedings from controlled vantage points. The contractor who provides means for the public to see the work and simultaneously be protected from its hazards is using common sense with regard to both safety and public relations.

5.2 Urban construction adds the problems of routing pedestrians around the site under cramped conditions and of protecting them from vehicular traffic where the temporary walkways encroach upon the street. In such instances, pedestrian walkways should be established between sturdy barricades. The wall facing the project should provide several cut-outs at different levels, through which the "sidewalk superintendents" can view the proceedings. The walkways should be covered to protect the public against inclement weather and falling objects. Special care should be taken to have the walking surface smooth and without irregularities that could lead to falls. The barricade on the street side should be solidly built to protect against possible vehicle impact, and should be well lighted to warn drivers at night of its presence. Alternatively, striping with reflective paint or tape can also be very effective.

5.3 The problem of protecting the public becomes most difficult during weekends and other times when job operations are not in progress. Children, in particular, seem to find construction projects irresistible. Insurance company records are filled with cases involving the deaths or injuries to children who were playing on projects during off-hours. Therefore, every precaution should be taken to protect them. Use of barricades, grounding of buckets and blades, disconnecting electricity, and covering holes are a few methods the contractor can use to protect the public from hazards on the job site.

5.4 Fences, barricades, and other such measures are rarely completely effective in keeping the public away from a hazardous job area. More and more frequently, contract documents require the contractor to keep a watchman on the project at all times except during normal working hours. This provision is expensive but represents a positive way in which continuous public protection can be provided. Making such protection a part of the contract is the only manner in which its actual provision can be guaranteed.

6.0 OFF-THE-JOB SAFETY:

6.1 Most construction employers have the attitude that, because their work force is relatively mobile and most are not long-term employees, they cannot accomplish much in off-the-job safety efforts. There is also the feeling that they have enough to do with just getting the work done. The construction employer has as great a stake in off-the-job safety as in on-the-job safety, because what happens to employees off the job can and does affect job safety and productivity.

6.2 As an example, an employee receives a head injury at home. He/she cannot afford to lose a

day's wages, so reports to work on a high-rise construction site, where his/her job is concrete form installation. Three things may happen as a result:

6.2.1 The employee will file a claim for workmen's compensation injury on the job.

6.2.2 The employee will draw a day's pay and do relatively little work.

6.2.3 The employee may fall, black out, or cause an injury to another employee.

6.3 Any one of these possibilities will cost the contractor money, reduce the overall productivity on the site, lower the morale of employees, and undermine effective work place safety programs.

6.4 Off-the-job safety programs for employees can be as elaborate or as simple as a contractor may desire. The cost of utilizing such programs can be adjusted to the type of program used. Contractors can purchase materials through organizations, such as the National Safety Council, on a selective basis and attach the materials to paychecks periodically. Some employers mail the materials to the employees' homes, where the entire family becomes involved. Some contractors have had excellent results with job-related safety award programs in which safety award materials are mailed to the employee's home, with off-the-job materials included on a periodic basis. Such programs often offer saver stamps that the family can use for merchandise. The merchandise then becomes a constant reminder to the employee and his/her family to "think safety."

6.5 Other contractor programs include obtaining both work safety and off-the-job safety materials from insurance carriers, local safety councils, or other safety-related organizations at little or no cost. These materials are then distributed to the employees.

6.6 Numerous studies relating to human factors have proven that the interest shown by the employer in the employee's welfare, other than a weekly paycheck, has a tremendous effect on improving employee morale and productivity within the company. These studies, and actual practice, have shown that involving an employee's family in these considerations provides the employer with a "behind the scenes" safety organization with the muscle the employer does not have -- the ability to make employees think about the safety of themselves, their families, and their fellow employees.

7.0 PLANNING:

7.1 General –

7.1.1 Successful construction safety and health programs may differ considerably in the emphasis placed upon various aspects, but certain basic elements are common to all effective accident prevention. Planning is one such element.

7.1.2 Job safety and health must be systematically planned and developed; much as one

would plan the scheduling of equipment and men, purchasing, or paying bills. During the planning stages of every job, any serious hazards that may be noticed should be brought to light and suggestions made as to safe ways of performing such hazardous operations.

7.1.3 Few construction jobs can be carried on without a well-planned procedure. Whether the job is large or small, considerable time must be devoted to preliminary surveys, the collection of facts, and the planning and lay-out of the project. Knowledge and experience enable the contractor to grasp immediately the work to be done; imagination helps him/her to visualize how the work should be done and in what order to proceed for its accomplishment. These same qualities should also serve in enabling the contractor to foresee the hazards that will accompany the work to be done. Hazards can be recognized, and a definite program for accident prevention should be fitted into the production schedule. By doing so, the contractor can minimize the possibility of delays, accidents, and injuries resulting from those hazards. The result will be a smoother and more efficient job.

7.1.4 In general, the recognition and control of hazards is based upon two important qualities which every contractor should have: hindsight and foresight. Hindsight is the ability to draw upon past experience, training, and imagination to assist in visualizing potential accident causes. It involves listing the jobs done in the past where conditions encountered caused accidents. Foresight is the ability to use that hindsight in predicting or forecasting conditions which might lead to accidents. Hindsight and foresight, therefore, are as essential to a good contractor as other quality and definitely relate to the responsibility of planning for safety.

7.2 Initial and Long-Range Planning –

7.2.1 The initial and subsequent long-range planning on each project should include consideration of the following items:

7.2.1.1 Plant layout for optimum efficiency and a minimum of safety hazards for personnel, materials, and equipment. The arrangement of storage areas and temporary structures should allow access ways for fire control and fire prevention.

7.2.1.2 Power distribution lines and sub-station locations.

7.2.1.3 Location of compressed air piping.

7.2.1.4 Flammable liquids storage and fueling stations.

7.2.1.5 Equipment and vehicle parking and traffic flow.

7.2.1.6 Proximity of welding operations to battery rooms, paint storage, flammable liquids, compressed gases, etc.

7.2.1.7 Adequate exits from buildings.

7.2.1.8 Location of portable fire extinguishers.

7.2.2 The contractor should outline the major operations to be performed. For each operation, the major potential hazards should be listed, along with the measures to be used to eliminate or minimize the danger.

7.2.3 The contractor should consider who will conduct the safety meetings at the job site, and also designate a specific time and place for the weekly meetings. The contractor should specify what help will be provided to field personnel to assist them in conducting effective safety meetings.

7.2.4 The contractor should determine which employees on the job are certified first aid personnel, and should note the expiration dates of their certificates. This information should be made available on the job site. The contractor should consider plans for transporting injured personnel to medical attention. This should include the means of transportation, the route, and the place of treatment.

7.2.5 The contractor should determine the major pieces of equipment to be used, matching equipment capacity to the size of the anticipated loads and anticipated lifting radius of each.

7.2.6 The contractor should consider the supervisory personnel and the formal training they have had in accident prevention. If the supervisor of choice has had no safety training, the contractor will need to plan the specific helps to be provided to assist the supervisor in his/her accident prevention responsibilities.

7.2.7 The contractor should consider the protective clothing and equipment to be will provided for specific activities and conditions to be encountered.

7.2.8 When applicable, means of access to elevated or depressed work areas must be considered. The use of elevated work areas may require a specific plan for fall protection. If employees will be working on scaffolding or in an excavation, a competent person must be designated to perform and document the required daily inspections.

7.2.9 The contractor must consider the means, procedures, and materials used to orient new employees.

7.2.10 The contractor should plan how to maintain the worksite and equipment in a safe

working condition. This includes establishing criteria for frequent inspections and verifying the timely abatement of any hazards.

7.2.11 In general, the contractor's accident prevention planning should demonstrate that analysis has been completed of the specific work required for any given project, the potential hazards have been identified, and specific plans have been made to mitigate or eliminate the hazards.

7.2.12 Since each job is different, the items listed above may not cover all the areas in which planning is required, but should serve to stimulate the contractor to think about safety and to include safety in pre-construction planning.

7.3 Day-to-Day Planning

7.3.1 The actual execution of the job requires day-to-day planning. This should supplement the overall job planning on which the contractor's concentrated thought should be directed at the outset of the job. As previously stated, work must be laid out for the employees far enough in advance so that they are never kept waiting or required to tear down work already completed. Planning is required to avoid such occurrences. Employees do not work efficiently when they are surrounded by confusion, disorder, or other evidence of haphazard thinking.

7.3.2 Materials must reach workers promptly and in abundance. Spoil must be removed with regularity. Storage areas, derricks, hoists, runways, and other transport facilities must be provided and used efficiently. Advance planning is needed to accomplish these results.

7.3.3 A most important part of planning is related to housekeeping. Time should be planned into the job schedule for frequent periodic clean-ups. Accumulation of materials or tools in overhead places should be removed to eliminate the chance that something may fall and cause injury to persons below. Walls and masonry chippings, short lengths of pipe, miscellaneous lumber, and other scrap not only constitute tripping and falling hazards, but also make it more difficult to move about on the job and to handle materials. Planning should take into account the activities of other foremen whose work is in the same or adjoining areas. Common problems should be discussed. If one foreman is more forward-thinking than another, all will benefit by checking plans and making certain that they interlock.

8.0 PROCUREMENT:

8.1 Purchase orders and subcontract agreements should include specific notations or statements relative to OSHA requirements as applicable. Subcontractors need inclusions relative to compliance with OSHA, safety and health demands by the general contractor, and the Company's Safety Policy. All subcontractor program responsibilities should be spelled out.

8.2 The purchases of equipment should include the necessary designs, accessories, and certifications to comply with OSHA regulations. Examples of equipment for which OSHA has set specifications include: back-up alarms and seat belts on powered industrial trucks and motor vehicles, boom-angle indicators on cranes, machine guards on mechanical equipment, walkways and interlocked warning devices for conveyors, noise abatement features for air tools, inspection certificates for air receivers and pressure vessels, and rated capacities marked on shackles, hooks, blocks, etc.

9.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials
09/30/20	Corrected Section Number		KTK

SP 08 Job Safety Analysis (JSA)

1.0 PURPOSE:

1.1 The purpose of this procedure is to ensure that safety is planned into your work scope before work actually begins. This can be accomplished by implementing this program and performing a job safety analysis (JSA). Note: a JSA may also be referred to as a job hazard analysis (JHA).

1.2 The JSA process is intended to involve employees and sub-contractors in the hazard identification and risk assessment process and to ensure that hazards are reviewed before work begins.

2.0 RESPONSIBILITIES:

2.1 **Project Management/Site Management** shall be responsible for ensuring uniform implementation and compliance with this program by site employees and subcontractors.

2.2 **Safety Representative** shall be responsible for:

2.2.1 Providing support and guidance as needed to ensure that site personnel are instructed in and trained in the requirements of this program and to applicable site specific requirements.

2.2.2 Maintaining appropriate documentation as evidence of the training program and comprehension level of the personnel.

2.3 **Supervisor Responsibilities**

2.3.1 Shall ensure that personnel under their direction attend and receive appropriate training and that they maintain compliance with this program.

2.3.2 Shall ensure that only trained employees assume active roles and perform related work(s) in accordance with this program.

2.4 **Employees** shall be responsible for ensuring they understand and comprehend this program and maintain full compliance with this program and its contents.

3.0 DEFINITIONS: (Not Applicable)

4.0 GENERAL PROCEDURE:

4.1 Hazards can lead to injuries, fatalities, accidents, damage to equipment, and cause disruption to normal activities.

4.2 Management, Supervision, and the employees have the responsibility to recognize that hazards exist and to take appropriate action for their elimination or control.

4.3 Management/Supervision will use safe job procedures and hazard management tools during the planning of work, or introduction of a new work task to reduce the chance of accidents and incidents. One of the tools to be used is a Job Safety Analysis. In addition to JSA's, some client sites may require additional tools be used (i.e. facility specific inspections) to help identify potential hazards.

4.4 A JSA is a hazard assessment tool that is to be used by project supervisors/foremen to identify:

4.4.1 The hazardous working conditions in the area before work is performed, and

4.4.2 The action necessary to eliminate or control the specific hazards.

4.5 Supervisors shall regularly refer to applicable safety regulations, technical standards, and The Kuesel Group's safety policies, programs, procedures, etc. Employees will be informed that regulatory requirements have been addressed in the work planning, what these requirements are, and that work will be carried out to meet these standards as a minimum as well as the company's and the client's additional requirements.

4.6 The hazard identification process (i.e. JSA) should be used for routine and non-routine activities as well as new processes, changes in operation, products or services as applicable.

5.0 JOB SAFETY ANALYSIS (JSA):

5.1 A Job Safety Analysis (JSA) is used to "plan" safety into your work scope before work actually begins. The JSA process is intended to involve employees and sub-contractors in the hazard identification process and to ensure that hazards are reviewed with all concerned.

5.2 The JSA is designed as a simple checklist to assist the supervisor in determining what may or may not be needed to perform the work safely for routine and non-routine activities; new processes; and changes in operation, products or services.

5.3 The Supervisor will complete the JSA (see Appendix A) and then review it with all employees on the project or the specific task to be performed.

5.4 The Supervisor will review a JSA with their crew prior to the start of work each day at the site(s) where the work will be performed. Crew members will participate in the JSA process so that they understand the hazards associated with the work they are about to perform and how to protect themselves. A new JSA must be written at the start of each new job, if conditions change during the course of work, or in the event of an emergency situation that forces the cancellation of all work permits (where applicable) and previous JSA's.

5.4.1 The supervisor in charge of the job will review the job tasks, survey the location(s) where the work is scheduled to be performed, identify potential hazards, and document them on the JSA form (see Appendix A).

5.4.2 The supervisor will review the JSA with the crew, discuss protective measures, and

document these on the JSA form. All crew members involved in the job must sign the JSA.

5.4.3 Each crew member will sign the JSA indicating that they understand the hazards associated with the job and the necessary precautions.

5.4.4 During work, if a crew member identifies a hazard that was not addressed by the JSA, he or she shall immediately notify the supervisor in charge who will stop work, add the hazard and precautions to the JSA, and review the new information with the entire crew.

5.4.5 Upon completion of the job, the JSA is filed with the rest of the job documentation. In some cases, copies of the JSA's must be submitted to the host site.

6.0 JOB SAFETY ANALYSIS – ASSESSMENT FOR PPE:

6.1 Review the task to be performed and conduct a walk through survey. For each job/task step, note the presence of any of the following hazard types (see table below), their sources, and the body parts at risk.

6.2 Gather all the information.

6.2.1 Look at all steps of a job and ask the employee if there are any variations in the job that are infrequently done and that you might have missed during your observation.

6.2.2 For purposes of the assessment, assume that no PPE is being worn by the affected employees even though they may actually be wearing what they need to do the job safely.

6.2.3 Note all observed hazards. *This list does not cover all possible hazards that employees may face or for which personal protective equipment may be required*. Noisy environments or those which may require respirators must be evaluated with appropriate test equipment to quantify the exposure level when overexposure is suspected.

Hazard Type	General Description of Hazard Type
Impact	Person can strike an object or be struck by a moving or flying or falling object.
Penetration	Person can strike, be struck by, or fall upon an object or tool that would break the skin.
Crush or pinch	An object(s) or machine may crush or pinch a body or body part.
Harmful Dust	Presence of dust that may cause irritation, or breathing or vision difficulty. May also have ignition potential.
Chemical	Exposure from spills, splashing, or other contact with chemical substances or harmful dusts that could cause illness, irritation, burns, asphyxiation, breathing or vision difficulty, or other toxic health effects. May also have ignition potential.

Heat	Exposure to radiant heat sources, splashes or spills of hot material, or work in hot environments.
Light (optical) Radiation	Exposure to strong light sources, glare, or intense light exposure which is a byproduct of a process.
Electrical Contact	Exposure to contact with or proximity to live or potentially live electrical objects.
Ergonomic hazards	Repetitive movements, awkward postures, vibration, heavy lifting, etc.
Environmental hazards	Conditions in the work place that could cause discomfort or negative health effects.

6.2.4 Analyze the hazard. For each job task with a hazard source identified, use the Job Hazard Matrix table (below) and discuss the hazard with the affected employee and supervisor.

6.2.5 Rate the SEVERITY of injury that would reasonably be expected to result from exposure to the hazard.

6.2.6 Rate the PROBABILITY of an accident actually happening.

6.2.7 Assign a RISK CODE based upon the intersection of the SEVERITY and PROBABILITY ratings on the matrix.

Job Hazard Matrix						
Severity of Injury		**Probability of an Accident Occurring**				
Level	Description	A Frequent	B Several Times	C Occasional	D Possible	E Extremely Improbable
I	**Fatal or Permanent Disability**	**1**	**1**	**1**	**2**	**3**
II	**Severe Illness or Injury**	**1**	**1**	**2**	**2**	**3**
III	**Minor Injury or Illness**	**2**	**2**	**2-3**	**3**	**3**
IV	**No Injury or Illness**	**3**	**3**	**3**	**3**	**3**

Risk Priority

Code	Risk Level	Action Required
1	**High**	Work activities must be suspended immediately until hazard can be eliminated or controlled or reduced to a lower level.
2	**Medium**	Job hazards are unacceptable and must be controlled by engineering, administrative, or personal protective equipment methods as soon as possible.
3	**Low**	No real or significant hazard exists. Controls are not required but may increase the comfort level of employees.

6.3 Take action. Depending on the assigned Risk Level/Code (or Risk priority), take the corresponding action according to the table above:

6.3.1 If Risk priority is LOW (3) for a task step requires no further action.

Note: If you assign a risk code of 3, be sure that there is not a standard that requires specific protection to be provided. For example: personal protective equipment (PPE) required when using compressed air for cleaning.

6.3.2 If Risk priority is MEDIUM (2) select and implement appropriate controls.

6.3.3 If Risk priority is HIGH (1) immediately stop the task step until appropriate controls can be implemented.

A high risk priority means that there is a reasonable to high probability that an employee will be killed or permanently disabled doing this task step and/or a high probability that the employee will suffer a severe illness or injury!

6.3.4 Identified hazards will be addressed and mitigated before any work is permitted. This can be accomplished by dedicated assignment, appropriate documentation of completion, and implemented controls. To indicate the hazards have been addressed and mitigated, the Supervisor will not sign-off on the JSA until the applicable action items have been completed.

6.4 Select PPE:

6.4.1 Try to reduce employee exposure to the hazard by first implementing engineering, work practice, and/or administrative controls.

6.4.2 If PPE is supplied, it must be appropriately matched to the hazard to provide effective protection, durability, and proper fit to the worker. See SP-25 Personal Protective Equipment for additional information and/or requirements.

7.0 TRAINING:

7.1 New employees must be trained in the appropriate safe work procedures before they start work. Employees will be trained in the hazard identification process (i.e. JSA's) including the use and care of proper PPE.

7.2 Refresher training will be conducted periodically or when an employee demonstrates a lack of understanding of the requirements of this program.

8.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

VERIFICATIONS

	Y	N	NA
All appropriate permits			
Lock Out/Tag Out Completed			
Proper tools for job			
Tools in good condition			
Scaffold tagged/inspected			
Ladders properly secured			
Holes in deck/platform covered			
Barricades up where needed			
Safety Shower/Eyewash Location:			
Describe:			
Location of muster area:			
Describe:			
Evacuation route:			
Describe:			
Firewatch/Holewatch assigned			
Surrounding Jobs affecting yours:			
Describe:			
Reported Incidents/Injuries			

KEEP WORK AREA CLEAN AND ORGANIZED

NOTE: THESE CARDS ARE TO BE COMPLETED AND CARRIED WHILE ON THE JOB SITE. EACH FOREMAN IS TO DISCUSS THE SPECIFIC HAZARDS OF THIS JOB SITE PRIOR TO COMMENCING WORK AND MID-WAY THROUGH THE WORKSHIFT.

PERSONAL PROTECTIVE EQUIPMENT

Head and Face	Hands and Feet
	Gloves
Hard Hat	Rubber
Face Shield-Tinted	Chemical
Face Shield-Clear	Mechanics
Welding Hood	Welding
Hearing	Kevlar
Plugs	**Boots**
Muffs	Leather
Body	Rubber
Nomex	Metatarsal guard
Rain gear	**Respiratory**
Tyvek	Half Mask
Leathers	Full Face
Eyes	Supplied air
Glasses-Z 87	
Monogoggles	

Fall Protection	
Full body harness	Equipment inspected
5,000 lb. Anchor point	Retractable
Cross arm strap(D-Ring)	

EMERGENCY NUMBERS

FIRE:

SPILL:

SITE SAFETY CONTACT:

PERMITS

Hot Work Permit #

Confined Space Permit #

General Work Permit #

Other

JOB SAFETY ANALYSIS (JSA)

JSA Author:

SHIFT:

DATE: TIME:

JOB#:

CA:

Client Proj.Mgr:

Maintenance / Capital / T/A: ***Circle one***

FACILITY:

JOB AREA:

JOB DESCRIPTION:

WEATHER CONDITIONS

	Pre-Shift	Mid-Shift
TEMPERATURE		
PRECIPITATION		
WIND CONDITIONS		

Auditor Name:

Auditor Title:

Audit Date:

Score:

1pt=Hazards ID'd via checks or written

1pt=All hazards eliminated or mitigated

1pt=Job sequence covers all steps accurately

JSA Improvements:

List Job Steps (BREAK JOB INTO INDIVIDUAL STEPS)	IDENTIFIED HAZARDS (FOR EACH LISTED JOB STEP)	CORRECTIVE ACTIONS/CONTROLS (FOR EACH HAZARD IDENTIFIED)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

EQUIPMENT NEEDED FOR TASK

POTENTIAL HAZARDS

HOT WORK

Sparks	Burns
Flash Burns	Carbon Monoxide
Combustibles	Welding Fumes
Airborne/Flying Particles	

HEAVY EQUIPMENT

Heavy Objects	Exceed Rigging Capacity
Pinch Points	Exceed Chain Fall Cap.
Pulls/Strains	Exceed Come Along Cap.

CONFINED SPACES

Hazardous Atmosphere	Improper Communication
Oxygen Deficiency	Poor Access/Egress
Limited Visibility	

POTENTIAL HAZARDS CONT.

ENVIRONMENT

Poor Lighting	Elevated Work/Fall Hazard
High Noise	Inclement Weather
Hot Surfaces	Poor Ventilation/Air quality
Sharp Objects	Radiation (X-Rays)
Chemicals	Lead
Asbestos	

HOUSEKEEPING

Slipping/Tripping	Protruding Material
Loose Debris	Falling Material

EQUIPMENT/TOOLS

Rotating Equipment	Variations
Pinch points	Compressed air
Electrical	Abrasive Surfaces
Sharp Edges	Particulate
Sparks	

ATTENDEES

PRINT NAME	SIGNATURE

SP 09 Short Service Employee

1.0 PURPOSE AND SCOPE:

1.1 The Kuesel Group recognizes that our employees are our most valuable assets. To this end, we are committed to provide each employee, especially those new to the company or new to their job position, with the training and guidance that will allow her or him to safely execute the responsibilities of their job position within the company. Accordingly, the purpose of this program is to address the importance of the initial and short term preparation and training of the new worker in concert with their being assigned as a co-worker into the field environment.

1.2 This Short Service Employee (SSE) Program shall apply to all employees of The Kuesel Group that meet the SSE definition and being dispatched to work at any outside location. The program is designed to assist the Short Service Employees in gaining the necessary knowledge and skills to work without an augmented level of direct supervision in the field within the targeted period of time.

1.3 When required by the client, prior to job mobilization, a member of The Kuesel Group will notify the Client Coordinator/Representative that a SSE will be used on the project. In some cases, approval must be given by the client to use SSE.

1.4 At a minimum, The Kuesel Group Subcontractors (if applicable) will comply with the requirements of this program. The subcontractor program, when present, must be as stringent as this program and/or the client SSE program.

2.0 RESPONSIBILITIES:

2.1 Project Manager/Safety Manager

2.1.1 Shall communicate the requirements of this program to employees.

2.1.2 Will verify that all requirements of the SSE program are completed for the affected employees prior to beginning work.

2.1.3 Will verify that all assigned Mentors are qualified to serve in the Mentor capacity as outlined in 3.3 below.

2.1.4 Works with Project supervision to assign the Short Service Employee to a Mentor.

2.1.5 Verifies that the SSE has all the necessary safety training for the job he or she will be dispatched to.

2.1.6 Evaluates the SSE to ensure that they are gaining the proper knowledge and skills in the particular company operations or tasks they have been assigned.

2.2 SSE Mentor

2.2.1 Maintains a patient disposition and devotes the necessary time for successful SSE Training.

2.2.2 Openly discusses tasks with SSE to verify that the SSE has understood and is retaining the skills and work practices necessary to safely perform assigned tasks.

2.2.3 Shall provide instruction and guidance through positive attitude, avoiding negative criticism.

2.2.4 Leads by example at all times.

2.2.5 The Mentor will possess sufficient knowledge and skill in the area of operation or task assignments.

2.2.6 Shall monitor to ensure the SSE is complying to all EHS policies and procedures

2.3 Short Service Employee (SSE)

2.3.1 Must be willing to watch and listen to the SSE Mentor in an effort to bring him/herself into The Kuesel Group Safety Culture.

2.3.2 Be willing to use the Stop Work Authority any time he /she feels they have not received proper instructions, training, or skills to perform a given task safely.

2.3.3 Ensure that he or she has reviewed the completed SSE progress sheet with SSE Mentor and signed the document as required.

3.0 DEFINITIONS:

3.1 Short Service Employee:

3.1.1 Personnel with less than 90 days total work history with The Kuesel Group within the last 3 years are considered to be a Short Service Employee (SSE). During this period of time the SSE shall be assigned a Mentor.

3.1.2 New Kuesel Group employees with five years or more of verifiable experience in his or her given trade will be released from the SSE classification after their first 30 working days of employment under the following conditions:

3.1.2.1 Our Client's Policy does not stipulate otherwise or contain more stringent requirements.

3.1.2.2 The assigned Mentor has completed his/her sign-off requirements and agreed to release the new employee from the SSE program.

3.2 Mentoring:

3.2.1 Mentoring is a process of skills development and transferring of knowledge from one person to another in a work environment and in an accelerated time interval. The process relies on a trusting relationship and can occur between people with varying degrees of experience. The person providing the training is the Mentor, and the learner is the "SSE" employee. Mentoring is recognized as a valuable component of the learning and training process. The Mentor must be knowledgeable and considered qualified in the work activities to be performed as well as applicable Kuesel Group safety programs.

3.2.2 The Mentor shall provide augmented levels of supervision and provide onsite guidance to the SSE during the performance of any task for which they may not have demonstrated complete competency. The Mentor will review with the SSE any hazards associated with tasks assigned to the SSE and all emergency equipment and procedures.

3.2.3 While the complexity and risks associated with the tasks performed as a Kuesel Group employee vary from assignment to assignment, it is recommended that each Mentor shall restrict their responsibilities to no more than four SSE's. As a general guideline, no crew mix should be more than 20% staffed with Short Service Employees and no Short Service Employee shall work alone on Kuesel Group projects.

SSE Crew Mix Examples

- ✓ Single person crew – cannot be an SSE
- ✓ 2 – 4 person crew – no more than 1 SSE
- ✓ 5 or more person crew – no more than 20% SSE's per crew
- ✓ Exceeding 20% per crew

3.3 Mentor Qualifications:

3.3.1 All assigned Mentors shall meet the following requirements:

3.3.1.1 Minimum of one (1) year experience with the Kuesel Group in a craft or supervisory position and demonstrate sufficient knowledge and skill in the area of operations and task assignment.

3.3.1.2 Demonstrated personal satisfactory safety performance record (within the past 12 months) without an OSHA Recordable injury or safety related discipline. Mentors receiving safety related discipline or experiencing an OSHA Recordable

injury will be removed from the mentor position.

3.3.1.3 Prior experience as a "Lead or Supervisor" preferred but not required.

3.3.1.4 Effective communication skills; promotes a positive safety culture.

3.3.1.5 Ability to gain trust and respect from co-workers and establish a cooperative professional relationship.

3.4 Short Service Employee (SSE) Progress Worksheet: (Appendix "A")

3.4.1 The SSE Mentor will complete a progress report that documents the Short Service Employee's progress. This will be updated every two weeks for projects exceeding 90 days in duration.

3.4.2 Projects lasting less than 90 days in duration (such as turnarounds/outages) must have the Worksheet updated by the end of the project. The Worksheet must be reviewed with the Short Service Employee.

3.5 Short Service Employee Final Evaluation: (Appendix "B")

3.5.1 This is the Evaluation form completed by the Mentor at the end of his/her 90 day period or prior to the project completion and used to release the employee from the SSE Program.

4.0 PROCEDURES:

4.1 (SSE Site Orientation Requirements)

4.1.1 Step #1: After the employee has received his/her New Hire Safety Orientation and arrive on site, the Project Manager (or designee), Safety Representative, or Lead Person shall conduct a review of the project safety requirements and this SSE Policy.

4.1.2 Step #2: After this review process has been completed, the SSE shall be given a "Field Orientation" so he/she can become familiar with the project layout. The Field Orientation shall be documented on the SSE Progress Worksheet (Appendix "A").

4.1.3 Step #3: The SSE shall be introduced to and assigned a Mentor and both parties will review the SSE Progress Worksheet that will be used to document the SSE training and progress through the 90 day program.

4.1.4 Step #4: Once the employee has successfully completed his/her 90 day period (or 30 days with verified craft experience) the Mentor shall complete the SSE Final Evaluation (Appendix "B") and sign it, along with a member of Operations supervision and approve

the SSE for release from the program to work on the project without Mentor support. If the Mentor does not feel the SSE is ready to be released from the program and will not sign-off on all of the required areas, the SSE shall be extended in the SSE program for an additional 30 days and must successfully complete all of the SSE requirements and the Mentor's "sign-off" or he/she will be terminated from employment.

4.1.5 Step #5: All Short Service Employee files shall be forwarded to his or her manager for placement in the employee training records and entered in the Kuesel Group Training/Tracking system, with a copy maintained in the project files.

Note: In some cases our Clients may have a Short Service Employee Program and associated requirements that are possibly more stringent than those outlined in this Policy. Kuesel Group Operations Managers are responsible for verification of all client SSE requirements and making absolutely certain we are in compliance.

5.0 References and Related Documents

5.1 Appendix A: Short Service Employee Progress Worksheet

5.2 Appendix B: Short Service Employee Final Evaluation

6.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

Date: **Employee**:

Craft: **Experience (yrs):**

Supervisor: **Mentor:** **Company Experience (yrs.):**

		Yes	No	N/A	
1.	Review and understanding of the Site Safety Plan		___	___	___
2.	Demonstrates an understanding of Personal Protective Equipment		___	___	___
3.	Demonstrates an understanding of Hand and Power Tool Safety		___	___	___
4.	Demonstrates an understanding of LOTO Procedures	___	___	___	
5.	Demonstrates an understanding of Mobile Equipment Safety	___	___	___	
6.	Demonstrates a basic understanding of Crane and Rigging Safety		___	___	___
7.	Demonstrates an understanding of Fall Protection		___	___	___
8.	Demonstrates an understanding Trenching and Excavation Safety		___	___	___
9.	Demonstrates an understanding Confined Spaces Safety		___	___	___
10.	Demonstrates an understanding Hazard Communication		___	___	___
11.	Demonstrates an understanding Emergency Procedures		___	___	___
12.	Demonstrates an understanding Process Safety Management	___	___	___	
13.	Demonstrates an understanding Company / Client Permit Process		___	___	___
14.	Demonstrates an understanding of the JSA/JHA process		___	___	___
15.	Completed a “Field Orientation” and review of Site Specific Hazards	___	___	___	
16.	Client Specific Training completed		___	___	___
17.	S.T.A.R.T., SAP, Leadership & JSA Training completed (supervisors only)	___	___	___	

Comments and/or Concerns:

Employee’s Signature: **Date:**

Mentor’s Signature: **Date:**

Employee Name: **Final Evaluation Date:**

	Yes	No	N/A
1. Does employee work safely?	___	___	___
2. Does employee need additional training?	___	___	___
3. Does employee possess knowledge and capability to mentor others?	___	___	___
4. Does employee recognize & understand hazards associated with her/his job?	___	___	___
5. Is employee active in Safety Meetings and JSA discussions?	___	___	___
6. Does employee know what the emergency evacuation procedures are?	___	___	___
7. When asked, can employee identify the hazards of his/her given task?	___	___	___
8. Does employee use correct PPE for assigned task?	___	___	___
9. Does the employee demonstrate an understanding of Stop Work Authority?	___	___	___
Comments:			

Completion of Short Service Employee Program:

I, _____ the Mentor for _____, have determined that this employee has completed the requirements for the Kuesel Group Short Service Employee Program and has been presented the information necessary to work safely for the company effective on this date, _____.

_____ _____

Signature of Employee Signature of Mentor

I hereby approve of the Mentor's recommendation: Date:_____

_____

Printed Name of Supervisor

_____

Signature of Supervisor

SP 10 Fitness For Duty

1.0 PURPOSE

1.1 The purpose of this program is to establish procedures for assessing fitness for duty of personnel under certain specified circumstances or upon release to return to work following a serious injury or illness.

2.0 SCOPE

2.1 This program applies to all Kuesel Group employees.

3.0 RESPONSIBILITIES:

3.1 **Management -** Shall be responsible for ensuring uniform implementation and compliance with this program by site employees and subcontractors.

3.2 **Supervisors shall:**

3.2.1 Shall maintain appropriate documentation as evidence of the training program and comprehension level of the personnel.

3.2.2 Shall ensure that personnel under their direction attend and receive appropriate training on the requirements of this Fit for Duty program and that they maintain compliance with this program.

3.2.3 Shall ensure that only trained employees assume active roles and perform related work(s) in accordance with this program.

3.3 **Employees Shall:**

3.3.1 Shall be responsible for ensuring they understand and comprehend this program and maintain full compliance with this program and its contents.

3.3.2 Employees must be responsible for ensuring they are physically and mentally fit to perform their job functions safely.

3.3.3 Employees shall notify their supervisor if they are fatigued to the point of not being able to perform their duties safely.

3.3.4 Employees must take responsibility for their own safety as well as not to report to work in a condition as to endanger the safety of other workers.

4.0 PRACTICE:

4.1 The Kuesel Group values and is committed to protecting the health, safety, and productivity of our employees and the safety of others. Our company believes that everyone has the right to a safe and healthy workplace; accordingly, employee/subcontractor fitness for work is an important element of workplace safety.

4.2 Impairment, which is anything that affects a worker's ability to perform a job safely, can have a serious impact on workplace safety. The Kuesel Group will make every reasonable effort to ensure that a worker will not cause risk to him/herself or others, due to the worker being impaired and unfit for work.

4.3 A worker will be deemed unfit for work and be prohibited from entering the jobsite when impaired by substances such as alcohol or drugs (including prescription drugs) or where injury, illness, medical/psychological conditions, fatigue or stress result in a reduced ability to perform work safely. An emphasis will be placed on early intervention, treatment and rehabilitation in a manner that treats the worker with dignity and respect.

4.4 Employees must report to their supervisors all medications they are taking that could impair their ability to work safely. Over-the–counter medications such as allergy or cold and flu medications could also impair one's ability to perform safely and must also be reported to their supervisor.

4.5 Awareness of various impairments and their potentially serious consequences is the responsibility of both the worker and supervisor. Workers must inform their supervisor of any condition(s) that may affect their ability to perform their assigned tasks in a safe manner.

4.6 Supervisors must be able to identify when a worker is impaired (including physically) and therefore incapable of performing his/her job safely, keeping in mind that it is more important to be able to initially detect impairment than pinpoint its cause.

4.7 Employee's activities and behaviors should be monitored to determine if the employee should be removed from the work site. If management or supervision holds a just and reasonable belief that a worker's job function is impaired, or that there may be danger to the worker or others if the worker stays on the job, the supervisor may suspend the worker pending medical assessment.

4.8 If an employee is determined to be unfit for duty, the Kuesel Group will provide reasonable assistance to the employee. This may include, but is not limited to, transferring the worker to another role, providing a leave of absence, Employee Assistance Programs, etc.

4.9 Employees shall be physically capable of performing their job functions. Pre-employment physicals should be included in the hiring process (post-hire/pre-placement) and also when changing/transferring into certain job functions and different environments. The Kuesel Group will develop essential physical requirements for each position. Note: The Kuesel Group also includes drug and alcohol testing for pre-employment, post-accident, or random testing and/or host facility requirements.

4.10 Employees shall be competent/qualified to perform their work tasks and must receive training specific to their assigned task. Examples might be welding, instrumentation, scaffold building, equipment operator qualifications, respirator fit test, etc

4.11 Safe work procedures must be in place on all Kuesel Group job sites. Safe work procedures may include, hot work permitting, confined space permitting, lockout/tagout, Process Safety Management, Electrical Safety, Operator Safety, Site Orientation, etc.

5.0 OBSERVATION AND REPORTING:

5.1 Any individual observed to be mentally or physically impaired and/or who may be unable to effectively and safely perform one or more essential function(s) of their job may be subject to a fit for duty evaluation by the company physician or other qualified designee, or may be subject to testing in accordance with the Kuesel Group Substance Abuse Program. Signs of inability to perform may include apparent weakness, illness, disorientation, memory loss, erratic behavior or inability to successfully complete any individual performance standard (IPS) associated with their position or a fitness assessment.

5.2 Reporting Process:

5.2.1 Personnel who observe or who have reason to believe that another individual may be unfit to perform the functions of the job effectively and/or safely, will report such observations to their immediate supervisor. In cases where the individual in question is the immediate supervisor, the EH&S department should be notified.

5.2.2 The immediate supervisor of the individual in question should contact their onsite EH&S Supervisor and/or Human Resources Department, who will make the necessary

arrangements to assess the individual's condition. If the supervisor believes that the condition could affect the safety of the individual or others, the supervisor will immediately take the individual off duty and, if necessary, take equipment out of service.

5.2.3 The site EH&S supervisor or Project Manager is given the discretion to assess appropriate action to be taken with regard to the individual, which may result in removal of the individual from duty until such time that a fit for duty medical evaluation by the company physician is conducted. The Kuesel Group may deem it appropriate to place the individual on administrative leave.

5.2.4 In cases where the individual is removed from duty or needs to be referred for a medical evaluation and/or treatment, the site EH&S Supervisor or Project Manager will contact their Division Manager and Human Resources regarding the situation immediately or as soon as reasonable. Initial contact maybe by phone, with written follow-up.

5.3 Referral for Medical Evaluation

5.3.1 The Kuesel Group may determine the need for an individual's fit for duty medical evaluation or fitness assessment required under the following circumstances:

5.3.1.1 When actual problems exist or are reported with the individual's performance of any essential function of their job.

5.3.1.2 When there exists a legitimate concern about whether the individual or their performance poses a direct threat to the safety and health of themselves or others.

5.3.1.3 To determine the necessity for, or existence of, a reasonable accommodation.

5.3.1.4 When medical evaluation, screening, and monitoring is required by federal, state, or local law.

5.3.2 Personnel must follow the guidelines provided in the Family Medical Leave Policy for serious health conditions.

5.3.3 Personnel are generally relieved from duty and are placed on HR Administrative Leave and/or sick leave until such time as an evaluation is made. If the evaluation indicates that

the individual is not fit for duty, they will continue on sick leave, workers' compensation, or disability, until such time as they are released to work in a full or modified capacity.

5.3.4 Should the individual require additional treatment or continuing care, the company physician will release the individual into the care of their own healthcare provider. The Kuesel Group will not be financially responsible for illness or injury discovered or identified by a representative of the employee, unless the illness or injury has arisen as a direct result of employment. If the individual remains under the care of the company physician, they will be responsible to fulfill the regimen prescribed.

5.4 Minor Illnesses/Injury:

5.4.1 In case of minor illness or injury, the Kuesel Group may require a note from the individual's healthcare provider that releases them to active duty or otherwise indicates any recommendation regarding their ability to work.

6.0 RETURN TO WORK:

6.1 Medical Evaluation to Return to Work

6.1.1 Any individual returning to work from a serious injury or illness, extended absence, or from any other health-related circumstance that may call to question their ability to perform their duties in a safe and effective manner, must contact the Kuesel Group, which will require a medical release to return to work from the company physician, personal healthcare provider, or an appropriate medical expert.

6.1.2 For absences due to injuries or illnesses, the Kuesel Group may accept a medical release to return to work from the individual's physician. If, for any reason, the Kuesel Group should question the terms of the medical release, the company physician will contact their healthcare provider in order to receive clarification. The medical release to return to work must be received by the Kuesel Group before the individual will be permitted to return to regular duty. A fitness assessment may be required. When the medical release has been verified as acceptable, the individual will be released to duty as dictated by the physician in accordance with this policy. For individuals on specialty teams such as Hazmat or Rescue, additional medical testing may be required by the company physician or designated medical expert before the individual is released to go back to the specialty team.

6.1.3 In the event The Kuesel Group determines that a fit for duty evaluation is required of any individual, they will be given written notice of that requirement. The individual has the duty to cooperate in such evaluation, including, but not limited to:

6.1.3.1 Signing all necessary medical information release forms,

6.1.3.2 Allowing their relevant medical records to be transferred and reviewed by the evaluating physician, and

6.1.3.3 Allowing the evaluating physician to report findings and opinions regarding the individual's fit for duty status and the individual must respond to the company's reasonable inquiries in that regard.

6.1.4 Failure to cooperate in the fit for duty evaluation may result in discipline.

6.1.5 In the event that the individual's healthcare provider and the company physician disagree on their clearance to return to duty, the individual's healthcare provider, the Union (when applicable), and the company physician will select a third, appropriately qualified physician to perform a final examination and render a medical decision to settle the dispute.

6.1.5.1 Upon the scheduling of the fit for duty evaluation, all relevant information relating to the individual, including the job description, job analysis and any other job-related information; employment information relative to the need for the evaluation; and any relevant medical records, along with the signed medical records release form will be forwarded to the fit for duty medical expert for review.

6.1.5.2 In addition, the fit for duty medical expert will be provided a fit for duty questionnaire outlining the requested information. It is the intent that the designated expert performs an individualized evaluation of the individual's ability to safely perform the essential functions of the job.

6.1.5.3 The Kuesel Group will pay for the third party fit for duty evaluation process.

6.1.5.4 The Kuesel Group reserves the right to rely on the opinions expressed by its medical expert.

6.1.6 Upon receipt of the completed fit for duty evaluation, The Kuesel Group will review, compare and evaluate the individual's abilities to safely perform the essential functions of their job. In the event it is determined that the individual does not have the ability to perform each of the essential functions of their job or they pose a risk of harm to self or others in the performance of such functions, The Kuesel Group will determine whether or not a reasonable accommodation exists that will remove the barrier to continued employment, and eliminate or minimize the potential risk of harm to the individual or others.

6.1.7 In cases where the individual is released to light or modified duty, they will follow the Kuesel Group guidelines found in SP-14 Modified Duty / Return to Work.

6.2 Fitness Assessment

6.2.1 Personnel who are off duty due to personal illness or injury may be subject to a fitness assessment once they have been released to full duty, but prior to assignment to active duty, individuals must contact The Kuesel Group to establish whether a fitness for duty assessment will be required. Fitness for duty assessments will be coordinated by The Kuesel Group and may include the responsible supervisor, HR Department, an EH&S representative, and/or additional personnel as needed.

6.2.2 These assessments will be based on Individual Performance Standards (IPS) and the individual's job description, and will need to be completed prior to return to work.

7.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 11 Spill Prevention and Response

1.0 PURPOSE:

1.1 The purpose of this policy is to establish the correct methods of preventing and containing spills when transferring or handling hazardous liquids.

2.0 SCOPE:

2.1 The policy is to be followed in strict compliance on all worksites and may not be modified or varied without approval by the Safety Representative.

3.0 RESPONSIBILITIES:

3.1 Project Management/Site Management

3.1.1 Shall be responsible for ensuring uniform implementation and compliance with this program by site employees and subcontractors.

3.2 Safety Representative

3.2.1 Shall be responsible for providing support and guidance as needed to ensure that site personnel are instructed in and trained to the requirements of this program and to applicable site specific requirements.

3.2.2 Shall maintain appropriate documentation as evidence of the training program and comprehension level of the personnel.

3.3 Supervisor Responsibilities

3.3.1 Shall ensure that personnel under their direction attend and receive appropriate training and that they maintain compliance with this program.

3.3.2 Shall ensure that only trained employees assume active roles and perform related work(s) in accordance with this program.

3.4 Employees

3.4.1 Shall be responsible for ensuring they understand and comprehend this program and maintain full compliance with this program and its contents.

3.5 Planning and Prevention

3.5.1 The Kuesel Group requires its Contractors to implement proper planning and preventative measures to minimize the likelihood of spills, and to quickly and successfully clean up a spill should one occur.

3.5.2 The Kuesel Group has developed this Spill Plan to set forth minimum standards for handling and storing regulated substances and cleaning up spills. Potential sources of construction-related spills include machinery and equipment failure, fuel handling, transfer accidents and storage tank leaks.

3.5.3 The Kuesel Group Contractors will be responsible for implementing, at a minimum, the following planning and prevention measures.

4.0 SAFE WORK PRACTICES:

4.1 Secondary Containment Policy

4.1.1 The policy requires that secondary containment be utilized anytime hazardous materials will be transferred or handled and a spill may potentially occur. Secondary containment may include the use of visquine, plastic sheeting or other impervious liner under all process equipment, pumps, and chemical storage containers, at tank manways and in decontamination areas.

4.1.2 The liner should be adequate that any minor drip leaks will be contained within the liner. Keep liner areas clean to prevent slips, trips and falls.

4.1.3 Use drain pans as secondary containment where spills are most likely to occur. For example:

4.1.3.1 Under pumps having seals which may fail during normal operation.

4.1.3.2 When opening hazardous material transfer systems (i.e. flanges, cam locks, valves, bleeder valves, pressure relief outlets, and etc...)

4.1.3.3 Follow Client requirements for other secondary containments (i.e. Frac Tanks, Fuel Cells, and etc...)

4.2 Safety Devices

4.2.1 Safety devices include, but are not limited to, check valves, bleeder valves, automatic pressure relief devices, and rupture disks.

4.2.2 All pumping equipment will have check valves and bleeders installed in the system during rig-up of the equipment. The outlet of all automatic pressure relief's and rupture disks will be routed via piping or hose to an approved containment location. Examples of approved containment locations are:

4.2.2.1 The client's tank

4.2.2.2 The Frac-tank

4.2.2.3 The HP-2000 entry barrel (if 18" valve is open)

4.2.2.4 Tee'd back into the suction of the pump for which the relief valve operates

4.2.2.5 Existing piping as directed by the client representative

4.2.2.6 "Cam Lock" quick connection couplers

4.2.2.7 Secure Cam Lock Cam Arms in the closed and locked position using methods approved by the manufacturer.

4.2.2.8 Cam Lock gaskets must be inspected prior to each use. Worn cam arms required the hose be taken out of service until repairs can be performed.

4.3 Spill Response Supplies/Staging

4.3.1 Each worksite must have an adequate supply of spill response materials and equipment to contain and remediate spills. Supplies should be immediately accessible to workers in the work area.

4.3.2 Stage the following equipment prior to opening any hazardous material transfer system:

4.3.3 A proper spill kit must contain the appropriate supplies for materials that may be spilled. Supplies must be easily accessible when required, and considerations must be made for both the type and quantity of materials.

4.3.4 Drain pans placed under any valve or connection before it is opened.

4.3.5 Diaphragm pump and hoses, or other adequate system, rigged and ready for operation to keep drain pans from overflowing

4.4 Drum Handling

4.4.1 Drums containing hazardous materials must be properly labeled and handled carefully to prevent damage to the container.

4.4.2 When moving drums with equipment, palletize drums (if possible), use special made handling attachments or, at least, never move a drum without securely strapping the drum(s) to the support structure of the equipment. Replace bungs in drum lids before handling.

4.5 Preventing Damage to Hoses/Piping

4.5.1 Every effort must be made to prevent damage to hoses and piping. Hoses should be protected from vehicle traffic and routed to prevent sharp turns or kinks in hoses when in use.

4.5.2 Most locations have some type of aggregate (shell, limestone or rock) onsite. Protect hoses from wear by cribbing or blocking hoses above the aggregate.

4.5.3 Never hang hoses from connection(s) without strapping the hose to the support structure(s) using rope or load straps

4.6 De-Energize System Utilities

4.6.1 Before any system is opened, bleeder valves must be opened and left open. Utilities must be de-energized (i.e. tool air, electricity, hydraulic systems and diesel motors stopped).

4.6.2 Follow standard Lockout/Tagout safe work practices.

4.7 Connecting to Existing Systems

4.7.1 Clients may want to discharge effluents from The Kuesel Group operations into existing piping from time to time.

4.7.2 Never connect to existing piping without first placing an appropriate check valve onto the tie point which will be used.

4.8 Transfer Equipment Decontamination

4.8.1 As a general rule, the pumps, hoses, valves and drain pans should be cleaned and rinsed with water prior to disassembly of transfer equipment. If this is not possible, for any reason, the equipment should be purged with air and carefully disassembled to prevent spills.

4.8.2 All hoses should be walked out while the end is over drain pans to assure all product/material has been removed.

4.8.3 The crew must power wash the internal and external areas of all equipment prior to removing it from the interior of a tank.

4.8.4 Invert diaphragm pumps over drain pans to clear residual materials from pump chambers.

4.9 Transfer Equipment and Materials

4.9.1 Selection Criteria

4.9.1.1 All HAZMAT handling equipment will be selected based on the following criteria:

4.9.1.1.1 Systems should be designed using the same Working Pressure and Size ratings as the selected pump (i.e. hoses, connections, fittings, gauges, etc...).

4.9.1.1.2 Seals/Expendable components will be made of compatible materials resistant to the chemicals to be handled.

4.9.1.1.3 Maximum operating temperature of system must be determined and factored in.

4.9.1.1.4 Connections to be selected based on industry standards.

4.9.1.1.5 All hoses should have oil/sunlight/scuff resistant exterior cover(s).

4.10 Equipment Design Limits

4.10.1 Working Pressure should never be exceeded.

4.10.2 Always rate the system on the lowest rated component in the system.

4.10.3 Use system only for transferring materials it was designed to handle.

4.10.4 Check for the Hose Inspection Tag(s) to assure it is not expired.

4.10.5 Visually inspect the hose and fitting before each use for signs of wear or damage.

4.10.6 Remove damaged equipment from service.

4.10.7 Pressure test entire system after rig-up is complete with a non hazardous material, air or water, prior to introducing hazardous materials into it.

4.10.8 If you must discharge through an opened ended hose (such as over the top of a Frac-Tank) the hose must be manned at all times. Prevent thrust from mobilizing the hose and causing a spill (i.e. weight hose end with flanged connection(s), double tie or strap hose to a support structure or any combination of above).

4.11 Maintenance and Repair

4.12 Visual inspection should review:

4.12.1 Check couplings for worn threads, loose clamps or bands, worn or missing gaskets, worn or broken handles, cam arms and pins.

4.12.2 Inspect for hose cover damage. Inspect inside tubing to assure integrity with a flashlight. Retighten or repair as necessary. All hoses must have crimped or banded connections.

4.13 Storage and Handling of Fuels/Hazardous Liquids

4.13.1 Fuel/Chemical Storage – General

4.13.1.1 The Kuesel Group shall follow proper fuel and chemical storage practices to minimize the potential for a spill, including, but not limited to the following:

4.13.1.1.1 Fuel/chemical storage shall be at Contractor yards only or as approved by The Kuesel Group and Client representatives.

4.13.1.1.2 Proper signage at and adjacent to fuel/chemical storage areas to include “Fuel Storage Area – No smoking within 50 feet.

4.13.1.1.3 A minimum of two 30-pound or four 20-pound fire extinguishers must be located and readily available at all fuel storage locations. The extinguishers shall be located not less than 25 feet and not more than 50 feet from these locations.

4.13.1.2 Tools and materials to stop the flow of leaking tanks and pipes shall be kept onsite. Such equipment may include, but not be limited to, plugs of various sizes, 3M tank patches, a hammer, assorted sizes of metal screws with rubber washers, a screwdriver, and plastic tape. Spill kits must be located at fuel/chemical storage areas.

4.13.1.3 Fuels, lubricants, waste oil, chemicals, and any other regulated substances shall be stored in aboveground tanks only.

4.13.1.4 Storage tanks and containers must conform to all applicable industry codes (NFPA, Uniform Fire Codes, Local Codes, etc.).

4.13.1.5 A suitable secondary containment structure must be utilized at each fuel/chemical storage site. These structures must be lined with suitable plastic sheeting; provide a minimum containment volume equal to 150 percent of the volume of the largest storage vessel and allow for at least one foot of freeboard.

4.13.1.6 If earthen containment dikes are used, they shall be constructed with slopes no steeper than 3:1 (horizontal to vertical) to limit erosion and provide structural stability.

4.13.1.7 Secondary containment areas must not have drains. Precipitation may be drawn off as necessary. If visual inspection indicates that no spillage has occurred in the secondary containment structure, accumulated water may be drawn off and sprayed on the surrounding upland areas. If spillage has occurred in the structure, accumulated waste shall be drawn off and pumped into drum storage for proper disposal.

4.14 Refueling

4.14.1 Fuels shall be dispensed by Authorized Personnel during daylight hours or when there is sufficient lighting provided.

4.14.2 Fuel dispensing operations shall be attended by Authorized Personnel at all times.

4.14.3 Personnel must be stationed at both ends of the hose during fueling unless both ends are visible and are readily accessible by one person.

4.14.4 Fuel dispensing equipment (i.e., portable gas cans, nozzles, hoses, etc.) shall be of the appropriate type.

4.15 Initial Spill Management

4.15.1 Immediate Response

4.15.1.1 Immediately upon learning of any fuel, oil, hazardous material or other regulated substance spill, or upon learning of conditions that will lead to an imminent spill, the person discovering the situation shall:

4.15.1.1.1 Initiate actions to contain the fluid that has spilled or is about to spill, and initiate action to eliminate the source of the spill to the maximum extent that is safely possible after making the proper notifications.

4.15.1.1.2 Notify the Supervisor and/or the EH&S Supervisor and provide them with the proper communication measures for employees to initiate in the event of a spill. Communication procedures should be based on type and quantity of materials spilled.

4.15.1.1.3 The following information should be taken:

4.15.1.1.3.1 Location and cause of the spill

4.15.1.1.3.2 The type of material that has spilled

4.15.1.1.3.3 Whether the spill has reached or is likely to reach any surface water

4.15.1.2 Upon learning of a spill or a potential spill, the Spill Coordinator shall:

4.15.1.2.1 Assess the situation and determine the need for further action.

4.15.1.2.2 Direct subsequent activities and/or further assign responsibilities to other personnel.

4.15.1.2.3 Notify The Kuesel Group management.

4.16 Mobilization

4.16.1 The Spill Coordinator shall mobilize onsite personnel, equipment, and materials for containment and/or cleanup commensurate with the extent of the spill.

4.16.2 If the safety representative determines that a spill is beyond the scope of onsite equipment and personnel, the Spill Coordinator shall immediately notify the Project Manager that an Emergency Response Contractor is needed to contain and/or clean up the spill.

4.16.3 The safety representative shall assist the Emergency Response Contractor and monitor containment procedures to ensure that the actions are consistent with the requirements of this Spill Plan.

4.16.4 In the event of a pipeline spill, actions requiring emergency response employees and contractors will be coordinated by the Client Representative.

4.17 Spill Notification Responsibilities

4.17.1 Notification Volumes

4.17.1.1 The Kuesel Group Supervisor or designee must notify the safety representative immediately of any spill of a petroleum product or hazardous liquid, regardless of volume.

4.17.2 Spill Report Form (Appendix A)

4.17.2.1 The safety representative shall complete a Spill Report Form for each release of a regulated substance, regardless of volume. The Spill Report Form must be submitted to the Client Representative within 24-hours of the occurrence of a spill.

4.17.2.2 To complete the Spill Report Form, the representative shall compile the following information:

4.17.2.2.1 A legal description of the spill location, and specific directions from the nearest community.

4.17.2.2.2 The time and date of the spill, and the time and date the spill was discovered.

4.17.2.2.3 The type and estimated volume of spilled material, and the manufacturer's name.

4.17.2.2.4 The media in which the spill exists (e.g., soil, water, etc.).

4.17.2.2.5 The topography and surface conditions of the spill site.

4.17.2.2.6 Proximity of surface waters.

4.17.2.2.7 Weather conditions.

4.17.2.2.8 Name, company, address, and telephone number of the Supervisor, safety representative, and the person who reported the spill.

4.17.2.2.9 The cause of the spill.

4.17.2.2.10 Immediate containment and/or cleanup actions taken.

4.17.2.2.11 Current status of cleanup actions.

4.18 Spill Containment and Cleanup

4.18.1 In the event of a spill, The Kuesel Group will abide by all applicable federal, state and local regulations with respect to cleaning up the spill. Specific cleanup measures for both upland and wetland/water body spills are described below.

4.19 Spill Control - Upland Areas

4.19.1 If a spill should occur during refueling operations, STOP the refueling operation until the spill can be controlled and the situation corrected.

4.19.2 The source of the spill must be identified and contained immediately.

4.19.3 For large spills on land, the spill must be contained and pumped immediately into tank trucks. The Kuesel Group or, if necessary, an Emergency Response Contractor, shall excavate contaminated soil.

4.19.4 The spilled material and the contaminated soil must be treated and/or disposed of in accordance with all applicable federal, state, and local agency requirements (see section 10.0 of this Spill Plan).

4.19.5 Smaller spills on land shall be cleaned up with absorbent materials. Contaminated soil or other materials associated with these releases shall also be collected and disposed of in accordance with applicable regulations (see section 10.0 of this Spill Plan).

4.19.6 Flowing spills must be contained and/or absorbed before reaching surface waters or wetlands.

4.19.7 Absorbent material(s) shall be placed over spills to minimize spreading and to reduce its penetration into the soil.

4.19.8 The safety representative and/or Project Manager, in consultation with appropriate agencies, determine when spill sites will be evacuated as necessary to safeguard human health. Evacuation parameters shall include consideration for the potential of fire, explosion, and hazardous gases.

4.20 Spill Control – Wetlands and Water Bodies

4.20.1 In addition to the above measures, the following conditions shall apply if a spill occurs near or into a stream, wetland or other water body, regardless of size.

4.20.2 If a spill should occur during refueling operations, STOP the operation until the spill can be controlled and the situation corrected.

4.20.3 For spills into streams, lakes or other water bodies containing standing or flowing water, regardless of size, The Kuesel Group must notify the National Response Center immediately.

4.20.4 For spills in standing water, sorbent booms and pads shall be on hand and used to contain and recover released materials. In addition, other spill response materials and equipment shall be on hand as appropriate for each water body and used to contain and recover foreseeable spills. This may include containment booms, skimmer pumps, holding tanks, boats, and other equipment.

4.20.5 Contaminated soils in wetlands must be excavated and temporarily placed on plastic sheeting in a bermed area, a minimum of 100 feet away from the wetland.

4.20.6 Contaminated soils shall be covered with plastic sheeting while being stored temporarily and properly disposed of as soon as possible, in accordance with this Plan.

4.21 Storage and Disposal of Contaminated Materials

4.21.1 Chemical substances should be stored in proper containers to minimize the potential for a spill.

4.21.2 Whenever possible, chemicals should be kept in closed containers and stored so they are not exposed to storm water.

4.21.3 Areas where chemicals may be used or stored must be maintained using good housekeeping best management practices (BMP). This includes, but is not limited to, clean and organized storage, labeling, and secondary containment where necessary.

4.21.4 The Kuesel Group will recycle those wastes, such as motor oil, where there is an established recycling program available. Wastes such as grease or oily rags shall be disposed of in accordance with federal, state, and/or local requirements.

4.21.5 All contaminated soils, absorbent materials, and other wastes shall be stored and disposed of in accordance with all applicable state and federal regulations.

4.21.6 Only licensed carriers may be used to transport contaminated material from the site to a disposal facility.

4.21.7 If it is necessary to temporarily store excavated soils on site, these materials shall be placed on, and covered by, plastic sheeting, or placed in properly labeled ring-top 55-gallon drums and the storage area bermed to prevent and contain runoff.

5.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 12 Ergonomics

1.0 PURPOSE:

1.1 The purpose of this procedure is to provide all employees with a safe and healthy workplace by preventing and controlling employee exposure to ergonomic risk factors and incidents.

2.0 SCOPE:

2.1 This procedure applies to all employees to prevent MSD (Musculoskeletal Disorder)

3.0 INTRODUCTION:

3.1 Ergonomics is the study of people and their interaction with the elements of their job or task including equipment, tools, facilities, processes, and environment. It is a multidisciplinary field of study integrating industrial psychology, engineering, medicine, and design.

3.2 In a more practical sense, ergonomics is the science of human comfort. When aspects of the work or workplace exceed the body's capabilities, the result is often a musculoskeletal disorder (MSD). To help avoid MSDs, work demands should not exceed the physical capabilities of the worker. MSDs are also known by several other names including:

3.2.1 CTDs (cumulative trauma disorders)

3.2.2 RSIs (repetitive stress or repetitive strain injuries)

3.2.3 RMIs (repetitive motion injuries)

3.2.4 Overuse syndrome

3.3 The most common, recognizable name for MSDs is cumulative trauma disorders or CTDs. Whatever the name used, these injuries belong to a family or group of wear and tear illnesses that can affect muscles, nerves, tendons, ligaments, joints, cartilage, blood vessels or spinal discs of the body. MSDs do not include slips, trips and falls, cuts, motor vehicle accidents or other similar accidents; although a close look at the reasons for acute injuries often reveals design problems that can be corrected.

4.0 POLICY:

4.1 It is the policy of the Kuesel Group to provide all employees with a safe and healthy workplace. A proactive ergonomics program is integrated into our company's written safety and health program. Records documenting the identification, prevention and control of employee exposure to ergonomic risk factors will be maintained pursuant to all regulations

4.2 This program is a collaborative effort that includes managers, supervisors, and labor. The Ergonomics Program Coordinator is responsible for the program's implementation, management, and recordkeeping requirements.

5.0 ERGONOMICS PROGRAM:

5.1 The purpose of an ergonomics program is to apply ergonomic principles to the workplace in an effort to reduce the number and severity of MSDs, thus decreasing workers' compensation claims and, where possible, increase productivity, quality, and efficiency. An ergonomically sound work environment maximizes employee comfort while minimizing the risk of undue physical stress.

5.2 A proactive approach focuses on making changes when risks have already been identified, as well as incorporating ergonomics into the design phase of a new facility or process, into purchasing new equipment or tools, and into the contemplation of scheduling changes. The Kuesel Group has such a program which includes the following components:

5.2.1 Management Leadership - The management of the Kuesel Group is committed to the ergonomics process. Management supports the efforts of the Ergonomics Program Coordinator by pledging financial and philosophical support for the identification and control of ergonomic risk factors. Management will support an effective MSD reporting system and will respond promptly to reports. Management will regularly communicate with employees about the program.

5.2.2 Employee Participation - An essential element to the success of the ergonomics program, employees will be solicited for their input and assistance with identifying ergonomic risk factors, worksite evaluations, development and implementation of controls, and training. Employee participation in the program will occur only during company time.

5.2.3 Identification of Problem Jobs - Collecting data that identifies injury and illnesses trends is called surveillance. Surveillance can be either *passive* or *active*. Conducting a records review is an example of passive surveillance, with looks at existing data such as First Aid logs, workers' compensation claims, trips to the medical facility, and absentee records. Active surveillance uses observations, interviews, surveys, questionnaires,

checklists and formal worksite evaluation tools to identify specific high-risk activities. The Kuesel Group will be using both passive and active surveillance to identify problem jobs.

5.2.4 Worksite Evaluations -

5.2.4.1 Triggers for worksite evaluation:

5.2.4.1.1 When an employee reports an MSD sign or symptom

5.2.4.1.2 Jobs, processes, or work activities where work-related ergonomic risk factors have been identified which may cause or aggravate MSDs.

5.2.4.1.3 Any change of jobs, tasks, equipment, tools, processes, scheduling, or changes in work shift hours (for example, going from a traditional 5-day, 8 hour shift to a compressed 4-day, 10 hour shift).

5.2.4.1.4 When a safety walk-through or scheduled inspection or survey has uncovered potential MSD hazards.

5.2.4.2 Work-related risk factors to be considered in the evaluation process include, but are not limited to:

5.2.4.2.1 Physical risk factors including force, postures (awkward and static), static loading and sustained exertion, fatigue, repetition, contact stress, extreme temperatures, and vibration.

5.2.4.2.2 Administrative issues including job rotation/enlargement, inadequate staffing, excessive overtime, inadequate or lack of rest breaks, stress from deadlines, lack of training, work pace, work methods, and psychosocial issues.

5.2.4.2.3 Environmental risk factors including noise, lighting, glare, air quality, temperature, humidity, and personal protective equipment and clothing

5.2.4.2.4 Combination of risk factors such as, but not limited to, highly repetitive, forceful work with no job rotation or precision work done in a dimly lit room

5.2.5 Setting Priorities - Worksite evaluations will be scheduled based upon the following:

5.2.5.1 Any job, process, operation, or workstation which has contributed to a worker's current MSD;

5.2.5.2 A job, process, operation, or workstation that has historically contributed to MSDs; and

5.2.5.3 Specific jobs, processes, operations, or workstations that have the potential to cause MSDs.

5.2.6 Worksite Evaluation Methods – Various methods will be used to evaluate problem jobs including:

5.2.6.1 Walk-through and observations

5.2.6.2 Employee interviews

5.2.6.3 Surveys and questionnaires

5.2.6.4 Checklists

5.2.6.5 Detailed worksite evaluations

5.2.7 Control of the Ergonomic Risk Factors – The Kuesel Group will take steps to identify ergonomic risk factors and reduce hazards by using a three-tier hierarchy of control (in order of preference):

5.2.7.1 Engineering controls. The most desirable and reliable means to reduce workplace exposure to potentially harmful effects. This is achieved by focusing on the physical modifications of jobs, workstations, tools, equipment, or processes.

5.2.7.2 Administrative controls. This means controlling or preventing workplace exposure to potentially harmful effects by implementing administrative changes such as job rotation, job enlargement, rest/recovery breaks, work pace adjustment, redesign of methods, and worker education.

5.2.7.3 Personal protective equipment (PPE). Although not recognized as an effective means of controlling hazards and do not take the place of engineering or administrative controls, there are acceptable forms of PPE, which include kneepads and anti-vibration gloves.

5.2.8 Training – Training is intended to enhance the ability of managers, supervisors, and employees to recognize work-related ergonomic risk factors and to understand and apply appropriate control strategies. Training in the recognition and control of ergonomic risk factors will be given as follows:

5.2.8.1 To all new employees during orientation

5.2.8.2 To all employees assuming a new job assignment

5.2.8.3 When new jobs, tasks, tools, equipment, machinery, workstations, or processes are introduced

5.2.8.4 When high exposure levels to ergonomic risk factors have been identified

5.2.8.5 Training will be provided in one, or a combination, of the following formats:

5.2.8.5.1 Oral presentations

5.2.8.5.2 Videos

5.2.8.5.3 Distribution of educational literature

5.2.8.5.4 Hands-on equipment and work practice demonstrations

5.2.8.6 Trainers will be experienced in delivering training programs that address all work and non-work related risk factors, and will be familiar. Training will be provided from one, or a combination, of the sources listed below

5.2.8.6.1 Internally developed resources

5.2.8.6.2 The worker's compensation carrier

5.2.8.6.3 An outside consultant

5.2.8.7 All training will be documented. All employees will be required to sign a training sign-in roster.

5.2.9 Ergonomic Considerations in the Work Place -

5.2.9.1 Lifting

5.2.9.1.1 See SP-12A: Manual Lifting

5.2.9.2 File Cabinets

5.2.9.2.1 Whenever Possible, file cabinets will be arranged side by side.

5.2.9.2.2 Upper drawers of file cabinets must not be overloaded.

5.2.9.2.3 Only one file cabinet drawer will be open at a time. Open file drawer must not be left unattended.

5.2.9.2.4 Close desk and file cabinet drawers when they are not in use.

5.2.9.2.5 File cabinets and files will not be positioned so open drawers block passageways.

5.2.9.2.6 Two-drawer file cabinets must not be stacked unless they are designed to be stacked and fastened together.

5.2.9.2.7 File cabinets must not be stacked on top of tables or desks unless they are designed for such use. Even if they are attached to a wall, they may fall if the table is moved because of excessive unsupported weight.

5.2.9.2.8 Tall or large file cabinets, bookcases, and cabinets will be bolted to the wall or together, in libraries or file rooms

5.2.9.3 Overhead Items and Wall Hangings

5.2.9.3.1 A stepladder or step stool will be used to reach articles high above the floor (shoulder height). Never stand on the top rung of a stepladder.

5.2.9.3.2 Swivel chairs, chairs, desktops, tables, or other makeshift devices will not be used to reach high places.

5.2.9.3.3 Pictures and wall hangings will be secured with the proper fasteners.

5.2.9.3.4 Shelves will be secured with the proper fasteners and will not be overloaded.

5.2.9.3.5 Avoid storing heavy objects above shoulder level.

5.2.9.4 Furniture

5.2.9.4.1 Furniture will be kept in proper repair. Repair or replace furniture that has:

5.2.9.4.1.1 Sharp burrs

5.2.9.4.1.2 Splintered edges

5.2.9.4.1.3 Broken casters, legs

5.2.9.4.1.4 Broken seat or seat back

5.2.9.4.1.5 Any other deficiency

5.2.9.4.2 When furniture replacement is necessary, safety will be considered (i.e., 5-caster vs 4-caster chairs, ergonomically designed furniture, etc.)

5.2.9.4.3 Directions or instruction will be provided for adjusting chairs or other adjustable office furniture.

5.2.9.4.4 Bookcases must not be stacked on other furniture unless that furniture is designed to hold the weight.

5.2.9.4.5 Where chair mats are used, they will not create a tripping hazard. Remove chair mats which are:

5.2.9.4.5.1 Warped

5.2.9.4.5.2 Cracked

5.2.9.4.5.3 Broken

5.2.9.4.6 Desk chairs will be stable and level. Do not tilt the chair back to the point where any chair feet leave the floor.

5.2.9.4.7 Glass desktops and tables are not recommended.

5.2.9.4.8 Typewriter and computer stands will only be used for their intended purpose. Use caution when pulling out a spring-loaded keyboard platform.

5.2.9.5 Office Incidents

5.2.9.5.1 Remove staples with a staple puller and dispose of used staples properly.

5.2.9.5.2 Do not overload or force staplers, paper cutter or hole-punch.

5.2.9.5.3 Paper cutters will be left in a closed latch position when not in use. Where a paper cutter is equipped with a guard, the guard will not be removed.

5.2.9.5.4 Use a moistener to seal envelopes to avoid mouth cuts and germs. Avoid paper cuts by picking up individual sheets at the corners. When turning pages or going through files, use a moistener pad to avoid paper cuts.

5.2.9.5.5 Keep razor-type cutters, such as box cutters and x-acto knives covered or shielded when not in use. Cut on a nonslip surface and away from you.

5.2.9.5.6 Avoid touching the heated parts of printers, fax or copy machines whenever:

5.2.9.5.6.1 Adding or changing paper and cartridges

5.2.9.5.6.2 Removing paper jams

5.2.9.5.7 Never stick a metal object, such as a letter opener, into a machine or try to make unauthorized repairs.

5.2.9.5.8 Do not allow paper or other materials to collect behind copiers or other machinery.

5.2.9.5.9 Candles, incense or other open flames are not allowed in the office environment, except using an open flame to keep food warm, when used by a caterer.

5.2.9.5.10 Immediately clean up liquid spills that may cause a slip hazard.

5.2.9.5.11 Keep walkways free of snow or ice. Tell the building management of dangerous conditions because of snow or ice. At mobile construction field offices, arrangements will be made for snow removal and de-icing.

5.2.9.6 Workstations

5.2.9.6.1 When using a computer for long periods of time, you will:

5.2.9.6.1.1 Take mini-breaks and look away from the screen periodically

5.2.9.6.1.2 Stretch to reduce muscle tension

5.2.9.6.1.3 Use proper posture

5.2.9.6.1.4 Arrange keyboard, mouse, monitor and chair for a comfortable position

5.2.9.6.2 Recommended workstation setup:

5.2.9.6.2.1 Monitor - top of monitor will be at eye level and positioned to avoid glare

5.2.9.6.2.2 Document holders will be at the same level as the monitor

5.2.9.6.2.3 Forearms will be parallel to the floor and wrist straight. Use a wrist rest to help keep the wrist straight.

5.2.9.6.2.4 Backrest of the chair will support the lower back

5.2.9.6.2.5 Mouse will be close to the keyboard

5.2.9.6.2.6 Hips and knees will be bent at 90 degrees

5.2.9.6.2.7 Feet will be flat on the floor

5.2.9.6.2.8 Arrange telephone so it is within easy reach. It is suggested that a headset or speaker be used in place of cradling the receiver on your shoulder.

5.2.10 Program Evaluation and Follow-up - In order to ensure that issues have been addressed and that new problems have not been created monitoring and evaluation will be conducted on an on-going basis. The methods include use of individual interviews and checklists to reevaluate the job/task to ensure that risks have been reduced, minimized, or eliminated.

6.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 12A Manual Lifting

1.0 PURPOSE:

1.1 The purpose of this manual lifting program is to protect employees from the hazards of improper lifting techniques and overexertion.

2.0 SCOPE:

2.1 This program applies to any Kuesel Group employee that may conduct manual handling tasks as part of their job responsibility. This program is intended to minimize the potential for a back injury caused by lifting heavy objects. Employees should not lift any object 50 pounds or greater without assistance.

3.0 RESPONSIBILITIES:

3.1 The Supervisor/Project Manager have responsibility for the establishment and implementation of this program as follows:

3.1.1 Evaluating material handling tasks

3.1.2 Providing force measurements for material handling tasks as requested

3.1.3 Providing training on proper lifting techniques and avoidance of musculoskeletal injuries to all employees

3.1.4 Assisting in the selection of appropriate assist devices

3.1.5 Investigating any injuries that have resulted from improper manual lifting to avoid future lifting related injuries.

3.1.6 The Kuesel Group Supervision and/or Management will periodically evaluate employee work tasks and lifting techniques to identify, prevent, and/or correct potential manual lifting hazards.

3.1.7 The Kuesel Group Employees are responsible for adhering to the guidelines of the program. Employees should not lift any object 50 pounds or greater without assistance.

4.0 GENERAL LIFTING TECHNIQUES:

4.1 Manual material handling involves lifting light, heavy and awkward objects. Safe lifting is a critical aspect of daily activities and should be the focus of any manual material handling. Before you lift, remember the following:

4.1.1 Wear supportive shoes

4.1.2 Use lift assist devices (hand dollies, carts, lift tables, forklifts)

4.1.3 Carry all movements out horizontally (e.g., push and pull rather than lift and lower)

4.1.4 Always use your body weight and not your feet when pushing;

4.1.5 Try to have most workplace deliveries placed at hip height;

4.1.6 Always keep objects in the comfort zone (between hip and shoulder height);

4.1.7 Keep all loads close to and in front of the body;

4.1.8 Keep the back aligned while lifting;

4.1.9 Maintain the center of balance;

4.1.10 Let the legs do the actual lifting; and

4.1.11 Reduce the size of the material to keep it light, compact and safe to grasp.

4.2 Employees must perform a hazard assessment (i.e. complete a job safety analysis (JSA)) before performing any lift. See SP-08 JSA program for additional guidance.

4.2.1 Size up the load, its weight, shape and position

4.2.2 Determine if the load is too large, too heavy or too awkward to move alone

4.2.3 Use a mechanical aid device to help with the lift when necessary.

4.2.4 Get help from a coworker if the use of lifting equipment is impractical

4.2.5 Decide on the route to take

4.2.6 Check for any problems or obstacles such as slippery or cluttered floors

4.2.7 Investigate the location where the load is going to be placed in order to anticipate any difficulties.

4.3 Squat lifting should be used for the majority of lifts. Squat lifting should be performed as follows:

4.3.1 Stand as close to the load as possible

4.3.2 Move your feet shoulder width apart

4.3.3 Tighten your stomach muscles so you can tuck your pelvis

4.3.4 Bend at the knees, keeping your back straight and stomach tucked

4.3.5 Get a good firm grip on the load

4.3.6 Hug the load close to the center of your body

4.3.7 Lift smoothly with your legs gradually straightening the knees and hips into a standing position

4.3.8 Avoid twisting your body as you lift

4.4 TEAM LIFTS are used when objects are too heavy, too large or too awkward for one person to lift. Team lifts should be performed as follows:

4.4.1 Work with someone of similar build and height, if possible

4.4.2 Choose one person to direct the lift (e.g., “lift on the count of three”)

4.4.3 Lift with your legs and raise the load to the desired level at the same time

4.4.4 Always keep the load at the same level while carrying

4.4.5 Move smoothly and in unison

4.4.6 Set the load down together

4.5 Overhead lifts should be conducted as follows:

4.5.1 When lifting or lowering objects from above the shoulders, lighten the load whenever possible

4.5.2 Stand on something sturdy such as a step stool or platform to decrease the vertical distance

4.5.3 When you are lowering objects from above the shoulders, slide the load close to your body, grasp the object firmly, slide it down your body and proceed with your move.

5.0 MECHANICAL AIDS:

5.1 Alternative material-handling techniques for carrying or moving loads are to be used whenever possible to minimize lifting and bending requirements. These alternate techniques (i.e. engineering controls or manual lifting equipment) include the use of: two or more people, rollers, hand trucks, carts, dollies, forklifts, hoists, and wheelbarrows.

5.2 The Kuesel Group provides mechanical lifting equipment at no cost to employees.

NOTE: Although mechanical aids are used, safe lifting procedures should still be followed by maintaining the natural curvature of the back, using the legs for any lifting that is encountered and employees should avoid twisting the back

6.0 LIFTING RESTRICTIONS:

6.1 When employees are not able to conduct their task fully due to a personal condition or injury, they could be placed on work restrictions that may contain weight or lifting restrictions. If an employee is placed on any weight restrictions, they may not handle or lift any object heavier than what they have been restricted to until they are cleared to return to normal duties. If a re-evaluation has been conducted and the weight restriction has been modified or lifted, the employee must follow the new restrictions.

6.2 If employees have experienced a non-work related injury, they will receive care from their primary care provider, or another health care professional. Employees should follow the treatment regimen of their providers. Supervisors should be promptly notified of any work restrictions given by the primary care physician.

7.0 TRAINING:

7.1 All personnel will be trained in this policy.

7.2 Additionally, employees will be trained on the following:

7.2.1 Evaluating material handling tasks

7.2.2 Proper lifting techniques and avoidance of musculoskeletal injuries

7.2.3 Selection of appropriate assist devices

7.3 The requirement to investigate any injuries that have resulted from improper manual lifting and how to avoid future lifting related injuries

8.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 13 Journey Management

1.0 PURPOSE:

1.1 All road journeys undertaken by any Kuesel Group employee in the conduct of business must be managed to ensure that action is taken to mitigate all risks.

2.0 SCOPE:

2.1 This program applies to all vehicle road journeys in the conduct of The Kuesel Group business on public roads.

3.0 RESPONSIBILITIES:

3.1 The Kuesel Group Supervisors shall ensure that personnel under their direction are made aware of the requirements of this Journey Management program and ensure that they maintain compliance with this program

3.2 The Kuesel Group Employees shall be responsible for ensuring they understand and comprehend and maintain full compliance with this program and its contents.

4.0 JOURNEY PLANNING:

4.1 Road travel shall be avoided or limited when possible by utilizing safer means of transportation such as air or rail travel or by utilizing telecommunication.

4.2 Prior to beginning any road travel, all Kuesel Group Employees shall:

4.2.1 Obtain reliable driving directions to and from their destination if the employee is not familiar with the route.

4.2.2 Inform their supervisor, or someone else within the company, of their travel plans including:

4.2.2.1 Time of departure (road travel should be completed during daylight hours when possible)

4.2.2.2 Destination

4.2.2.3 Route

4.2.2.4 Approximate time of arrival

4.2.2.5 Planned return

4.3 Ensure that a cell phone or other means of communication is charged and readily available in case of an emergency.

4.4 Ensure that a roadside emergency kit is present in the vehicle.

4.5 There are many factors that can elevate the risk level associated with a trip. The following factors must be considered and avoided when possible:

4.5.1 Inclement weather conditions including:

4.5.1.1 Fog

4.5.1.2 Rain

4.5.1.3 Snow and ice

4.5.1.4 Cross winds/ blowing snow

4.5.2 Unpaved roads/one way traffic

4.5.3 Road conditions

4.5.4 Wild life

4.5.5 Road closures or accidents

5.0 GENERAL TRAVEL RULES:

5.1 Vehicles shall be maintained in a safe operating condition.

5.2 Drivers shall obey all traffic laws.

5.3 Seat belts shall be worn by all vehicle occupants.

5.4 Drivers are to focus solely on driving. Cell phones shall not be used while driving unless hand-free. Other electronics shall not be used while driving.

5.5 Drivers shall take periodic rest breaks to reduce fatigue.

5.6 If weather conditions create unsafe travel conditions, stop and wait for conditions to improve before resuming travel.

5.7 If unsafe road conditions, water covered roads, or obstructions are encountered, DO NOT ATTEMPT TO PASS. Turn around and seek a safe route.

6.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 14 Modified Duty/Return To Work

1.0 PURPOSE AND SCOPE:

1.1 The Kuesel Group is committed to providing a safe working environment for our employees. Preventing work related injury and illness is our primary goal, however, should an injury occur to one of our employees; The Kuesel Group promotes the practice of an expedited return to work program for those employees who are restricted in the performance of their regular job duties and tasks. Our early return to work program provides opportunities for an employee who is injured on the job to return to work at full duty. If the injured employee is not physically capable of returning to full duty based on his/her physician's medical restrictions, the program provides opportunities to perform his/her regular job with modifications or, when available, to perform alternate temporary work that meets the injured workers medical restrictions.

1.2 It is the policy of The Kuesel Group to retain valued employees, achieve a safe and timely return to work for those employees absent due to injury or illness, and to reduce and/or control cost related to disabilities. Effective rehabilitation and treatment must address the whole person, and the opportunity to return to work within the restrictions of the particular injury is a critical part of an overall treatment plan which benefits the employee and the employer. Further, lost productivity for the employee and The Kuesel Group can be lessened by transitional employment and job modifications. The Kuesel Group will make reasonable accommodations to assist employees, who have experienced occupational injury or illnesses, to return to work as soon as possible and as appropriate, assist eligible employees unable to return to full duty by temporarily modifying work assignments or duties, or when available arranging for temporary reassignment until the employee is medically released to resume regular duties.

1.3 This Modified Duty & Return to Work (RTW) Program applies to all locations throughout the Corporation.

2.0 RESPONSIBILITIES:

2.1 RTW Program Administrator

2.1.1 The RTW Program Administrator shall have overall responsibility and authority for this programs administration and compliance. The Corporate EH&S Director shall work as a team for all decisions related to the Return to Work Program while consulting with the employee's supervisor.

2.1.2 The RTW Program Administrator will maintain and keep confidential all documentation related to an incident that initiates the RTW Program.

2.1.3 The RTW Program Administrator will inform employees by communicating the company policy during new employee orientation, and during periodic annual meetings.

2.2 The Kuesel Group Management

2.2.1 The Kuesel Group Management will have responsibility to identify available and productive work assignments that will meet the restrictions imposed on the employee by his/her AP. In addition to the above, they shall have additional responsibilities as follows:

2.2.1.1 Support the Kuesel Group RTW Program

2.2.1.2 Promote the Program with the client, supervisors, and coworkers to achieve an understanding of the benefits to the employee, The Kuesel Group and the client.

2.2.1.3 Monitor progress of the employee(s) who are off work due to an injury or illness, and let them know through personal contact, of The Kuesel Group's concern and the availability of a Modified Duty position that meets the restrictions imposed by their AP.

2.2.1.4 Make certain field supervision helps the injured employee(s) adjust to the modified duty position and that they continue to support the RTW Program at the job site

2.3 The Kuesel Group Field Supervisors

2.3.1 Field Supervisors are responsible for making certain the employee works within his/her Modified Duty restrictions and that they maintain clear communication of the worker's progress back to their respective supervisors.

3.0 DEFINITIONS:

3.1 Attending Physician (AP) - The doctor(s) chosen by the employee, the employer, or the employer's insurance carrier to treat the injury until the medical condition is fixed and stable and the employee has returned to full duty.

3.2 Medical Restrictions - Temporary or permanent workplace activity restrictions imposed on an injured worker by his/her attending physician as a result of an on the job injury or illness.

3.3 Modified Duty - The placement of an employee who has experienced an on the job injury or illness in a Transitional job assignment that will allow him / or her to work within medical restrictions as may be provided by their Attending Physician.

3.4 Modified Duty Release - A document signed by the injured employee's Attending Physician (AP) that authorizes the employee to return to work at full duty or defines further physical activity restrictions that may be permanent as a result of the injury or illness.

3.5 RTW Program Administrator – The person (or The Kuesel Group personnel) assigned to have overall responsibility & authority for the administration of the RTW program.

4.0 PROCEDURES:

4.1 In most cases, The Kuesel Group will attempt to place employees returning from a work related injury or illness in Transitional duty assignments that are the same as or equivalent to those held

prior to the injury or illness. However; The Kuesel Group is under no obligation to create a position solely for this purpose or to offer a Modified Duty position at all. The decisions related to the Modified Duty position or if a position will be offered at all are solely at the discretion of The Kuesel Group Management.

4.2 Assignments must meet staffing or manpower needs and accommodate the employee's medical restrictions while taking into consideration the welfare and safety of the employee and co-workers.

5.0 OCCUPATIONAL INJURIES and ILLNESSES:

5.1 Reporting: Employees injured on the job or experiencing job-related illnesses must report the injury or illness to their supervisor immediately. The employee's supervisor must complete the First Report of Injury (SP-16 Accident Investigation and Reporting Appendix A), along with the Incident Report (SP-16 Accident Investigation and Reporting Appendix E) and forward it to the EH&S Supervisor within 24 hours of notification of the injury or illness. The RTW Program Administrator will submit the FRI to the Workers Compensation insurance carrier or the third-party administrator (TPA).

5.2 Medical Treatment: All medical visits associated with the injury or illness, including the initial return-to-work assessment and all subsequent medical visits, including x-ray, MRI (Magnetic Resonance Imaging) and Physical Therapy will be coordinated by the Worker's Compensation insurance adjuster and/or Case Manager in consultation with the RTW Program Administrator.

5.3 Initiating the Return to Work Program Process

5.3.1 If the employee is released to return to work and can perform the essential functions of their pre-injury/illness job position, they will give the release to their supervisor who will coordinate a start date to report to work. The RTW Administrator will notify the case manager and Workers Compensation insurance adjuster of the employee's return-to-work.

5.3.2 If the employee is released to work with restrictions, the RTW Administrator and the employee's supervisor will review the restrictions set forth by the AP and will make a decision (within 5 business days) as to what Modified Duties are available for the employee.

5.3.3 Note: The decision to return an injured employee to work under the RTW Program in a regular or Modified Duty position (either within the department or in a different department) is the primary responsibility of the RTW Program Administrator whose decision is final and binding throughout The Kuesel Group.

5.3.4 Modified Duties must meet staffing/manpower needs and accommodate the employee's medical restrictions while taking into consideration the welfare and safety of employees and their co-workers.

5.3.5 Once the decision has been made for the RTW position, and has been approved by all parties (including the AP), the employee will be sent a Modified Duty Offer Letter by

registered mail, return receipt requested. The letter shall indicate the position being offered by The Kuesel Group and that the employee's AP has approved the position and has agreed that it meets his/her medical restrictions.

5.3.6 After receipt of the signed Modified Duty Offer Letter indicating the employee has accepted the position, the RTW Administrator will schedule an initial return to work meeting with the injured employee and the appropriate supervisor to coordinate the return to work. If the employee cannot return to work in the pre-injury/illness department, the RTW Administrator will attempt to coordinate work within other departments within The Kuesel Group.

5.3.7 If a Modified Duty position is not available for an employee, or the employee is not released to return to work, the RTW Administrator will maintain communication with the employee to obtain a prognosis for recovery. When necessary, the RTW Administrator will communicate with the Attending Physician, Adjuster and/or Case Manager.

5.3.8 Where Modified Duties are indicated, the RTW Administrator will meet with the employee on a weekly basis to evaluate progress and/or to alter, upgrade, or modify duties consistent with medical restrictions and the employee's capabilities. If a Modified Duty position is amended, the changes will be shared with all parties.

5.3.9 In the event an employee refuses an accommodation or reassignment to duties that are within the employee's restrictions, The Kuesel Group is not obligated to provide alternatives. The employee may also be subject to a limitation or termination of any benefits for lost time being received from the Workers' Compensation insurance program.

6.0 MONITORING PROGRESS:

6.1 Successful return to work requires the cooperative effort of the employee, the supervisor and others involved in the process. To achieve the goal of a return to full duty status by the injured employee or "Maximum Medical Improvement" (MMI) the RTW Administrator, EH&S Supervisor and the employee's supervisor must monitor the employee's progress and adjust work assignments as may be needed to continue the progress moving forward.

6.2 The employee's supervisor must monitor the employee on a daily basis for any signs or concerns of potential problems.

6.3 As the attending physician allows increased activity, limitations may be decreased until employees are released to full-duty status or until they achieve MMI. Note: There is no specific duration for Modified Duty; it is a temporary work status. The RTW Program Administrator will carefully manage each case, including coordination with management and medical services personnel. However, all Modified Duty assignments shall be reviewed every 30 days.

7.0 CHANGES IN STATUS:

7.1 **Changes in Work Limitations:** If the employee's work limitations are changed by the AP, the RTW Administrator must adjust the employee's Modified Duty update record signed off by the

AP. Physical demands of the work assignments may be increased as the medical restrictions of the employee improve.

7.2 **Changes of restriction Status:** On rare occasions, when temporary restrictions become permanent, the case must be reevaluated by the RTW Program Administrator.

7.3 **Change in Employee Status:** An employee on Modified Duty status is subject to all The Kuesel Group policies and procedures.

7.4 Supervisors may not transfer, layoff or modify the employee's RTW job duties without approval from the RTW Program.

8.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 15 Access to Medical Records

1.0 PURPOSE:

1.1 To assure employees are medically fit to perform the duties associated with their classification, medical screening is provided in a consistent, confidential manner in accordance with state and federal regulatory requirements. This program monitors the health of workers through regularly scheduled and post-incident medical examinations. Medical surveillance may be required to determine the suitability of worker to perform a certain type of job (for example, to wear a respirator), to establish a baseline medical status of a worker, or to identify potential changes in the overall health status of workers.

2.0 SCOPE:

2.1 This program covers all employee whose job duties require that they participate in a medical screening program as specified in regulatory requirements, except as follows:

2.1.1 This program applies to pre-employment physicals only when the prospective employee will be entering a classification, which requires participation in a mandated screening program.

2.1.2 This procedure does not apply to substance abuse testing. Substance abuse testing is covered under the company's substance abuse policy.

2.2 Screenings will be performed during normal working hours (unless other arrangements are made with the agreement of the employee) at no cost to the employee. Employees shall not be assigned to any activity requiring prior medical clearance until they have received appropriate screenings.

3.0 REFERENCES:

3.1 OSHA 29 CFR 1910.1020 Access to Employee Exposure and Medical Records

3.2 OSHA 29 CFR 1910.134 Respiratory Protection

3.3 OSHA 29 CFR 1910.95 Hearing Conservation

3.4 OSHA 29 CFR 1910.1030 Bloodborne Pathogens

3.5 OSHA 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response

4.0 RESPONSIBILITIES:

4.1 Management is responsible for:

4.1.1 Approving and ensuring compliance with this procedure

4.1.2 Assuring that mandated medical screenings are administered to employees in accordance with this procedure

4.1.3 Identifying clinical providers of quality medical screening services.

4.1.4 Identifying and developing protocols for mandated examinations in conjunction with the clinical providers and medical consultants.

4.1.5 Administering pre-employment and pre-placement examinations. Where a prospective or transferring employee will be entering a classification which requires participation in a mandated program.

4.2 Employees are responsible for:

4.2.1 Complying with this procedure, including participating in mandated medical surveillance and screening.

4.2.2 Arranging any follow-up medical attention, treatment or medicine required to assure certification/qualification according to the established medical standards. For those medical conditions not caused by employment related exposures, the cost of the follow-up activities shall be the responsibility of the employee and may not be processed through his/her medical plan.

5.0 GENERAL INSTRUCTIONS:

5.1 Medical records include:

5.1.1 Medical and employment questionnaires or histories (including job description and occupational exposures).

5.1.2 The results of medical examinations (pre-employment, periodic or episodic) and laboratory tests (including X-Ray examinations) taken for the purpose of establishing a base-line or detecting occupation illnesses and all biological monitoring not defined as an “employee exposure record”.

5.1.3 Medical opinions, diagnoses, progress notes and recommendations.

5.1.4 First aid records

5.1.5 Descriptions of treatments and prescriptions

5.1.6 Employee medical complaints

5.2 Clinical Providers

5.2.1 Management will identify providers of quality medical screening services to provide the examinations that are part of this procedure.

5.2.2 The clinical providers will perform examinations in accordance with the examination protocols as outlined in the above referenced OSHA standards as well as established standards of medical practice.

5.3 Clinical providers in conducting screening will use the examination protocols specified by the referenced OSHA standards in this procedure. In determining employee clearance for duty, examinations covering less than the scope specified in each protocol are unacceptable.

5.4 Identifying Participants

5.4.1 Management will evaluate the job duties and responsibilities of each job classification in order to determine if the employees in those classifications are required to participate in medical screening. In conducting this evaluation, departments will consider:

5.4.1.1 The results of a job description evaluation conducted for each job classification

5.4.1.2 The result of historical industrial hygiene monitoring conducted for that classification/job activity.

5.4.1.3 Regulatory requirements pertaining to work activities conducted by employees in that job classification.

5.5 Medical Screening Procedures

5.5.1 Management will schedule the dates of the on-site or office examinations.

5.5.2 Management will provide a listing of employees and their required examinations along with a tentative schedule to the clinical provider prior to medical screening.

5.5.3 The clinical provider will provide all required employee forms at least two weeks prior to the examination dates at which time management will forward them to the appropriate employee along with any special instructions.

5.5.4 Each employee will be made aware of the findings at the conclusion of the examination, to the extent possible, by the examining healthcare professional. Those results, dependent upon data not available at the time (i.e. x-ray results), will be forwarded to the employee in a timely manner by the clinical provider.

5.5.5 Following the examinations, each employee will receive a confidential written summary of mandatory and optional test results indicating any abnormalities and recommended follow-up. The clinical provider will mail this written summary directly to the employee's home.

5.5.6 The clinical provider will provide clearance for duty certificates directly to management following examinations.

5.6 Failure to Meet Medical Standards

5.6.1 If an employee fails to meet established medical standards, management shall be immediately notified.

5.6.2 The employee will be informed immediately of his/her failure to achieve clearance for duty.

5.6.3 The employee will receive an explanation as to why he/she could not be cleared for duty and will not be assigned to any duty requiring prior medical clearance.

5.6.4 The employee failing to qualify/certify will be responsible to seek follow-up treatment to correct the medical condition preventing clearance. Once the condition is corrected, the employees will notify management. The employee's case will be forwarded to the clinical provider to certify that the condition has been corrected by issuing a clearance statement. Doctors' slips or examinations not following the established protocols within the applicable standards will not be accepted.

6.0 ACCESSS TO RECORDS POLICY:

6.1 OSHA 1910.1020 Access to Employee Exposure and Medical Records states that employers must provide employee access to exposure and medical records.

6.2 The Kuesel Group employees have access to the following:

6.2.1 Fitness for Duty medical records

6.2.2 Records for exposure monitoring

6.2.2.1 Noise

6.2.2.2 Heat Stress

6.2.2.3 Any other substance you have or could be exposed to (welding fumes, solvents, etc.)

6.2.3 Any records relating to medical surveillance for respirator clearance and hearing conservation.

6.2.4 Bloodborne pathogen exposure incident records

6.2.5 Industrial Hygiene monitoring records (air sampling, noise, etc.)

6.2.6 Other medical records as described in Section 5.1

6.3 Access Rules

6.3.1 The Kuesel Group has 15 working days to provide the records. If requested, employees will be provided with a copy or be permitted to copy them at no cost.

6.3.2 If longer, The Kuesel Group must provide a date for release of information and explanation for delay.

6.3.3 OSHA may obtain personal medical records without written consent from employees but must adhere to strict confidentiality rules under OSHA regulation 1910.13.

6.3.4 Requests by employees for their own records do not have to be in writing; however, employees may submit a written request to access applicable records.

6.3.5 Health professionals must have written consent.

7.0 RECORDKEEPING:

7.1 The clinical provider and/or the company in accordance with OSHA standard 1910.1020 Access to Employee Exposure and Medical Records will maintain all medical records generated through compliance with this procedure.

7.2 Exposure records must be maintained for 30 years (including workplace monitoring).

7.3 Medical records must be maintained for the term of employment plus 30 years.

7.4 All medical records are maintained by the medical provider or the O'Fallon, MO office.

7.5 Management will maintain exposure records and medical clearance forms.

7.5.1 Safety Data Sheets (SDS) relating to chemicals involved in an employee exposure incident must be retained for 30 years.

7.5.2 Copies of medical clearance records are kept at the O'Fallon, MO office in a locked cabinet.

8.0 EMPLOYEE INFORMATION:

8.1 Upon an employee's first entering into employment, each employer shall inform current employees covered by this section of the following:

8.1.1 The existence, location and availability of any records covered by this section;

8.1.2 The person responsible for maintaining and providing access to records; and

8.1.3 Each employee's rights of access to these records

8.2 Employees shall receive information concerning this procedure at least annually thereafter.

9.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 16 Accident Investigation and Reporting

1.0 PURPOSE:

1.1 The purpose of this program is to outline the proper steps that need to be taken in the event of an accident, incident, or a near miss. Additionally this program will ensure systematic identification and control of hazards in order to prevent recurrence of accidents.

1.2 The prompt reporting of accidents and conducting thorough accident investigations are key elements in any safety and loss prevention and control program. Accidents cause injury, property damage, job delays, adverse customer and public opinion, and a loss of profits to the company. Prompt accident reporting helps the company to provide for the injured employee and control accident costs. Thorough accident investigations determine cause and culminate in the implementation of preventative measures which prevent the recurrence of similar accidents.

2.0 SCOPE:

2.1 This procedure covers all Kuesel Group employees, as well as all Contractors, Visitors, and Vendors.

3.0 REFERENCE:

3.1 29 CFR 1904 Recording and Reporting Occupational injuries and illnesses

4.0 RESPONSIBILITIES:

4.1 Management - shall ensure uniform implementation and compliance with this program by all employees**.**

4.2 Project Managers/Site Supervisors - shall see that all investigations are conducted utilizing the guidelines outlined in the program.

4.3 Employees - shall immediately report all accidents, injuries, and near misses to their Supervisor and assist as requested in all accident investigations.

5.0 ACCIDENT/INCIDENT REPORTING:

5.1 An Accident/Incident has occurred:

5.1.1 In the event of an injury, of foremost importance is getting medical attention to the injured employee(s). The severity of the injury determines the need for outside response and transportation.

5.1.2 If the injury is not serious, the injured employee may receive first aid from a trained medical first responder. If the injury is beyond basic first aid, the employee will be taken to the closest hospital for further evaluation. In the event the employee refuses medical

attention, Appendix E – Refusal of Medical Treatment / Drug Testing should be used to document the employee's decision.

5.1.3 If immediate medical / emergency assistance is needed call 911. The Employee's Supervisor and Safety Manager must then be notified.

5.1.4 If the accident / incident was of a serious nature (ambulance summoned, multiple victims, fatality, potential for catastrophic event, high public exposure and/or media attention) additional notifications may be necessary. Upon receiving notification, the Project Manager/Job Site Supervisor will take the necessary steps to secure the scene, and notify their next level of Management including the Safety Manager and any applicable regulatory agencies. Required incidents (ex. fatality) must be verbally reported to OSHA within 8 hours of discovery; and amputations, hospitalizations or loss of an eye are to be reported within 24 hours to OSHA. They must also be reported to the owner client as soon as possible and within 24 hours.

5.1.5 The injured employee is directed to an appropriate medical provider. If after hours, the employee should seek medical treatment as needed via local medical treatment facility.

5.1.6 Written records must be kept of work-related fatalities, injuries, and illnesses when medical treatment is given. When medical treatment is required, the employee and the Project Manager/Job Site Supervisor coordinate filling out a Worker's Compensation First Report of Injury or Illness Form (OSHA 301 equivalent) within 24hrs, (See attached Missouri Department of Labor "Report of Injury" Form - Appendix A).

5.1.7 Completed WC Report Forms are submitted to the policy provider Gallagher Bassett Services, Inc. A claim number will be generated. To meet OSHA requirements, the Project Manager/Job Site Supervisor as well as the Safety Director shall maintain a copy of the WC Report Form.

5.1.8 Supplemental forms to assist with documenting an accident or incident:

5.1.8.1 Employee Report of Injury – Appendix B: Completed by the injured employee **(not the Project Supervisor).** It is used to document detailed information about the injured employee (legal name, address, date of birth, etc.), and provides the injured employee the opportunity to make personal statements about the accident and his/her injuries. Completion of the Employee Report of Injury is mandated for all accidents that cause personal injury. Due to the nature of this report, a separate report is required for each injured employee. The Project Supervisor shall assure that the injured employee completes the report on the date of injury and shall notify the Safety Coordinator immediately in the event an injured employee is unable to complete the report due to injury, absence from work, or refusal to make a statement. Upon the employee's completion of the report, the Project Supervisor shall review the report for completeness, sign the report to acknowledge the review, and forward the report to the Safety Coordinator.

5.1.8.2 Supervisor's Accident Investigation Report – Appendix C: Used by the Project Supervisor to document details gathered during accident investigations that involve personal injury, property damage, and near miss accidents. The Project Supervisor is to document how the accident occurred, what caused the accident, and what steps have been taken to remedy the unsafe actions and conditions. Only one report per accident is required. The report shall be submitted to the Safety Coordinator upon completion.

5.1.8.3 Accident Witness Statement – Appendix D: Typically used when an employee is severely injured, when a third party is involved, and/or in property damage accidents. The report is to be completed by the witness without assistance, thereby allowing the witness to describe what was seen, what was perceived to have caused the accident, and what steps need to be taken to prevent a similar incident. The Project Supervisor shall review and submit completed Accident Witness Statements to the Safety Coordinator.

5.1.9 The Kuesel Group will include all recordable injuries onto the appropriate OSHA 300 log (no longer than 7 calendar days to record the injury/illness on the 300 log). An OSHA 300 log shall be maintained for each calendar year and the OSHA 300A Summary form shall be posted in a conspicuous location or places where notices to employees are customarily posted. The signed 300A Summary form must be posted from February 1st until April 30th for the previous year (the 300A must be signed by a company official – ex. President). All documentation (300 Log, 300A, First Report of Injury or Illness forms) shall be maintained for at least 5 years.

5.1.9.1 An OSHA recordable injury/illness has occurred if the injury/illness results in any of the following: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness.

5.1.9.2 You must also consider a case to meet the general recording criteria if it involves a significant injury or illness diagnosed by a physician or other licensed health care professional, even if it does not result in death, days away from work, restricted work or job transfer, medical treatment beyond first aid, or loss of consciousness.

5.1.9.3 See 29 CFR 1904.7(b)(5)(ii) for what treatment is considered to be "first aid".

5.1.10 The employee receives the appropriate medical treatment. The employee, attending medical provider and policy provider communicate the prognosis of the injured employee to The Kuesel Group Management. If the injury requires follow-up medical treatment, the policy provider will manage the case keeping the Division Supervisor aware of their progress.

5.1.11 The employee will return to work at full capacity, or the employee is identified as a candidate for restricted duty and returns to work with restrictions. The restrictions are eventually lifted and the employee returns to work at full capacity.

5.1.12 Depending on the seriousness of the accident/incident, the Project Manager/Job Site Supervisor will document the event and will conduct an appropriate investigation (see section 6.0). Note: all OSHA recordable injuries require an investigation.

5.2 Minor Injury reporting:

5.2.1 A minor injury is one in which the employee, injured on the job, does not require professional medical attention and does not lose time (ex. only basic first aid was given). All minor injuries must be reported using the Employee Report of Injury (Appendix B), the Supervisor Report (Appendix C) and the Witness Report (Appendix D), if applicable.

5.2.2 The need to conduct a formal investigation (Appendix H) into the cause of the minor injury should depend upon the potential seriousness of the accident/incident.

5.2.3 The Supervisor Report (Appendix C) provides an area to list recommendations to prevent a similar incident from reoccurring. The Project Manager/Job Site Supervisor will retain the original copy for documentation purposes in the event medical treatment becomes necessary. A copy is given to the employee.

5.2.4 The requirement to complete a minor injury report, regardless of how insignificant the injury may seem, is to protect both the employee and The Kuesel Group if the injury should require medical attention at a later date. Minor injury reports can be discarded after one year. If medical treatment becomes necessary, a First Report of Injury or Illness form must be generated.

5.3 Near Miss:

5.3.1 A “near miss” or “close call” is considered an incident that could have resulted in personal injury if conditions related to the incident evolved differently. Equipment or property damage may have or may not have occurred because of the incident.

5.3.2 Investigation into these types of incidents provides an opportunity to develop corrective actions. If corrective actions are not taken, the incident will repeatedly happen until employee injury does occur.

5.3.3 All near miss incidents should be investigated to identify the cause of the incident and the corrective actions necessary to prevent reoccurrence. The findings of the investigation, along with the corrective actions identified, should be sent to the Safety Director and Job Site Supervisor and shared with all affected employees.

5.3.4 The Accident and Incident investigation guidelines in Section 6.0 are available to assist in the investigation process. The Near Miss Report (Appendix F) can be used to supplement the investigation process.

5.4 Motor Vehicle Accident:

5.4.1 Report of Motor Vehicle Accident: An event where one or more motor vehicles are involved in an accident that results in damage to the vehicle or another vehicle, property, object, or person.

5.4.2 When events of this type occur, a Motor Vehicle Accident Report (Appendix G) must be filled out. This form should be sent to the Safety Director and/or your Supervisor. Additional notifications/forms may be required depending on the motor vehicle insurance carrier's requirements (i.e. Ohio Worker Compensation).

5.4.3 The Accident /Incident investigation guidelines in Section 6.0 are available to assist in the investigation process. The Motor Vehicle Accident Report can be used to supplement the investigation process.

6.0 ACCIDENT/INCIDENT INVESTIGATIONS:

6.1 Why Accidents and Incidents Should Be Investigated

6.1.1 The accident/incident investigation is a fact-finding tool that is used to develop ways to prevent future events. Thorough and effective investigations, revealing the real causes of accidents/incidents, provide management with information needed to take appropriate corrective actions. These actions will prevent recurrence and identify ways to avoid similar accidents/incidents.

6.1.2 It should be understood that Management sets the tone for all accident/incident investigations. Faultfinding and blame for events and injuries have no place in effective accident prevention programs. Intimidation, fear and finger pointing will prevent real accident causes from being discovered and accidents will continue.

6.2 What Accidents/Incidents to Investigate

6.2.1 All accidents/incidents should be investigated to the appropriate degree whether an injury occurred or not. The types of accidents/incidents that should be investigated fall into the following categories: medical treatment, minor injury/first-aid, near miss, fatality, motor vehicle, and equipment/property damage. The type of investigation will depend upon the circumstances surrounding the event.

6.2.2 Some factors that should be considered when determining the breadth of the investigation:

6.2.2.1 Serious injury or potential for serious injury.

6.2.2.2 Frequency of accidents/incidents.

6.2.2.3 Number of personnel exposed.

6.2.2.4 Significant cost or property damage.

6.2.2.5 The risk potential to employee's health and safety.

6.2.3 All accidents/incidents and near misses shall be investigated within 48 hours of the incident. If employee injury is involved, an additional investigation/questioning will take place upon the employee's return to work.

6.3 Who Should Investigate Accidents and Incidents

6.3.1 Individual responsibilities for reporting and investigating incidents/accidents will be pre-determined and assigned prior to incidents (ex. project manager, site supervisor/foreman, safety rep., etc.). The actual personnel selected for any given accident will be dependent upon the severity and circumstances surrounding the accident. If personal injury is involved, the accident investigation team will be at least comprised of the injured employee and the injured employee's supervisor.

6.3.2 The investigation team may include co-workers, familiar with the operations and work, management, any witnesses, any technical resources or specialists such as manufacturer representatives, subject matter experts, etc. An Investigation Leader shall be designated.

6.4 Securing the Evidence

6.4.1 It is important that the initial identification/assessment of evidence is conducted immediately following the incident. This may include a listing of people, equipment, and materials involved and a recording of environmental factors such as weather, illumination, temperature, noise, ventilation, and physical factors such as fatigue, age, and medical conditions. Evidence should be labeled / tagged and, when possible, photographed in place.

6.4.2 Items that could be damaged by weather or otherwise disturbed, damaged, or lost should be secured.

6.4.3 Evidence that is removed from the accident scene must be secured in a protected area where it will not be lost or contaminated.

6.4.4 An evidence log that must remain with the accident file should list all the evidence that has been secured, sketched or photographed. This log should indicate the type of evidence, how it was secured, where it was located, and who has control of it.

6.4.5 When equipment or machinery is involved in an accident it is important to note the exact name, make, model number, serial number, any apparent modification or alterations, and how and under what conditions the equipment was being used.

6.5 Determining the Facts

6.5.1 A prompt and comprehensive search for facts surrounding the accident is the first major undertaking of the Team. The Team should conduct the following types of activities as it performs its fact-finding function.

6.5.1.1 Investigators should visit the accident scene before physical evidence has been disturbed. The Investigation Leader is responsible for ensuring that the Team is not subjecting itself to any dangers as the visit is conducted. Personal safety of the team members should take priority over the accident investigation process at all times. No team member should be forced to take any actions they feel could endanger their safety.

6.5.1.2 Team members should first review the scene individually, discuss their preliminary findings and then repeat the process as a group with a designated individual preparing a written log of observations and important comments.

6.5.2 The Team should prepare visual aids such as photographs, videotapes, sketches and graphical representations of information that may be useful during the investigation. Equipment to conduct an accident investigation will be provided by The Kuesel Group. Materials such as cameras, audio recorder, office supplies, PPE, small tools, equipment manuals, and marking devices will all be readily available to conduct an investigation.

6.5.3 The Team should take brief statements from any eyewitnesses who are available during the inspection of the scene. Interviews that are more detailed should be arranged later. Avoid having several eyewitnesses share their impressions of the accident to avoid undue influence of an eyewitness who may have a differing view of the accident. Interview witnesses separately.

6.5.4 The Team should take brief statements from the response and emergency personnel (if applicable) that were first on the scene to determine the status of the equipment and the environment early during the accident.

6.5.5 The Team should determine whether any key mechanical equipment should be disassembled and should then observe such disassembly and record the findings. Any equipment, which may have failed or otherwise contributed to the accident should be preserved and/or carefully documented.

6.5.6 The Team should review all sources of potentially useful information such as equipment manuals, as-built drawings, operating logs, records, charts, previous reports, standard and emergency procedures, oral instructions, change records, training and performance records of employees, laboratory tests, etc.

6.5.7 The Team should carefully document all sources of information gathered during the fact-finding process.

6.6 Determine the Cause(s)

6.6.1 Establishing the cause of the accident is crucial to the development of effective recommendations to correct and prevent a recurrence. Formal analysis of the cause is encouraged to avoid making premature or erroneous judgments.

6.6.2 It is also important that the true "root" cause of the accident, as well as contributing causes be identified. A recommended procedure for determining cause(s) of the accident follows:

6.6.2.1 The Team should develop the "chronology of events" which occurred before, during and after the accident. The focus of the chronology should be solely on what happened and what actions were taken. List alternatives when the status cannot be definitely established due to missing or contradictory information.

6.6.2.2 The Team should identify all conditions or circumstances, which deviated from normal, no matter how insignificant they may seem. Identify all hypotheses of the causes of the accident based on these deviations.

6.6.3 The Team should test the various cause hypotheses against all available evidence and information, and list them in order of likelihood. In each case, establish what the root cause and secondary cause(s) were. As a Team, strive to agree on the most likely root cause(s) and secondary cause(s).

6.7 Performing Witness Interviews/Collecting Statements

6.7.1 Put the employee at ease. The best way to do this is to inform them of the purpose of the interview/statement … Accident Prevention … and that their help is needed.

6.7.2 Conduct the interview at the scene of the accident/incident, if possible. This may help in remembering and explaining what happened. Depending on the type of event, conducting the interview at the scene may make the employee feel uncomfortable and distracted if the event was traumatic. In this case, conducting the interview at another location may prove to be more beneficial.

6.7.3 Multiple witnesses should be interviewed separately in order to minimize biased answers.

6.7.4 Ask for the employee's version of the accident/incident. Explain that you want their version just as they remember it. Do not interrupt, interpret or evaluate their comments. If you do not understand part of the description, wait until the employee has finished, and then ask for clarification. Never make judgment or judgmental remarks.

6.7.5 Ask only pertinent questions. These questions should be the same that all being interviewed are asked. Use open-ended questions when possible. These types of questions cannot be answered with a "yes" or "no" only. They will provide much better information. Examples of open-ended questions include: Where were you positioned? What exactly were you doing? What happened next? How was it done?

6.7.6 Repeat the accident description, as you understand it. This allows for point-by-point, systematic clarification of what was said. It also allows the employee to correct any

mis-statements or misunderstandings. Be sure to record all information from the interview.

6.7.7 Close the interview on the positive note of Accident Prevention. Ask for suggestions for corrective action to prevent this type of accident/incident from happening to someone else. Leave the door open for more information that may have been forgotten. Inform them that a follow-up interview may be necessary and acquire the appropriate information needed to contact them.

6.7.8 Thank the employee for their cooperation.

6.8 Re-enactment of Accidents/Incidents

6.8.1 A proven investigation technique often used in discovering accident causes is re-enacting the accident. This involves demonstrating what was being done and how the accident occurred.

6.8.2 Extreme caution should be used during this investigation technique to ensure the re-enactment does not become repetition.

6.9 Recommend Corrective and Preventative Actions

6.9.1 During the "determination of the cause" process, some actions may surface that could have eliminated or reduced the chance of the accident from occurring. In some cases, these recommendations may not relate to the most likely cause but may still be an appropriate recommendation to improve the safety of the process.

6.9.2 The Team should formalize recommendations in two distinct areas. Engineering changes should encompass those actions that include physical changes. Administrative changes should include procedural changes, training, PPE, etc.

6.9.3 The Team should assess the urgency of implementing the corrective and preventive actions. If changes should be made prior to resumption of operations, they should be clearly stated in the recommendations. Otherwise, an approximate timeframe for implementation of the changes should be included with each recommendation.

6.10 Completing the Accident / Incident Investigation Report

6.10.1 The Accident/Incident Investigation Report (Appendix H) should have specific information such as the date, name, location, and type of accident/incident. Other information that should be included is the type of work being performed and identifies any witnesses.

6.10.2 The next section of the investigation report captures the information gathered during the interview(s) and site inspection phase of the investigation.

6.10.3 The next section captures all the facts gathered from the interviews, site inspections, technical information, etc.

6.10.4 The next section to be completed is the observation section of the report. The observations that are obvious can be listed promptly. For example, an employee is involved in a fleet accident where a car pulled out in front of them. An obvious observation would be that the driver did not see them coming. However, additional observations may not be as obvious.

6.10.5 The analysis chart evaluates the facts gathered into different categories, knowledge, skills, and behaviors, or equipment failure and natural phenomenon/sabotage. The breakdown of the observations into these different categories provides focus for the recommendations.

6.10.6 Once the facts and observations have been made, conclusions as to the primary reason(s) why the facts and observations came to be can be formulated.

6.10.7 The next step is to generate recommendations, based on the conclusions made, that would prevent reoccurrence or prevent a similar type of incident/accident from happening. Those involved in the investigation and those who perform the type of work that resulted in the accident/incident should participate in the recommendation phase.

6.11 Communicating Investigation Results

6.11.1 Upon completion of the Accident/Incident Investigation Report, the results of the investigation shall be reviewed with the appropriate personnel where work assignments were affected, or could have been affected, by the accident.

6.11.2 A copy of the Accident/Incident Investigation Report or a memo outlining the causes and corrective recommendations of the accident shall be distributed to the affected personnel (including other jobsites or work crews with similar potential) and covered at the next pre-job safety meeting. An immediate review of the accident may be conducted, depending on the severity.

7.0 TRAINING:

7.1 All employees shall be made aware of this program and the importance of reporting all injuries. Training on this program shall be covered in the employee's orientation training and periodically covered as part of their regular safety briefings.

7.2 Personnel who may be on the incident investigation team will be trained in their roles and responsibilities for incident response and incident investigation techniques in accordance with this procedure.

7.3 Training records shall be maintained by the Project Manager/Job Site Supervisor and submitted to the Safety Director at the completion of the project.

8.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

MISSOURI DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS
DIVISION OF WORKERS' COMPENSATION

REPORT OF INJURY

P.O. Box 58
Jefferson City, MO 65102-0058
(To complete form, see attached instructions)

GENERAL

EMPLOYER *(NAME, ADDRESS, INCL ZIP CODE)*

CARRIER ADMINISTRATOR CLAIM NUMBER

REPORT PURPOSE CODE

JURISDICTION

JURISDICTION CLAIM NUMBER

INSURED REPORT NUMBER

EMPLOYERS LOCATION ADDRESS *(IF DIFFERENT)*

LOCATION #

PHONE #

SIC CODE

EMPLOYER FEIN

CARRIER / CLAIMS ADMIN

CARRIER *(NAME, ADDRESS & PHONE NO.)*

POLICY PERIOD
to

CHECK IF APPROPRIATE
☐ SELF INSURANCE

CLAIMS ADMINISTRATOR *(NAME, ADDRESS & PHONE NO.)*

CARRIER FEIN

INSURANCE POLICY NUMBER

ADMINISTRATOR FEIN

AGENT NAME & CODE NUMBER

EMPLOYEE

NAME *(LAST, FIRST, MIDDLE)*

DATE OF BIRTH

SOCIAL SECURITY #

DATE HIRED

STATE OF HIRE

ADDRESS *(INCLUDE ZIP)*

SEX
☐ MALE
☐ FEMALE
☐ UNKNOWN

MARITAL STATUS
☐ UNMARRIED
SINGLE DIVORCED
☐ MARRIED
☐ SEPARATED
☐ UNKNOWN

OCCUPATION JOB TITLE

EMPLOYMENT STATUS

PHONE #

OF DEPENDENTS

NCCI CLASS CODE

WAGE

RATE
PER ☐ DAY ☐ MONTH ☐ WEEK ☐ OTHER

OF DAYS WORKED/WEEK

FULL PAY FOR DAY OF INJURY? ☐ YES ☐ NO

DID SALARY CONTINUE? ☐ YES ☐ NO

OCCURRENCE

TIME EMPLOYEE BEGAN WORK ☐ AM ☐ PM

DATE OF INJURY / ILLNESS

TIME OF OCCURRENCE ☐ AM ☐ PM

LAST WORK DATE

DATE EMPLOYER NOTIFIED

DATE DISABILITY BEGAN

CONTACT NAME PHONE NUMBER

TYPE OF INJURY ILLNESS

PART OF BODY AFFECTED

DID INJURY ILLNESS EXPOSURE OCCUR ON EMPLOYER'S PREMISES? ☐ YES ☐ NO

TYPE OF INJURY/ILLNESS CODE

PART OF BODY AFFECTED CODE

ZIP CODE OF THE LOCATION WHERE THE ACCIDENT OR ILLNESS EXPOSURE OCCURRED

ALL EQUIPMENT, MATERIALS, OR CHEMICALS EMPLOYEE WAS USING WHEN ACCIDENT OR ILLNESS EXPOSURE OCCURRED

SPECIFIC ACTIVITY THE EMPLOYEE WAS ENGAGED IN WHEN THE ACCIDENT OR ILLNESS EXPOSURE OCCURRED

WORK PROCESS THE EMPLOYEE WAS ENGAGED IN WHEN ACCIDENT OR ILLNESS EXPOSURE OCCURRED

HOW INJURY OR ILLNESS/ABNORMAL HEALTH CONDITION OCCURRED. DESCRIBE THE SEQUENCE OF EVENTS AND INCLUDE ANY OBJECTS OR SUBSTANCES THAT DIRECTLY INJURED THE EMPLOYEE OR MADE THE EMPLOYEE ILL.

CAUSE OF INJURY CODE

DATE RETURN TO WORK

IF FATAL, GIVE DATE OF DEATH

WERE SAFEGUARDS OR SAFETY EQUIPMENT PROVIDED? ☐ YES ☐ NO

WERE THEY USED? ☐ YES ☐ NO

TREATMENT

PHYSICIAN HEALTH CARE PROVIDER *(NAME & ADDRESS)*

HOSPITAL *(NAME & ADDRESS)*

INITIAL TREATMENT
☐ 0 - NO MEDICAL TREATMENT
☐ 1 – MINOR: BY EMPLOYER
☐ 2 – MINOR CLINIC HOSPITAL
☐ 3 – EMERGENCY CASE
☐ 4 – HOSPITALIZED > 24 HOURS
☐ 5 – FUTURE MAJ. MED. LOST TIME ANTICIPATED

OTHERS

WITNESS *(NAME & PHONE #)*

DATE ADMINISTRATOR NOTIFIED

DATE PREPARED

PREPARER'S NAME & TITLE

PHONE NUMBER

WC-1-EDI (02-16) AI

NOTE: This form constitutes the detailed report of injury required by §287.380, RSMo, and rules applicable thereto. An injury that requires immediate first aid, but does not result in further medical treatment or lost time from work, need not be reported to the Division. Employers should report all injuries to their workers' compensation insurance carrier or third-party administrator (TPA) within five days of the date of the injury or within five days of the date on which the injury was reported to the employer by the employee, whichever is later. See §287.380, RSMo. If the employer has been granted self-insurance authority by the Division pursuant to §287.280, RSMo, and rules applicable thereto, please report all injuries to your TPA or Service Company to enable them to file this report with the Division.

PRINT QUALITY: All reports of injury and supporting documents received by the Division will be processed electronically. All forms submitted to the Division MUST be of clear and legible quality. Handwritten forms will not be accepted. Computer generated forms shall use a **minimum** type size of **10 points**. All documents not meeting the above criteria will be returned.

TO BE ANSWERED ONLY IN CASE OF DEATH

DATE OF DEATH

EMPLOYEE'S DEPENDENTS

NAME OF DEPENDENT	RELATION TO EMPLOYEE	ADDRESS OF DEPENDENT			
		ADDRESS	CITY	STATE	ZIP CODE

Missouri Division of Workers' Compensation is an equal opportunity employer/program. Auxiliary aids and services are available upon request to individuals with disabilities. TDD/TTY: 800-735-2966 Relay Missouri: 711

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Data Element Dictionary for Hard Copy Report of Injury

Data Element	IAIABC Data Definition	Missouri Notes	Mandatory Field
Employer (Name & Address)	The name of the employer where the employee was employed at the time of the injury.	This is the name the employer does business under followed by the FULL address including mailing address, city, state and zip code.	M
Industry Code	The code which represents the nature of the employer's business which is contained in the North American Industry Classification System Manual published by the Federal Office of Management and Budget. See implementation note below: The industry code selected should represent the primary nature of the employer's business. If the employer is assigned multiple industry codes, use the code that relates to the specific business operation for which the employee was employed at the time of the injury. The data element may contain an SIC code or NAICS Code. SIC code will be identified with the characters 'SC' as the last two characters of the data element. If SC is not present, the code is presumed to be NAICS.	This is the Standard Industrial Classification Code for the employer. SIC/NAICS codes can be found at www.census.gov/epcd/www/naics.html	M
Employer FEIN	The FEIN of the employer where the employee was employed at the time of the injury.	Must be the primary FEIN for the Employer listed above.	M
Report Purpose Code (RPC)	Defines the specific purpose of the report being filed with the state of Missouri. 00 = Original FROI 02=Change CO=Correction AQ=Acquired Report of Injury AU=Acquired Unallocated Report of Injury	The Report of Injury that the employer is required to file with the Division of Workers' Compensation (Division) through the insurance carrier or third party administrator (TPA).	M
Claims Administrator's Number	Identifies a specific claim within a claim administrator's claims processing system.	Number used by the organization adjusting the claim (insurance company, third party administrator, etc.).	M
Jurisdiction	The governing body or territory whose statute applies.	This must always be Missouri.	M
Jurisdiction Claim Number		The injury number assigned by the Division upon receipt of the First Report of Injury with all mandatory information provided. The reporting entity is to leave this field blank.	

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Data Element	IAIABC Data Definition	Missouri Notes	Mandatory Field
Insured Report Number	A number used by the insured to identify a specific claim.		O
Employer's Location Address	List the physical address of where the employee sustained the accident or illness if that location is different from where the employer wishes to have correspondence sent.		O
Insured Location Number	A code defined by the insurer/employer, which is used to identify the employer's location of the accident.		O
Phone Number	List a phone number of the employer location where the employee worked at the time of the accident.		O
Carrier (insurer) Name & Address	The name and mailing address of the carrier or self-insured entity assuming the employer's financial responsibility for the workers' compensation claim.	If the employer is **individually** self-insured, the **individual** self-insured employer's name and mailing address would be indicated in this field. The FEIN and Name must match. **If the employer is self-insured by a trust, the trust's name would be submitted in this field.**	M
Carrier (insurer) FEIN Number	The FEIN of the carrier or self-insured assuming the employer's financial responsibility for the workers' compensation claim(s).		M
Carrier Policy Number	The number assigned to the contract/policy for the employer or association group.	A number assigned by the **insurance company, *(Not a number assigned by a TPA)*** for the specific workers' compensation policy for that employer. Not a required field for Division approved self-insureds.	M
Policy Period	List the effective and expiration dates of the contract/policy.	The date that the policy became effective and the date the policy expires or is no longer in effect. No date is required in this field if the injury falls within the Division approved self-insurer's self-insurance period.	M
Self-Insured Indicator	An indicator that identifies the employer as one who is authorized by the state of Missouri to retain the risks arising from their operations and bears the financial responsibility. Y=Yes, N=No	Condition – Must indicate Y(Yes) ONLY for an individual employer or a member of a self-insured trust authorized by the Missouri Division of Workers' Compensation to self-insure under § 287.280, RSMo. It does not include uninsured employers or employers under deductible insurance policies.	C
Claim Administrator (TPA) Name & Address	The name and mailing address of the Third Party Administrator (TPA), independent administrator, contracted to adjust the claim on behalf of the carrier or self-insured.	Name and mailing address of the Third Party Administrator (TPA), independent adjuster, contracted to adjust the claim and phone number of the office adjusting the claim. If there is not a TPA, independent adjuster/administrator, contracted to adjust the claim please leave blank.	C

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Data Element	IAIABC Data Definition	Missouri Notes	Mandatory Field
Claim Administrator (TPA) FEIN Number	The FEIN of the Third Party Administrator (TPA), independent adjuster/administrator, contracted to adjust the claim on behalf of the carrier or self-insured.	FEIN number for the company hired as a TPA. Note: If there is no Third Party Administrator, please leave blank.	C
Agent Name & Code Number	List the name and code number of the carrier or claim administrator agent who administers the workers' compensation claims for the employer.		O
Employee Name	The injured worker's legally recognized name which is used on legal documents, employment, Social Security, banking, records, etc.	Name to include last, first and middle initial.	M
Employee Date of Birth	The date the injured worker was born.	Must be a valid date.	M
Social Security Number	A number assigned by the Social Security Administration used to identify the employee.	If a SSN is not available please call 573-526-3542.	M
Date of Hire	The date the injured worker began his/her employment with the employer under which the claim is being filed. If there have been multiple periods of employment, this would be the beginning date of the current employment period.	Must be valid date.	O
State of Hire	List the state where the employer hired the employee.		O
Employee Address	The mailing address used by the injured worker.	The address should not be listed as unknown. Please include the last known address provided by the injured worker that is on file with the employer.	M
Employee Phone	A telephone number where the injured worker can be reached.	This is an optional field, although if the employer or insurance company has this information, please report it to the Division. This will improve communication between the parties. This will be a numeric field only *5736367777*.	O
Gender Code	The code which indicates the sex of the employee. Gender of employee F=Female M=Male U=Unknown		M
Number of Dependents	The number of dependents as defined by the administrating jurisdiction.	Spouse, minor children or others if known. Required if date of death is entered. Numeric field 0-9.	C
Marital Status Code	The code, which indicates the marital status of the employee. U = Widowed, divorced, single, unmarried, M = Married, S = Separated, K = Unknown		O

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Data Element	IAIABC Data Definition	Missouri Notes	Mandatory Field
Occupational/ Job Title or Description	Identifies the primary occupation of the employee at the time of the accident or injurious exposure.		O
Employment Status Code	Indicate the employee's primary work code status at the time of the injury with the covered employer.		O
NCCI Class Code	A code, which, corresponds to the primary occupation in which the employee was engaged at the time of the accident/injury or injurious exposure.	MO uses NCCI codes.	M
Wage	The reported employee's pre-injury wage for the wage period. Implementation Note: This amount may include commission, piecework earnings, and other forms of income converted to a normal scheduled work week, plus the estimated value of lodging, food, laundry and other payments in kind; and concurrent employment earnings, as prejurisdictional requirement.	"Gross Wages" includes, in addition to money paid by the employer for services rendered by the employee, the reasonable value of board, rent, housing, lodging or similar advance by the employer, except if it continues to be provided to the employee for the period of disability, it is not included in calculating the average weekly wage. "Wages" also includes gratuity received in the course of employment from individuals other than the employer that are reported for income tax purposes. "Wages" does not include fringe benefits such as retirement, pension, health and welfare, life insurance, training, Social Security or other employee or dependent benefit plan provided by the employer. **Please See Special Notes #1**	M
Wage Period	A code indicating the time period during which the wage was earned.	Please use the weekly wage rate paid to the employee.	M
Number of Days Worked	The number of the employee's regularly scheduled workdays per week.		O
Full Wages Paid for the Date of Injury Indicator	Indicates whether full wages for the date of the accident/injury or illness were paid by the employer.		O
Salary Continued Indicator	The employer has paid or is paying the employee's salary in lieu of compensation during an absence caused by a work-related injury.	Did the employer continue to pay salary to the employee after the injury? N=No Y=Yes	O
Time Employee Began Work	Time at which the employee began work on the day of the accident/injury or illness.		O
Date of Injury/Illness	For traumatic injury, the date on which the accident occurred. For occupational disease or cumulative injury, the date of injury is the date of last injurious exposure to the cause or substance creating the condition, unless otherwise defined by statute.	Date that injury/illness occurred or became known to employee; whichever is later.	M

WC-1-EDI-6 (02-16) All

Data Element	IAIABC Data Definition	Missouri Notes	Mandatory Field
Time of Occurrence	The time at which the accident occurred.	To the extent that the time of the occurrence of the accident/injury is available, you should provide it to the Division. Please indicate a.m. or p.m.	O
Date Last Day Worked	The last paid workday prior to the initial date of disability as defined by jurisdiction.	Must be valid date.	O
Date Employer Notified	The date that the injury was reported to a representative of the employer.		M
Date Disability Began	The first day on which the employee originally lost time from work due to the occupational injury or disease or as otherwise defined by jurisdiction.	**Date of disability must be greater than Date of Injury.** First date employee starts losing time from work after the date of injury. This is the day after the date of injury or the first day of work missed, if later. The three-day waiting period is calculated from the first date of lost time and the lost time does not need to be consecutive days. **Please See Special Notes #2**	C
Contact Name & Phone Number	List the name and phone number for a representative of the employer.		C
Type of Injury/Illness	List the type of injury/illness sustained by the employee.		O
Part of Body Affected	List the part of body to which the employee sustained injury.		O
Employer Premises Indicator	An indicator to denote whether the accident occurred at the employer's address provided.	If the injury/illness occurred on the employer's property indicate "YES." If it occurred elsewhere indicate "NO."	M
Type of Injury/Illness Code	The code, which corresponds to the nature of the injury sustained by the employee.	Choose from the list of code numbers, which corresponds with the nature of the injury. A list of codes with description of each code is available at www.wcio.org/Document%20Library/InjuryDescriptionTablePage.aspx **Please See Special Notes #2**	M
Part of Body Affected Code	The code, which corresponds to the part of the body to which the employee sustained injury.	Choose from the list of code numbers, which corresponds with the part of body injured. A list of codes with a description of each code is available at www.wcio.org/Document%20Library/InjuryDescriptionTablePage.aspx	M

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Data Element	IAIABC Data Definition	Missouri Notes	Mandatory Field
Zip Code of the Location Where Accident or Illness Exposure Occurred	The zip (postal code) that corresponds to the location where the injury occurred.	The code is required to assist with docket setting if needed.	M
All Equipment Using	List all the equipment; materials or chemicals the employee was using at the time of the accident/injury or illness exposure occurred.		O
Specific Activity Engaged In	Describe the specific activity that the employee was doing at the time the accident/injury or illness exposure occurred.		O
Work Process Engaged In	Describe the work process the employee was doing when the accident/injury or illness exposure occurred.		O
How the Injury or Illness Occurred	A free form description of how the accident occurred and the resulting injuries.	Describe how the injury/illness occurred. Please include the events that led to the injury/illness and any objects or substances that directly injured the employee or made the employee ill. Maximum of 150 characters, including spaces. *For example: Employee was on ladder putting away product, fell on chemical barrel breaking lower arm; arm lacerations; exposed to chemical liquid and fumes (141 characters).*	M
Cause of Injury Code	The code which corresponds to the cause of injury.	Choose from the list of code numbers, which corresponds with the cause of the injury. A list of codes with a description of each code is available at www.wcio.org/Document%20Library/InjuryDescriptionTablePage.aspx (Struck by, fell, auto accident, exposure, etc.)	M
Date Returned to Work	The first date on which the employee returned to work following the injury.	Must be a valid date. Must be entered if employee lost days of work and returned to work before first report of injury is filed.	C
Employee Date of Death	The date the injured worker died.	Must be a valid date.	C
Safeguards	Indicate whether safeguards or safety equipment was provided by checking "Yes" or "No."		O
Were They Used	Indicate whether the safeguards or safety equipment was used by the employee by checking "Yes" or "No."		O
Physician/Health Care Provider	List the name and address of the physician or health care provider who provided initial medical treatment to the injured employee after the accident/injury or illness.		O

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Data Element	IAIABC Data Definition	Missouri Notes	Mandatory Field
Hospital	List the name and address of the hospital where the employee received initial medical treatment.		O
Initial Treatment	A code used to identify the extent of medical treatment received by the employee immediately following the accident. 0= No medical treatment 1= Minor on-site remedies by employer medical staff 2= Minor clinic/hospital medical remedies and diagnostic testing 3= Emergency evaluation, diagnostic testing, and medical procedures 4= Hospitalization > 24 hours 5= Future major medical/lost time anticipated	First Aid includes the administration of immediate and temporary medical aid to the employee that a lay person may provide, such as the application of Band-Aid to treat a minor scratch or the removal of a splinter that would not result in the need for a referral to a doctor or other health care professional for additional medical treatment or would not result in further lost-time from work. The on-site company nurse or physician may be the individual that provides the first aid. If the company nurse or physician provides service beyond first aid, then the injury must be reported even if the treatment occurs on-site. **Please see Special Notes #2**	M
Witness	List the name and address of all witnesses who were present when the employee sustained the accident/injury or illness.		O
Date Reported to Claims Administrator	The date the claim administrator who is processing the claim received notice of the loss or occurrence.		M
Date Prepared	List the date that the representative for the claims administrator prepared this report of injury.		O
Preparer's Name and Title	List the name and title of the claims administrator's representative who prepared this report of injury.		C
Phone Number	List the phone number of the representative preparing this report of injury.		C

M – Mandatory – Cases missing mandatory information will NOT be accepted by the Missouri Division of Workers' Compensation system.

C – Conditional – Data Elements with Conditional fields indicate a value is required based on another Data Element or pre-existing condition.

Examples: When a death case is reported then the death date would be required.
If the employee has returned to work prior to the report being filed, the date of return to work would be entered.

O – Optional – Data Elements identified as Optional may be entered but are not required.

WC-1-EDI-9 (02-16) AI

Special Notes

1) **Wage Instructions**

A) Missouri Notes: Report the wage information as the average weekly wage (AWW) of the employee. These rules apply for calculating the average weekly wage.

1) If the employee's wage is fixed by the year, the AWW is the yearly wage divided by 52;

2) If the employee's wage is fixed by the month, the AWW is the monthly wage multiplied by 12 and divided by 52;

3) If the employee's wage is fixed by the week, that amount is the AWW;

4) If the employee's wages are fixed by the day, hour or output, the numerator is the actual gross wages earned by the employee in the last thirteen calendar weeks immediately preceding the week in which the injury occurred; and the denominator is 13 to calculate the AWW.

i) The formula is: Actual gross wages earned in prior 13 weeks/13=AWW. *For example, the employee's hourly wage is $9.00/hour. The overtime rate is $13.50/hour. The employee works 40 hours per week at $9.00 an hour plus occasional overtime. Employee worked overtime of 44 hours in the 13-week period immediately preceding the week of the injury. The employer has employed the employee for 2 years.*

The gross wages are $9.00 X 40 hours X 13 weeks = $4,680. You also need to include the overtime 44 hours. Therefore, $13.50 X 44 hours = $594. The total wages are $4,680 plus $594 = $5,274. The AWW is $5,274/13=$405.69.

ii) If the employee misses nonconsecutive workdays during the 13-week period in multiples of 5 those days shall be subtracted from the denominator. *For example: if the employee misses 5 days, one week is subtracted from 13 and the denominator becomes 12; if the employee misses 10 days, two weeks are subtracted from 13 and the denominator becomes 11; and so on.*

iii) Partial weeks of time missed by the employee do not count to change the denominator. *For example: if the employee misses 4 days, the denominator is 13; if the employee misses 6 days, one week is subtracted from 13 and the denominator becomes 12; and so on.*

iv) If the employee works less than 13 weeks but more than 2 weeks, the AWW is the same formula with the numerator as the gross wages calculated for the number of weeks of employment and the denominator is the number of weeks of employment. *For example, the employee worked for the employer 8 weeks prior to the week of the injury. The employee was paid $9.00 per hour and worked 40 hours per week. The employee worked 13 hours of overtime. The overtime rate is $13.50. The gross wages are $9.00 X 40 hours X 8 weeks plus $13.50 X 13 hours = $3,055.50. The AWW is $3,055.50/8=$381.94.*

5) If the employee works less than two weeks the AWW shall be equivalent to the AWW for the same or similar employment. However, if the employer has agreed to a certain hourly wage, then the hourly wage agreed upon multiplied by the number of weekly hours scheduled shall be the employee's AWW.

B) **When the Date Returned to Work is more than three days from the Date Disability Began, the workers' compensation case will be considered an indemnity case. You will receive a request for the cost of medical treatment, the date returned to work, and the total amount of temporary total disability benefits paid to the employee.**

C) When Initial Treatment Code is reported as equal to 00, 01 or 02, the case will be considered as a medical only case. If the time period between the Date Disability Began and the Date Returned to Work is three days or less, the case will be classified as a medical only case. You will receive a request for the cost of medical treatment and the date returned to work, if not supplied. After all required information has been filed and there is no further activity on a case for six months, the case may be administratively closed. When the Initial Treatment Code is reported as equal to 03, 04 or 05, the case will be considered as an indemnity case. You will receive a request for the cost of medical treatment, the date returned to work, and the total amount of temporary total disability benefits paid to the employee.

2) **Initial Treatment Code, Date Disability Began and Date Returned to Work:**

A) When Initial Treatment Code is reported as 00, 01 or 02, the case will be considered a medical only case. If the time period between the Date Disability Began and the Date Returned to Work is three days or less, the case will be classified as a medical only case. You will receive a request for the cost of medical treatment and the date returned to work, if not supplied. After all required information has been filed and there is no further activity on a case for six months, the case may be administratively closed.

B) When the Initial Treatment Code is reported as 03, 04 or 05, the workers' compensation case will be considered an indemnity case. You will receive a request for the cost of medical treatment, the date returned to work, and the total amount of temporary total disability benefits paid to the employee.

1) When the Date Returned to Work is more than three days from the Date Disability Began, the workers' compensation case will be considered an indemnity case. The three-day waiting period is calculated from the first date of lost time and the lost time does not need to be consecutive days. You will receive a request for the cost of medical treatment, the date returned to work, and the total amount of temporary total disability benefits paid to the employee.

C) The following are examples of First Aid treatment:

a) Use of non-prescription medication at non-prescription strength.

b) Cleaning, flushing or soaking wounds on the surface of the skin.

c) Using wound coverings such as bandages, Band-Aids, gauze pads, etc. or using butterfly bandages or Steri-Strips. (Other wound closing devises such as sutures, staples, glues, etc. are considered medical treatment.)

d) Use of any non-rigid means of support such as an elastic bandage, wrap, or non-rigid belt. (The use of devices with rigid stays or other systems designed to immobilize body parts is considered medical treatment.)

e) Use of temporary immobilization devices (e.g., splints, slings, neck collars, etc.) while transporting an accident victim.

f) Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs, or other simple means.

g) Use of finger guards.

h) Drinking of fluids for relief of heat stress.

3) **Mesothelioma Liability: Several changes to the Workers' Compensation Law went into effect January 1, 2014. Pursuant to §287.200.4, RSMo, employers may elect to accept mesothelioma liability in one of the following ways:**

a. Insuring their liability by purchasing a workers' compensation policy;

b. Meeting the requirements of the Division of Workers' Compensation to qualify as a self-insurer;

c. Joining a Group Insurance Pool that complies with §287.223. (An employer may become a member of the Missouri Mesothelioma Risk Management Fund);

d. Rejecting *mesothelioma* liability under the Missouri Workers' Compensation Law.

Please note that if an employer has rejected *mesothelioma* liability coverage under the Workers' Compensation Law, the exclusive remedy provision of the Workers' Compensation Law, §287.120, RSMo, does not apply.

4) **Occupational diseases:** Occupational diseases due to toxic exposure have been defined effective January 1, 2014. The "occupational diseases due to toxic exposure" includes the following: asbestosis, berylliosis, coal worker's pneumoconiosis, bronchiolitis obliterans, silicosis, silicotuberculosis, manganism, acute myelogenous leukemia and myelodysplastic syndrome. The reporting requirements relating to other occupational diseases such as carpal tunnel syndrome, etc. remains the same.

THIS REPORT IS TO BE COMPLETED BY THE INJURED EMPLOYEE. COMPLETE ALL SECTIONS AS ACCURATELY AS POSSIBLE. USE COMPLETE SENTENCES WHEN DESCRIBING ACTIONS, CONDITIONS, AND EVENTS. SEE YOUR SUPERVISOR IF YOU NEED HELP.

Company Name _____

Date of Accident _____ Project _____

Exact Location of Accident _____

Name (Last, First, MI) _____ SS# _____

Home Address _____ Phone # _____

_____

Marital Status _____

Date of Birth _____ Sex _____ # Dependents under 18 _____

Occupation _____ Employment Date _____ # Years Employed _____

Weekly Wage (gross) _____ Shift Start Time _____ Time of Accident _____

Hours at Task _____

WHAT WERE YOU DOING WHEN THE INJURY OR ILLNESS OCCURRED (WHAT JOB?, WHAT TOOLS/MATERIALS WERE USED?)

HOW DID THE INJURY OR ILLNESS OCCUR? (DESCRIBE ALL OBJECTS, ACTIONS, OR SUBSTANCES INVOLVED.)

WHAT UNSAFE ACTIONS OR CONDITIONS DO YOU THINK CAUSED THE ACCIDENT?

FULLY DESCRIBE YOUR INJURY AND THE PARTS OF THE BODY INVOLVED.

NAME, ADDRESS, AND PHONE NUMBER OF DOCTOR, CLINIC, OR HOSPITAL WHERE YOU RECEIVED MEDICAL TREATMENT.

Were you off work due to injury? (Y or N) _____ Last Date Worked _____

Date Return to Work _____

_____ _____

Employee Signature Date

_____ _____

Supervisor Signature Date

THIS REPORT IS TO BE COMPLETED BY SUPERVISORS FOLLOWING ACCIDENTS RESULTING IN INJURY, PROPERTY DAMAGE, AND NEAR MISS ACCIDENTS. USE COMPLETE SENTENCES WHEN DESCRIBING ACTIONS, CONDITIONS, AND EVENTS.

Company Name _____

Date of Accident _____ Project _____

Time of Accident _____

Exact Location of Accident _____

NAMES OF PERSONS INVOLVED (IF NOT EMPLOYEES, INDICATE EMPLOYER, ADDRESS OR RELATIONSHIP TO THE ACCIDENT)	NAMES OF WITNESSES (IF NOT EMPLOYEES, INDICATE EMPLOYER ADDRESS, OR RELATIONSHIP TO THE ACCIDENT AND CHECK IF INTERVIEWED)

HOW DID THE ACCIDENT OCCUR? (BE SPECIFIC - LIST ALL ITEMS AND ACTIONS INVOLVED)

DESCRIBE ANY PROPERTY OR MATERIAL DAMAGE AND INDICATE OWNERSHIP.

WHAT UNSAFE ACTIONS OR CONDITIONS CAUSED OR CONTRIBUTED TO THE ACCIDENT?

DOES THE COMPANY HAVE A SAFE WORK PRACTICE FOR THE WORK OPERATION BEING PERFORMED? ( ) YES ( ) NO	WAS THE EMPLOYEE INVOLVED TRAINED TO PERFORM THE WORK OPERATION? ( ) YES ( ) NO
DID ANY EMPLOYEE VIOLATION OF A COMPANY WORK RULE OR PROCEDURE CAUSE THE ACCIDENT? ( ) YES ( ) NO	WAS INJURY DUE TO EMPLOYEE FAILURE TO USE PROVIDED PERSON PROTECTIVE EQUIPMENT? ( ) YES ( ) NO

COULD THE ACCIDENT HAVE BEEN WORSE? HOW?

WHAT STEPS ARE BEING TAKEN TO PREVENT A SIMILAR RECURRENCE OF THE ACCIDENT?

Supervisor Signature _____ Date _____

Safety Coordinator Signature _____ Date _____

TO BE COMPLETED BY THE WITNESS TO AN ACCIDENT. PLEASE PROVIDE US WITH YOUR HONEST COMMENTS TO THE QUESTIONS BELOW. THE POINT OF THIS INVESTIGATION IS NOT TO FIX BLAME, RATHER IT IS TO PREVENT A SIMILAR RECURRENCE OF THIS ACCIDENT. YOUR OPINIONS AND SUGGESTIONS MAY HELP IN PREVENTING OTHERS FROM BEING INJURED.

Company Name _____

Date of Accident _____ Project _____

Time of Accident _____

PLEASE DESCRIBE IN DETAIL WHAT YOU SAW HAPPEN.

WHAT DO YOU FEEL TO BE THE REAL CAUSE OF THIS ACCIDENT? (PLEASE DO NOT USE THE WORD CARELESS)

WHAT STEPS DO YOU FEEL SHOULD BE TAKEN TO PREVENT A SIMILAR RECURRENCE OF THIS ACCIDENT?

Witness Name (Last, First, MI) _____

Home Address _____ Phone # _____

_____ _____

Witness Signature Date

_____ _____

Supervisor Signature Date Reviewed

_____ _____

Safety Coordinator Signature Date Reviewed

Employee Name: _____

Date of Injury: _____ Time of Injury: _____

Date Reported: _____ Location of Incident: _____

Supervisor(s) _____

_____

Witness(es) _____

_____

Nature of Injury / Condition: _____

_____

_____

_____

Description of Injury / Condition (Body Part(s) Injured): _____

_____

_____

_____

Brief Narrative / Description of Incident: _____

_____

_____

_____

I, _____ , hereby acknowledge that my supervisor(s) has offered and made available to me an opportunity to seek necessary medical treatment and/or observation at the expense of my employer, for the work-related injury I incurred on _____ (date). I understand that upon reporting any work injuries, my employer has policy of post-accident drug testing. I am refusing this testing and I understand that by doing so I forfeit my rights to benefits under the worker's compensation act.

_____ _____

Employee Signature Date

Use this form to report events that under slightly different circumstances could have resulted in personnel injury. Names and dates are not necessary unless they are critical to identify recommended corrective actions.

Date incident occurred: _____/_____/_____
Location_____

Persons Involved:
_____
_____
_____

Witnesses:_____
_____

Task at Time of Incident:
_____
_____
_____

Description of Incident:
_____
_____
_____
_____
_____

Property/equipment involved (if applicable, indicate equipment /property damage)
_____
_____
_____

Describe What Could of Happened:
_____
_____
_____
_____

_____
_____

PRIMARY OBSERVATIONS AND CONCLUSIONS:

_____
_____
_____
_____
_____
_____

RECOMMENDED CORRECTIVE ACTIONS:

_____
_____
_____
_____
_____
_____

COMMUNICATE WITH:

_____

INVESTIGATION DATE: ____/_____/_____ COMPLETED BY:_____

When safe to do so, immediately notify the Safety Manager and your Supervisor

The Kuesel Group

Kuesel Excavating Company
G.S. Grinding Services / Midwest Milling
Amcon Municipal Concrete

Insured's Name _____ Location Code _____

Insured's Address _____

Location of Incident _____

Date of Incident _____ Time _____ AM / PM

Describe Insured Vehicle: **Year** _____ **Make** _____ **Model** _____ **Last 4 VIN** _____

Driver _____ Police Report: Yes ___ No ___ Dept./Case No. _____

Area of Damage to Insured Vehicle: Where is Vehicle Located?

Describe Other Vehicle: **Year** _____ **Make** _____ **Model** _____ **Last 4 VIN** _____

License #: _____ Plate #: _____

Owner of Other Vehicle: Name _____ Address: _____

_____ Telephone: _____

Driver of Other Vehicle: Name _____ Address: _____

_____ Telephone: _____

Damage to Other Vehicle or Property: _____

Injuries: List Name, Address, Phone Number and Type of Injury:

1. _____

_____

2. _____

_____

Description of Accident: _____

_____

_____

_____

_____

Photographs taken? Yes ____ No ____

Reporting Manager _____ Phone _____ Date _____

Signature _____

DISTRIBUTION

Fax Copy to: Assured Partners of Missouri at (314) 453-7555

Retain copy for your records

Employee Name:_____**Incident Date:**_____**Contact Number:** _____

Department:_____**Incident Time:**_____

Incident Location:_____**Date/Time Reported:**_____

Employee's Supervisor:_____**Reported To:**_____

Employee's Job Title:_____**Date Investigation Began:**_____

Witness(es)/Personnel Involved:_____

INCIDENT DESCRIPTION: (TO BE COMPLETED BY THE EMPLOYEE) Be Very Detailed_____

Employee Signature:_____

IMMEDIATE ACTION TAKEN: (USED TO DESCRIBE IMMEDIATE ACTION TAKEN TO ELIMINATE ANY UNSAFE ACTS OR CONDITIONS)_____

Was there an injury? ( ) Yes ( ) No If yes, what Body Part(s) Injured or Affected: _____

Hours worked in previous week: _____ Hours worked this week: _____

PPE worn at time of incident: Type: _____ Manufacturer: _____

Did employee report to a medical provider or First Responder? ( ) Yes ( ) No

If no, explain why

_____

If the employee makes a willful choice not to see nurse or First Responder have them sign statement below.
I choose not to be examined or treated by the First Responder

Employee signature _____

INCIDENT CLASSIFICATION

☐Report Only ☐Fire/Explosion ☐Incident Involving Contractor

☐Spill/Release ☐Incident Involving Third Party ☐Vehicle Incident

☐Injury/Illness Report ☐Property Damage ☐ Near Miss

☐ Fatality/Critical Injury **(Require Notification)** ☐Catastrophic Event **(Require Notification)**

INJURY / EXPOSURE MECHANISM (for injuries/illnesses)

	STRUCK BY OBJECT		STRUCK AGAINST OBJECT		CAUGHT IN OR BETWEEN
	FALL – SAME LEVEL		FALL FROM ELEVATION		SLIP OR TRIP WITHOUT FALL
	BODY POSITIONING		LINE OF FIRE		OVEREXERTION
	CHEMICAL CONTACT		THERMAL CONTACT		ELECTRICAL CONTACT
	NOISE		REPETITIVE MOTION		INSECT BITE
	UNKNOWN		OTHER (Foreign Body)		NON-OCCUPATIONAL

INCIDENT CAUSE(S) *(check all that apply)*

	Operating Without Authority		Operating At An Unsafe Speed		Lack Of Preventative Maintenance		Rules not enforced
	Using Unserviceable Equipment		Removing Safety Devices (Guards)		Poor Housekeeping		Not Setting Measurable Standards
	Using equipment Improperly		Missing Or Inadequate Safeguards/Devices		Lack of knowledge or skill		Pushing / Pulling
	Not Using PPE or Incorrect use of PPE		Bypassing or reaching around Safeguards		Physical or Mental Condition		Not properly inspected
	Incorrect Lifting		Using Defective Tools		Literacy/Ability		Lack of Risk Assessment
	Inattentiveness		Wear Of Tools and/or Equipment		Sub-Standard Equipment		Not Following Proper Procedures or JSAs

	Horseplay		Carelessness By Injured Employee/Other Employee		Unsafe/Inadequate Procedures/Practices		OTHER (list)
	Failure To Secure Equipment and/or Materials		Lack Of Training		Inappropriate Engineering or Design		

EXPLANATION OF CAUSAL FACTORS

CORRECTIVE ACTION (all corrective action will be entered into the action tracking database)

CORRECTIVE ACTION	RESPONSIBLE PERSON	ESTIMATED COMPLETION DATE

INCIDENT INVESTIGATION TEAM

NAME	LOCATION	NAME	LOCATION

INVESTIGATION REPORT REVIEW

INVESTIGATION TEAM LEADER

DATE

PROJECT MANAGER/SUPERVISOR

DATE

SP 17 Workplace Violence Prevention

1.0 PURPOSE:

1.1 The Kuesel Group is concerned and committed to our employees' safety and health. We refuse to tolerate violence in the workplace and will make every effort to prevent violent incidents from occurring by implementing a Workplace Violence Prevention Program. Our program aims to acquaint employees with what we consider workplace violence and ask them to report early signs or threats. We want to provide all employees with a safe workplace where mutual respect is a given. We ask everyone to be professional and ethical at work.

1.2 A copy of this policy is readily available to all employees from each manager and supervisor. Our program will be reviewed and updated annually.

2.0 SCOPE:

2.1 This policy applies equally to all employees, contractors, public visitors, clients and anyone else whom employees come into contact with during work.

3.0 WORKPLACE VIOLENCE POLICY:

3.1 **"Workplace violence"** refers to physical acts of violence or threats to harm a person or property. Abusive behaviors, whether verbal, psychological or physical, are also considered violence. More specifically:

3.1.1 Verbal abuse can be using unwelcome, embarrassing, offensive, threatening or degrading language.

3.1.2 Psychological abuse is an act which provokes fear or diminishes a person's dignity or self- esteem.

3.1.3 Sexual abuse is any unwelcome verbal or physical assault.

3.2 We can't always predict violent acts, but we ask managers and team members to be vigilant. All employees, including managers and supervisor, are responsible for assisting in maintaining a safe and secure work environment. Report any concerns or violent acts to HR as soon as possible. Examples of violent behavior among co-workers include but are not limited to:

3.2.1 Intimidating or bullying others

3.2.2 Abusive language

3.2.3 Physical assault

3.2.4 Threatening behavior

3.2.5 Concealing or using a weapon

3.2.6 Sexual or racial harassment

4.0 GRIEVANCE PROCEDURE:

4.1 All supervisors and managers are responsible to implement our policies and ensure that all procedures are free of discrimination.

4.2 Employees who witness or suspect violence, or are victims of violence, can report to HR or their immediate supervisor. We will investigate quickly and discreetly. We aim to protect victims from harassment and victimization.

5.0 DISCIPLINARY CONSEQUENCES:

5.1 Our company will not tolerate violence. Any such behavior will trigger appropriate disciplinary action, up to and including termination, as well as potential criminal charges.

6.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 18 Emergency Action Plan

1.0 PURPOSE:

1.1 The purpose of this program is to outline the actions to be taken in the event of a fire, chemical release/spill, medical emergency, tornado/severe storms, or a bomb threat at our office locations.

2.0 SCOPE:

2.1 This procedure applies to all Kuesel Group personnel who may be at one of our office locations during a fire, chemical release/spill, medical emergency, tornado/severe storms, or a bomb threat.

3.0 RESPONSIBILITIES:

3.1 The **President** is responsible for the execution of this plan, directing the evacuation according to the office plan, and to keep a head count of all evacuated personnel.

3.2 All **Employees (including visitors, guests, trainees, etc.)** will be trained on the fire routes, exits, the location and use of emergency equipment, and the accounting of personnel.

4.0 GENERAL INFORMATION:

4.1 The following information outlines key elements required for the safety of all employees during a fire or chemical emergency. These elements shall be incorporated into specific emergency response procedures.

4.1.1 If you discover a fire or chemical release/spill

4.1.1.1 Activate the nearest alarm (if applicable) and/or immediately notify your supervisor.

4.1.1.2 Alert other occupants in the area.

4.1.2 Respond to the fire emergency if

4.1.2.1 Emergency response services have been notified, AND

4.1.2.2 You have been properly trained in the use of emergency response equipment, AND

4.1.2.3 The emergency is small and confined to its area of origin, AND

4.1.2.4 You have a way out and can respond with your back to the exit, AND

4.1.2.5 You have the proper equipment, in good working order, AND know how to use it.

4.1.2.6 If you are not sure of your ability or the equipment's effectiveness, leave the area.

4.1.3 Upon notification or if alarm sounds (if applicable)

4.1.3.1 Evacuate the area. Close windows and doors as you leave.

4.1.3.2 Leave the building or site and move away from exits and out of the way of emergency operations.

4.1.3.3 Assemble in a designated area.

4.1.3.4 Report to your supervisor or the individual responsible for accounting of personnel at the designated location so he/she can determine that all personnel have evacuated your area.

4.1.3.5 Remain outside until management states that it is safe to re-enter.

4.1.4 Evacuation Routes

4.1.4.1 Learn at least two escape routes and the location of emergency exits from your area.

4.1.4.2 Never use an elevator as part of your escape route.

4.1.4.3 Learn to activate a fire alarm (if available).

4.1.4.4 Learn to recognize alarm sounds.

5.0 PROCEDURE:

5.1.1 Fire Emergencies

5.1.1.1 Detailed procedures have been developed for each facility and/or department in the event of a fire emergency.

5.1.2 Medical Emergencies

5.1.2.1 All injuries must be reported to your supervisor, no matter how minor. First Aid/CPR trained personnel should be called to respond to minor first aid injuries. If applicable, the injured may be taken to a health care facility and/or local emergency room for further evaluation. The supervisor shall notify the department manager and the safety manager.

5.1.2.2 If someone is seriously hurt, dial 911 to alert emergency crews. An individual will

be designated to meet emergency crews at the appropriate plant entrance.

5.1.2.3 If the situation warrants the rescue of an unconscious or immobile person from a confined space, inform rescue personnel of the nature of the confined space and any hazards present.

5.1.3 The First Aid/CPR trained personnel will administer first aid and any other measures within their training until the emergency crews arrive at the scene. (Note: for emergencies that involve an immobile or unconscious person in a confined space, entry shall not be made unless personnel are trained and the proper procedures are followed.)

6.0 TRAINING:

6.1 All Kuesel Group employees shall be trained on this program upon hire or assignment to a new location. This training is conducted in the employee's new hire orientation training. The employee shall be trained on this program and the appropriate emergency procedures used to protect the employee in the event of an emergency.

6.2 Additional training shall be conducted at the following times:

6.2.1 Initially when a new plan is developed or changed,

6.2.2 Whenever the employee's responsibilities or designated actions under the plan change, and

6.2.3 Whenever a deficiency is observed in the employees during an evacuation (fire) drill.

6.3 This written program shall be kept at the workplace and made available for employees to review.

6.4 All contractors, vendors, or visitors that are not accompanied by a company representative shall be trained on this program and the emergency procedures for the area(s) in which they will be working/visiting

7.0 DOCUMENTATION:

7.1 Orientation training records shall be kept for each new employee.

7.2 Training rosters shall be kept for all additional training sessions

7.3 Management shall maintain all training records

8.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

Fire Emergency Plans

1. Activate the fire alarm system at the first indication of a fire. At the first sound of the fire alarm bell, all personnel will evacuate the building using the designated fire exits. Proceed to the assembly area at the parking lot or _____if the fire is near the parking lot area.

2. The Designate person (in charge of headcount) will call the Fire Dept. at **911**. Be prepared to give the following information to the 911 dispatcher

   Your name

   Nature of event – (ex. fire or medical emergency)

   Location of the event and if applicable the chemical identity and quantity released

   Severity of the event

3. If the fire is small and can be extinguished with a fire extinguisher, trained personnel will work in pairs, not alone, and put out the fire. They will remain at the scene until final inspection. If the smoke is too great or the fire gets out of control, evacuate the area. All office personnel who have visitors or contractors on site shall be responsible to ensure that they evacuate and assemble at a designated meeting point.

4. Designated Personnel will make a head count.

5. Notify the Fire Department of anyone missing and the area of the building in which they had been working. Personnel must not wander away from the assembly area. Be certain you have been accounted for. Do not re-enter a burning building.

MEDICAL EMERGENCIES:

1. All injuries must be reported to the Kuesel Group Project Manager/Site Supervisor or Safety Manager, no matter how small. First Aid/CPR trained personnel will be called to respond to minor first aid injuries. If applicable, the injured may be taken to the client's approved health care facility and/or local emergency room for further evaluation.

2. If someone is seriously hurt, notify the emergency responders by dialing 911. Report to the dispatcher the location of the injured person, nature of the injury, and any other important information related to the incident scene (ex. down power line next to injured person, chemical drum spill, etc.).

3. If the situation warrants the rescue of an unconscious or immobile person from a confined space or an elevated surface, the report to emergency personnel should include the type, location, and hazards of the confined space. (Note: for emergencies that involve an immobile or unconscious person in a confined space, entry shall not be made unless personnel are trained and the proper procedures are followed.

4. All accidents involving employee injury or a near miss shall be investigated to determine the cause(s) of the accident and to develop corrective actions to prevent it from happening again.

TORNADO AND SEVERE STORM EMERGENCIES:

Background- Tornadoes or high winds associated with fast-moving severe storm fronts give little or no warning. Tornadoes develop from powerful thunderstorms. They are incredibly violent local storms that extend to the ground with winds that can reach 300 mph.

Types of Shelter Areas - The best protection in a tornado is usually an underground area. The best above ground areas in a building are:

Small interior rooms on the lowest floor without windows

Hallways on lowest floor away from outside doors and windows

Rooms constructed of reinforced concrete, brick or block with no windows and a heavy concrete floor or roof system.

Note: Buildings with flat, wide-span roofs are not considered safe.

Emergency Procedures

1. Employees should be instructed to seek shelter areas as near as possible to inside walls, away from window areas.

2. Get as close to the floor as possible and against/under sturdy equipment that will prevent portions of the roof, etc. from striking directly should they fall.

3. Do not evacuate the building until dangerous wind levels have subsided. An automobile is not a safe place to be in these circumstances.

4. If outside, seek safety in a low-lying depression such as a ditch or ravine.

A designated person will investigate the area to inspect all outside areas looking for damages, down power lines, and other potentially dangerous conditions.

EXTENDED POWER LOSS PLAN:

In the event of extended power loss to the facilities, certain precautionary measures must be taken depending on the location and environment of the facility.

1. _____ will turn off unnecessary electrical equipment and appliances. Power restoration could cause a surge that damages electronics and affects sensitive equipment.

2. If the facility is likely to experience freezing temperatures during a long-term power loss, _____ will turn off and drain the following:

    - The fire sprinkler system
    - Standpipes
    - Potable water lines
    - Toilets

3. _____ will add non-toxic antifreeze to drains to prevent drain traps from freezing.

Upon the restoration of heat and power:

1. Electronic equipment should be brought up to ambient temperatures before energizing to prevent condensation from forming on circuitry.

2. After the heat has been restored to the facility and water has been turned back on, _____ will check fire and water piping for leaks from freeze damage.

BOMB THREAT PROCEDURES:

When receiving a bomb threat it is important to act efficiently, calmly and promptly. The majority of bomb threats turn out to be hoaxes. However, it is important not to dismiss these threats lightly, but to follow the developed procedures outlined in this policy as well as the client's procedures.

Training shall be conducted with all members of management, and individuals likely to answer telephones (receptionists, secretaries, etc.).

Handling a Bomb Threat Call

1. When a call is received, refer to the bomb threat checklist (see attached). Simultaneously, attempt to notify the designate person of the call. That person shall then notify the police.

2. Engage the caller in as much conversation as possible and complete the checklist as the call progresses. If you are at a phone with caller ID, note the phone number of the caller.

3. Keep the caller on the line as long as possible. Ask the caller to repeat the message even if you fully understood the message the first time. This will stall or cause a delay and allow the dispatcher more time to react properly and involve the necessary personnel.

4. If the caller does not give a location of the device or a time of detonation, attempt to attain this information.

5. Inform the caller that the building is occupied and that an explosion would result in serious injury or death to innocent people.

6. Be aware of the caller's voice and any background noises that may assist in identifying the location of the call. Record your findings on the checklist.

7. Attempt to have the caller speak to a designated member of management.

8. Do not hang up until the conversation ends and the caller hangs up.

9. To avoid panic, keep the call confidential and notify your supervisor immediately. Do not discuss the call with anyone except your supervisor. In the absence of your supervisor, notify the highest-ranking member of management on site.

Bomb Threat Response Plan

The employee shall initiate the emergency action plan for Bomb Threats. In most cases, an evacuation of the facility should be initiated. An evacuation of the facility will depend largely upon the nature of the bomb threat and the available information.

If an evacuation is necessary, then normal evacuation procedures shall be followed. Every attempt should be made to keep personnel calm and orderly during the evacuation. Do not evacuate personnel through the suspected area. If necessary, use alternate evacuation routes.

The entire facility must be searched inside and out and declared clear and safe prior to allowing employees to return to work if the facility was evacuated.

BOMB THREAT CHECKLIST

Instructions: *Be Calm, Be Courteous, Listen, Do Not Interrupt the Caller*

Time of Call:_____am/pm Date:___/____/_____ Phone number of caller:_____

Exact wording of the threat: _____

_____

_____

Sex of the caller: M/F Approx. age: _____ Race: _____

Questions to ask:

When is the bomb going to explode? _____

Where is the bomb? _____

What does the bomb look like? _____

What will cause it to explode? _____

Did you place the bomb? _____

What is your name and address? _____

Caller's Voice: ___Calm ___Angry ___Excited ___Slow ___Rapid

___Soft ___Loud ___Laughter ___Crying ___Normal

___Distinct ___Slurred ___Nasal ___Stutter ___Lisp

___Raspy ___Deep ___Ragged ___Disguised ___Deep Breathing

___Familiar ___Coughing ___Accent ___Cracking Voice

Background Sounds: ___Voices ___Crockery ___Music ___Motor ___P.A System
___Clear ___Static ___Long ___Animal Noise
___Booth ___Factory Noises ___Office Noise ___House Noise

Threat Language: ___Well Spoken ___Foul ___Irrational

___Incoherent ___Taped ___Message Read

Remarks:_____

Report Call Immediately to:_____

Report Completed by:_____Date:_____Time:_____

SP 19 Medical Services and First Aid

1.0 PURPOSE:

1.1 To ensure that medical response personnel are available to render emergency first aid in a timely manner. This also includes having the appropriate first aid supplies readily available.

2.0 SCOPE:

2.1 This program applies to all Kuesel Group employees.

3.0 REFERENCES:

3.1 29 CFR 1910.151 Medical Services and First Aid

3.2 29 CFR 1926.50 Medical Services and First Aid

4.0 RESPONSIBILITIES

4.1 Management shall ensure that medical response personnel and first aid equipment are readily available at each Kuesel Group work location.

4.2 Employees shall be made aware of this procedure and shall understand how to acquire medicals attention and/or locate first aid supplies. Employees must report all injuries no matter how slight.

5.0 MEDICAL ATTENTION:

5.1 Provisions shall be made prior to the commencement of a project for prompt medical attention in case of serious injury.

5.2 In the absence of an infirmary, clinic, hospital, physician or onsite medical response team that can respond within four minutes, an adequate number of employees trained in first aid and CPR shall be available at the work location (minimum of at least one trained first aid and CPR employee). Note: it is well established that where an individual has stopped breathing or is in cardiac arrest, brain damage can occur after four minutes.

5.3 Employees who have been designated as first aid responders must have a current certification in first aid, CPR with AED training from the America Red Cross, American Heart Association, National Safety Council, U.S. Bureau of Mines or other equivalent training.

5.4 In the event an injured employee needs prompt transportation to the hospital, the Jobsite Supervisor shall call 911 to summon emergency services. In areas where 911 is not available, the telephone numbers of the physicians, hospitals, or ambulances shall be conspicuously posted.

5.5 Some jobsites require that the client's emergency action plan be initiated during a medical emergency. In this case, alternate emergency numbers may be required to call. Management shall ensure all emergency numbers are posted in a conspicuous area and site employees are made aware of the appropriate numbers.

6.0 FIRST AID SUPPLIES:

6.1 First aid supplies shall be readily accessible at each work location. Typically, first aid kits (Type III) are kept in each Kuesel Group vehicle. Management shall ensure that all Kuesel Group employees understand the location(s) of first aid kit(s).

6.2 First aid kits shall contain the minimum contents as described in ANSI Z308.1-1998 "Minimum Requirements for Workplace First Aid Kits". The contents of the first aid kit shall be placed in a weatherproof container with individual sealed packages for each type of item. See Appendix A for a listing of supplies typically found in the first aid kits.

6.3 First aid kits shall be checked by the supervisor/project manager before being sent out on each job and at least weekly on each job to ensure that the expended items are replaced. Replacement items will be obtained from the first aid cabinets in the shop; which are replenished on a regular basis by the supply company (Cintas, Western First Aid & Safety).

6.4 When larger operations or multiple operations are being conducted at the same jobsite, management will determine the need for additional first aid kits at the worksite. Additional types of first aid equipment and supplies in the first aid kits may be needed.

7.0 EYEWASH/SHOWER STATIONS:

7.1 Where employees' eyes or body may be exposed to corrosive materials, suitable eyewash or shower facilities shall be provided in the work area.

7.2 The Kuesel Group employees shall be made aware of the locations of the client's eyewash/shower stations before commencing work in areas that contain corrosive chemicals.

7.3 The Kuesel Group shall provide adequate eye-flushing capabilities in the event that they are not readily available in areas where eye exposure to corrosive chemicals is likely.

8.0 TRAINING:

8.1 All Kuesel Group employees shall receive training on this procedure

8.2 Employees designated as first aid/CPR/AED responders shall receive training by an authorized/certified first aid/CPR trained instructor. Employees shall receive refresher training in accordance with the training organization's requirements (ex. American Red Cross is annually for CPR and every three years for first aid).

9.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

(Additional sizes and items may be used based upon the specific hazards existing in a particular work environment)

Item	
1	Absorbent Compress (32 sq. in.)
16	Adhesive Bandages (1 x 3 in.)
1	roll Adhesive Tape (5 yd.)
10	Antiseptic (.5 g)
6	Burn Treatment (.5 g)
2 pair	Medical Exam Gloves
4	Sterile Pads (3 x 3 in.)
1	Triangular Bandage (40 x 40 x 56 in.)

Optional Contents:

Additional Sized Adhesive Bandages
Bandage Compress
Eye Covering (2.9 sq. in.)
Eye Wash (1 oz.)
Cold Pack (4 x 5 in.)
Roller Bandage (2 in.)
Roller Gauze
Ammonia Inhalants
Aspirin
Tweezers
Scissors
CPR Shield

SP 20 Competent Person Designation

Definition

A competent person is a person who has the ability to recognize hazards and the authority to correct them.

Responsibility

The Project Manager and/or Company Owner must complete this form and the designated competent person. The form must be updated any time there is a change in the designated representative. The following areas of designation for Competent Person(s) shall be identified and acknowledged by both management and the designated individual based on training/experience, knowledge of the standard, capability to identify hazards related to the specific operation, and having authority to take appropriate actions.

The designated competent person is responsible for recognizing and correcting safety hazards. This person has the authority to stop work in the event of any safety concern on the jobsite. This representative will be the contact person for The Kuesel Group management on the following safety related issues.

Areas of Designation for Competent Person(s):	**Yes**	**No**
1. Powered Platforms (1910.66)	•	•
2. Personal Fall Arrest Systems (1926.66, App. C)	•	•
3. Ionizing Radiation (1926.53)	•	•
4. Lead Exposure (1926.62)	•	•
5. Scaffolds (1926.450)	•	•
6. Excavations / Trenching (1926.650)	•	•
7. Steel Erection (1926.751)	•	•
8. Asbestos (1926.1101)	•	•
9. Inspection of Cranes / Rigging (1926.550)	•	•
10. Confined Space Entry (1910.146)	•	•

I have the responsibility and authority to correct hazards and to stop work in the event of imminent danger.

_____
Competent Person (Print Name)

_____ _____ _____
Competent Person (Signature) Position / Title Date

Management (Print Name)

Management (Signature) | Position / Title | Date

SP 21 Bloodborne Pathogens Exposure Control Plan

1.0 PURPOSE:

1.1 The purpose of this policy is to ensure that The Kuesel Group employees receive effective protection from occupational exposure to bloodborne pathogens.

1.2 Under the OSHA ruling contained in 29 CFR 1910.1030, all workers that are potentially exposed to bloodborne pathogens in their work must be protected from exposure. This protection must be documented in a written Exposure Control Plan. The requirements for the control plan for The Kuesel Group are contained in this procedure.

2.0 SCOPE:

2.1 This policy covers all Kuesel Group personnel who may have an occupational exposure to blood or other potentially infectious materials. A copy of this program is kept at The Kuesel Group's Main office in O'Fallon, MO and is readily accessible to all employees.

3.0 REFERENCES:

3.1 29 CFR 1910.1030 Bloodborne Pathogens

3.2 29 CFR 1910.1020 Access to Employee Exposure and Medical Records

4.0 RESPONSIBILITIES:

4.1 Management is responsible for maintaining medical and training records and has the overall responsibility for the effectiveness of this program and shall ensure that personnel under their direction receive training and that they maintain compliance with this procedure.

4.2 Employees are responsible to ensure that they are trained and they maintain compliance with this procedure.

5.0 EXPOSURE DETERMINATION:

5.1 Occupational Exposure: Reasonably anticipated skin, eye, mucous membrane, or parenteral (skin puncture) contact with blood or other potentially infectious materials that may result from the performance of an employee's duties (Note: these exposure determinations are made without regard of personal protective equipment).

5.2 The following groups/classifications of employees have potential occupational exposure to bloodborne pathogens and are therefore covered by this policy:

5.2.1 Employees who may provide first aid/CPR assistance or clean up blood/bodily fluids at an accident site (Standby Emergency Rescue Services).

5.2.2 Employees who may find hypodermic syringes, contaminated objects/sharps, or other potentially infectious materials at the jobsite.

5.3 All first aid and CPR trained members must be trained in the prevention of occupational exposure to bloodborne pathogens.

6.0 ENGINEERING, WORK PRACTICE CONTROLS, and PERSONAL PROTECTIVE EQUIPMENT:

6.1 Any potential hazard associated with a job task can be minimized or eliminated by using the appropriate combination of engineering controls, work practices, and personal protective equipment.

6.2 Engineering and work practices controls should be used whenever possible to eliminate or minimize employee exposures to bloodborne pathogens. Personal protective equipment will be worn when the potential for occupational exposures remain after these controls have been implemented.

6.3 Included in this section are the specific safe work practices and Universal Precautions, which must be followed by every employee who may be exposed to bloodborne pathogens while performing first aid or CPR. Simply stated, the concept behind Universal Precautions is that: **All human blood and body fluids are treated as if they are known to contain hepatitis B virus, human immunodeficiency virus, or other bloodborne pathogens**

6.4 Controls:

6.4.1 Engineering Controls: Engineering controls used to prevent the spread of bloodborne pathogens include items such as puncture proof containers, washing facilities equipped with soap or antiseptic hand cleanser, alcohol/antiseptic towelettes contained in first aid kits (to be available if hand washing facilities are not present), and emergency showers/eyewash stations.

6.4.2 In order to ensure engineering controls remain effective, the Site Supervisor shall conduct an inspection to ensure that engineering controls are in place. At a minimum, an inspection shall be done at each jobsite.

6.4.3 Work Practice Controls: Work practices are defined as those procedures that have been developed to reduce or eliminate employee exposures to bloodborne pathogens.

6.5 Basic Hygiene:

6.5.1 All procedures involving blood or other potentially infectious materials shall be performed in such a manner to prevent or minimize splashing, spraying, spattering, and generation of droplets of these substances.

6.5.2 If skin contamination occurs, the area should be washed with antiseptic cleanser or

copious amounts of soap and water for 15 minutes. If the eyes or mucous membranes are accidentally contaminated, they should be flushed with water for at least 15 minutes.

6.5.3 Employees must wash their hands with gloves on and then again immediately after removal of gloves (or as soon as feasibly possible).

6.5.4 Employees who have open cuts or sores shall not perform first aid/CPR until the areas are healed except in life-threatening instances where no other first aid responder is available and only after the area has been covered to minimize the possibility of exposure.

6.6 Housekeeping and Cleanliness:

6.6.1 All equipment and working surfaces will be decontaminated after contact with blood or other potentially infectious materials. Work surfaces will be washed with disinfectant (or a mixture of nine parts water to one part household bleach- 10% solution) after being contaminated.

6.6.2 Employees, who clean or have contact with contaminated first aid equipment, laundry, or uniforms, must wear gloves and other appropriate personal protective equipment.

6.7 Personal Protective Equipment:

6.7.1 The Kuesel Group provides, at no cost to the employee, appropriate personal protective equipment for personnel who may be exposed to bloodborne pathogens.

6.7.2 Personal protective equipment includes any item that may prevent the passage of pathogens from one person to another. This includes items such as disposable gloves, disposable resuscitators equipped with one-way valves, and safety glasses or goggles.

6.7.3 Disposable gloves, resuscitators, and antiseptic/alcohol towelettes are included in the first aid kits or can be obtained from Management/Supervision. Safety glasses are issued to each employee.

6.7.4 All first aid/emergency responders will use appropriate barrier precautions to prevent skin and mucous membrane exposure when contact with blood or body fluids is anticipated.

6.7.5 Gloves must be worn when touching blood, bodily fluids, or items or surfaces contaminated with blood or body fluids.

6.7.6 Gloves must be changed after contact with any first aid patient.

6.7.7 Resuscitation mouthpieces with one-way valves or other ventilation devices shall be used when CPR is performed.

6.7.8 Protective eye wear or face shields shall be worn during procedures that are likely to generate droplets of blood or other bodily fluids.

6.7.9 If personal protective equipment is contaminated by blood or potentially infectious materials, these items must be removed immediately (or as soon as feasible) and placed in an appropriate container. Laundering, disposal, repair, and replacement of this equipment will be done at no cost to the employee. Replacement of disposable and contaminated personal protective equipment will be done as soon as feasible.

6.8 Handling and Disposal of Contaminated Materials:

6.8.1 Methods should be employed to avoid the direct contact with contaminated materials, especially contaminated sharps (broken glass, etc.). This includes using personnel protective equipment and using items such as tongs or a broom and dustpan to dispose of contaminated items.

6.8.2 Blood soaked bandages, towels, and sponges in which blood can be released when compressed must be disposed of in leak proof bags or containers. Containers for potentially infectious wastes must be closeable, able to prevent leakage during handling or transport, puncture resistant, and labeled/color-coded according to the paragraph stated below.

6.8.3 Warning labels will be affixed to containers of contaminated waste. Labels must include the universal biohazard symbol (as shown in OSHA standard section 29 CFR 1910.1030(g)) and be fluorescent orange or orange-red, with lettering or symbols in a contrasting color.

6.8.4 Blood or other potentially infectious materials that are spilled on equipment or workplace surfaces (floors, vehicles, etc.) shall be cleaned up using a 10% or stronger solution of chlorine bleach and water. Employees conducting the cleanup will wear impervious gloves and protective eyewear. Cleaning materials and contaminated gloves will be disposed of in accordance with local, state, and/or federal guidelines.

6.8.5 Materials/Equipment that cannot be cleaned shall be disposed of as contaminated waste in accordance with all applicable Federal, State and Local regulations. All contaminated items shall be placed in the containers provided and sealed. The Project Supervisor shall contact a local biohazard waste disposal firm or a medical facility to arrange for disposal of any contaminated materials.

7.0 STEPS TO TAKE IN THE EVENT OF AN EXPOSURE:

7.1 Immediate Actions to Take in Case of Exposure:

7.1.1 The safety and health of employees are of primary concern. Supervisors must ensure exposed employees receive the medical attention appropriate to the exposure they

received.

7.1.1.1 Supervisors shall ensure that a copy of the Exposure Control Plan is accessible to employees in accordance with 29 CFR 1910.1020.

7.1.2 All first aid incidents involving the presence of blood or other potentially infectious material must be reported to the appropriate Supervisor and if applicable, the Client Representative, as soon as possible after the incident occurs. First aid incident investigation is a necessary and effective technique for preventing future occurrences. Employees who may have been exposed to blood or other potentially infectious material must complete a Bloodborne Pathogen Exposure Report (See Appendix A) as soon as possible, but no later than 8 hours following the incident.

7.2 Post-exposure Medical Evaluations:

7.2.1 Post-exposure medical evaluations are available to all employees who have had an exposure incident (contact with blood or other potentially infectious material through eyes, mouth, skin, or mucous membranes). The Project Supervisor shall ensure that the medical evaluations are made available to an exposed employee. These evaluations are provided at no cost to the employee and are provided by or under the supervision of a licensed physician (or another licensed healthcare professional) at a reasonable time and place.

7.2.2 Post-exposure measures designed to prevent the spread of the disease or development of disease symptoms will be made available to the employee, when medically indicated. This may include a vaccination for Hepatitis B if it is deemed necessary by the healthcare professional.

7.2.3 Confidential medical evaluations and follow-ups will be made available to all affected employees following the report of an exposure incident. These medical evaluations will include the following elements in accordance with the OSHA Bloodborne Pathogens Standard and the Company's concerns for employee health and safety.

> **NOTE**
>
> The steps contained in this section are a summary of what is contained in the OSHA standard in 29 CFR 1910.1030(f).

7.2.4 Documentation of the cause and method of exposure and circumstances by which exposure occurred.

7.2.5 Identification and documentation of the source individual, unless such identification is not possible or prohibited by state or local law.

7.2.6 If allowed by law, and after consent is obtained, the source individual's blood will be tested as soon as feasible in order to obtain the person's HIV/HBV status.

7.2.7 When the source individual's consent is not required by law, this individual's blood will be tested to determine HIV/HBV status.

7.2.8 If it is known that the source individual is infected with Human Immunodeficiency Virus or Hepatitis B Virus, testing for the person's HIV/HBV status need not be repeated.

7.2.9 Results of the source individual's testing will be made available to the exposed employee. The employee will then be informed of the applicable laws concerning disclosure of the identity and infectious status of the source individual.

7.3 Information Provided to Healthcare Professionals:

7.3.1 The Project Supervisor shall ensure that the Healthcare Professional who provides the employee with the Hepatitis B vaccination has been given the following information:

7.3.1.1 A copy of 29 CFR 1910.1030

7.3.1.2 A description of the exposed employee's duties as they related to the incident

7.3.1.3 Documentation of the cause and method of exposure and circumstances by which exposure occurred

7.3.1.4 Results of the source individuals blood testing

7.3.2 It is the employer's responsibility to obtain all medical records relevant to the appropriate treatment of the employee including vaccination status

7.4 Healthcare Professional’s Written Opinion:

7.4.1 The Kuesel Group will obtain a copy of the evaluating healthcare professional's written opinion within 15 days of completion of the evaluation. This written opinion will be immediately made available to the employee.

7.4.2 In terms of Hepatitis B Virus evaluations, the healthcare professional's written opinion for Hepatitis B vaccination will be limited to whether Hepatitis B vaccination is indicated for the employee and if the employee has received such vaccination. Written opinions concerning other results of post-exposure evaluations are limited to the following information in accordance with the regulation:

7.4.2.1 An indication that the employee has been informed of the results of the evaluation

7.4.2.2 An indication that the employee has been told about medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment

7.4.2.3 All other findings or diagnoses not specified in the above paragraphs will remain confidential and cannot be included in the written report

8.0 HEPATITIS B VACCINATIONS:

8.1 The Hepatitis B vaccine and vaccination series are available to all employees who have occupational exposures to potentially infectious materials. First aid responders who render assistance in any situation involving the presence of blood or other potentially infectious materials will be offered the full immunization series at no cost to the employee.

8.2 The vaccinations will be offered as soon as possible after exposure but in no event later than 24 hours. The vaccinations will be provided by or under the supervision of a licensed physician or other licensed healthcare professional. If routine booster doses of Hepatitis B vaccine are recommended in the future by the U.S. Public Health Service, these booster shots will be made available at no cost to the employees.

8.3 Employees may decline the Hepatitis B vaccination. When an employee elects not to participate in the Hepatitis B vaccination program, OSHA requires that the employee declining treatment sign the Mandatory Hepatitis B Vaccination Declination Statement (See Appendix B).

8.4 As indicated in the Vaccination Declination Statement, employees who decline Hepatitis B virus vaccination may receive the vaccination series at a later date. These vaccinations will be provided at no cost to the employee at that time. These vaccinations will also be provided by or under the supervision of a licensed physician (or another licensed healthcare professional).

9.0 REPORTING and RECORDKEEPING:

9.1 The Kuesel Group maintains medical records in accordance with 29 CFR 1910.1020 for its employees. This includes records pertaining to employees who have experienced potential occupational exposures to bloodborne pathogens. All medical records for employees are maintained at The Kuesel Group Main Office or Healthcare Facility. These records include:

9.1.1 The name and social security number of the employee

9.1.2 A copy of the employee's Hepatitis B vaccination status, including the dates of all Hepatitis B vaccinations and any medical records related to the employee's ability to receive such vaccination

9.1.3 A copy of all results of examinations, medical testing, and follow-up procedures

9.1.4 A copy of the healthcare professional's written opinion

9.1.5 A copy of the exposure information supplied to the healthcare professional

9.1.6 A copy of any signed Hepatitis B Vaccination Declination Statements

9.2 These medical records will be kept confidential and will not be disclosed without the employee's express written consent to any person within or outside the company (except as may be required by law). The Kuesel Group maintains these records for the duration of an employee's employment plus 30 years thereafter.

9.3 Employee medical records are provided upon request for examination and copying to the subject employee to anyone having written consent of the subject employee, and to designated representatives of the Federal Occupational Health and Safety Administration. Should an employee leave this facility and be hired by another company, their medical records will be transferred in accordance with the procedures set forth in 29 CFR 1910.1020.

10.0 TRAINING:

10.1 Communicating Hazards to Employees:

10.1.1 Communication of the hazards associated with blood or other potentially infectious materials is extremely important. The Kuesel Group provides all potentially exposed employees with appropriate training in accordance with the Federal regulation and this company's concerns for employee health and safety.

10.1.2 Such training shall be provided:

10.1.2.1 At the time of initial assignment and/or within one year of previous assignment,

10.1.2.2 Whenever an employee is trained in first aid and CPR.

10.1.2.3 Refresher training is provided annually.

10.2 The bloodborne pathogens training program offered by The Kuesel Group will include the following elements:

10.2.1 An accessible copy of the regulatory text of the Bloodborne Pathogen Standard, 29 CFR 1910.1030, and an explanation of its contents

10.2.2 An explanation of this procedure (i.e. the Exposure Control Plan)

10.2.3 A general explanation of the modes of transmission of bloodborne pathogens

10.2.4 Information on the types, proper use, location, removal, handling decontamination and disposal of personal protective equipment

10.2.5 Information on the Hepatitis B vaccine

10.2.6 Information on the appropriate actions to take in an emergency involving potentially

infectious materials

10.2.7 Information on emergency incident reporting procedures and medical evaluations, which will be made available

10.2.8 Information on post-exposure evaluations and vaccinations that are provided after an exposure incident

10.2.9 An explanation of the signs and labels used to convey hazard information

10.2.10 An opportunity for interactive questions and answers with the person conducting the training session

10.2.11 Employees should contact their supervisor if they have any questions concerning these training subjects or when they feel they need additional training.

10.3 Training Records:

10.3.1 Bloodborne Pathogens training shall be documented. These records include the following items:

10.3.1.1 The dates of the training session

10.3.1.2 The names of all persons conducting the training

10.3.1.3 The names and job titles of all persons attending the training sessions

10.3.1.4 An outline of the contents of the training

10.3.2 The training records are maintained for at least three years from the date on which the training occurred.

10.3.3 Employee training records are provided to the subject employee, upon request, for examination and copying and to anyone having written consent of the subject employee and to designated representatives of the Federal Occupational Health and Safety Administration.

11.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

Employee Providing Assistance (Having Exposure): _____

Description of Exposure: _____

Job Site: _____

Incident Date: _____ Time: _____

Incident Location: _____

Injured Employee/Person: _____

Brief Description of Injury: _____

_____

_____

Project Manager/Job Site Supervisor: _____

Signature _____ Date _____

OSHA Required Hepatitis B Vaccine Declination Statement

I understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with the Hepatitis B vaccine at no charge to myself. However, I decline the Hepatitis B Vaccine at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with the hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Employee_____

Signature_____Date_____

Witness_____Date_____

SP 22 Hazard Communication

1.0 PURPOSE:

1.1 This policy defines the procedures for effectively communicating workplace hazards and control measures to all Kuesel Group employees who handle, use, or store hazardous materials. The policy establishes the written Hazard Communication Program required by OSHA (29 CFR 1910.1200).

2.0 SCOPE:

2.1 This program applies to all Kuesel Group personnel who use, handle, store, or may be exposed to hazardous chemicals.

3.0 RESPONSIBILTIES:

3.1 The **Hazard Communication Coordinator** (currently the Hazard Communication Coordinator is the Safety Representative) shall ensure compliance with this program by all employees.

3.2 The **Project Manager/Site Supervisor** shall ensure that all employees are familiar with any additional guidelines that are required of the Client or Jobsite.

3.3 The **Hazard Communication Coordinator and/or the Site Supervisor** is responsible for the following:

3.3.1 Implementing and maintaining this Hazard Communication Program at each Kuesel Group jobsite.

3.3.2 Obtaining safety data sheets (SDS) and product specification literature for any new chemicals.

3.3.3 Assisting employees in obtaining a copy of applicable SDS's when requested.

3.3.4 Ensuring that all chemical containers are appropriately labeled, including transfer (secondary) containers.

3.3.5 Provide specialized training on chemical hazards and additional training on new chemicals.

3.3.6 Ensure chemicals are used in a proper manner and with appropriate exposure controls.

3.4 Each employee is responsible for complying with the guidelines as outlined in this document and any additional guidelines that are required of the Client or Jobsite.

3.5 The Hazard Communication Coordinator shall periodically evaluate this procedure for its

effectiveness.

4.0 GENERAL INFORMATION:

4.1 Chemical Inventory List

4.1.1 A Chemical Inventory List that contains all the hazardous chemicals used by The Kuesel Group shall be maintained. This list can then be used as the SDS Manual Index.

4.1.2 This list shall include the common name or chemical name of the product and be arranged in a manner to facilitate the product's quick reference (ex. alphabetical order).

4.1.3 Additional information can also be put on this list, for example: Manufacturer name, product ID#, and locations of where the chemical can be found, etc.

4.1.4 After the chemical inventory list is compiled, it serves as a list of every chemical for which an SDS must be maintained. The Hazard Communication Coordinator (HCC) maintains a list of all chemicals used by The Kuesel Group.

4.1.5 The amount of each hazard chemical will also be maintained with the inventory.

4.2 Safety Data Sheets(SDS) (Formerly Material Safety Sheets(MSDS))

4.2.1 SDS's are fact sheets for chemicals that pose a physical or health hazard in the workplace. SDS's provide employees with specific information on the chemicals they use. The manufacturer of the product provides the SDS and it must conform to the Globally Harmonized System (GHS) standard. The SDS will contain a standard format of 16 sections; each section identifies a single topic. As examples Section 4 will address first aid measures, Section 11 Toxicology and Section 14 Transportation information. The sections are not interchangeable. *See Appendix A for a list of SDS Sections.*

4.2.2 A SDS shall be obtained for each chemical or chemical product listed on the Chemical Inventory List. The Site Supervisor shall maintain a master file of all SDS's for products used onsite and shall update the file as new or revised SDS's are obtained.

4.2.3 Employees requesting the use of a new chemical product must obtain a SDS and any product specification literature (if available) before the product arrives onsite. In the event the new chemical product arrives onsite before the SDS is obtained, the product shall remain in its original packaging and be located in an area where damage will not occur until the SDS is received. SDS's can be obtained directly from the manufacturer or through the supplier or distributor.

4.2.4 Copies of SDS's shall be maintained in a binder/manual at each Kuesel Group site. The Site Supervisor and/or Hazard Communication Coordinator shall be responsible for auditing SDS binder/manual on an annual basis.

4.2.5 SDS's must be made readily available to employees without requiring permission from supervision. Employees shall be informed of the above SDS binder/manual location and the procedures for obtaining SDS's.

4.2.6 Upon request, whether verbal or written, a copy of the SDS shall be provided within two days after acknowledging the request.

5.0 JOBSITE REQUIREMENTS:

5.1 It is the responsibility of The Kuesel Group, prior to the commencement of work, to provide the client and/or Jobsite representative with a workplace chemical list and the SDS's for all hazardous chemicals that The Kuesel Group anticipates bringing onto the property.

5.2 The Kuesel Group shall inform the client, Jobsite representative, and/or other Contractor employees when there is a potential for chemical exposure to non-Kuesel Group employees. This information includes any precautionary measures that need to be taken to protect these employees from The Kuesel Group's chemical products and any chemical labeling systems used by The Kuesel Group. Contractors will be provided ready access to the information at that particular site. The Jobsite Supervisor shall ensure that this exchange of information occurs before performing work activities that may result in non-Kuesel Group employee exposure.

5.3 The Kuesel Group shall account for the removal and/or disposal of all hazardous chemicals and waste at the conclusion of the contract.

6.0 LABELING REQUIREMENTS:

6.1 Each container of hazardous chemicals/substances entering The Kuesel Group work areas must be labeled, tagged or marked by the manufacturer, importer, or distributor in accordance with GHS Chemical Labeling and Classification Standards. All deliveries of chemical containers shall be checked for the appropriate labels before accepting them.

6.2 At a minimum, labels shall contain the following information:

6.2.1 Product Identifier

6.2.2 Signal Word

6.2.3 Hazard Statement

6.2.4 Pictogram(s)

6.2.5 Precautionary Statement(s) and

6.2.6 Name, address and phone number of manufacturer/importer/distributor

6.3 Container labels shall not be removed, made illegible, or defaced.

6.4 Individual stationery containers of hazardous chemicals (tanks, drums, etc.) shall be labeled, tagged, or marked with the identity of the hazardous chemical and appropriate hazard warnings. This can be done by means of a sign, placard, or other such written materials in lieu of affixing labels to the process container.

6.5 Where a hazardous chemical is transferred into secondary containers (typically smaller containers) from a labeled container and is not completely used in the same shift by the person performing the transfer, the secondary container shall be labeled. The label shall contain the chemical or product identity and the appropriate hazard warnings. It is the responsibility of the user to identify and label these secondary containers.

6.6 The Kuesel Group currently uses the following labeling systems on secondary containers and other containers in which the name of the chemical and hazard warning information is not apparent or legible:

6.6.1 National Fire Protection Association (NFPA) labeling system (red, blue, yellow, white diamond shape label that contains numbers 0-4 in each colored section to communicate hazard information. The name of the chemical will also be on the label.)

6.6.2 Hazardous Material Information System (HMIS)(red, blue, yellow colored sections that contain numbers 0-4, to communicate hazard information and a section that has either letters or pictures to communicate PPE information and exposure hazards. The name of the chemical will also be on the label.)

6.6.3 Globally Harmonized System (GHS):

6.6.3.1 Pictograms. “They shall be in the shape of a square set at a point and shall include a black hazard symbol on a white background with a red frame sufficiently wide to be clearly visible.” Only one of the eight standard hazard symbols shall be in each pictogram, however more than one Pictogram may be applied. *Appendix B shows the Pictogram symbols*.

6.6.3.2 Signal Words. Single words will be used to indicate the relative level of severity of the hazard that alerts you to a potential hazard on the label. Only two words are used “Danger” and “Warning.” The word “Danger” is used for the more severe hazards and the word “Warning” is used for the less severe hazard. Only one of the single words may be used on the label.

6.6.3.3 Precautionary Statement. These statements describe recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to the hazardous chemical or improper storage and handling. There are four accepted statements, prevention (to minimize exposure), response (in case

of spillage or exposure emergency response and first aid), storage and disposal.

6.6.3.4 Hazard Statement. This statement will describe the nature of the hazard(s) of a chemical. For example “Causes damage to kidneys through prolonged or repeated exposure when absorbed through the skin.” All applicable hazard statements must appear on the label.

6.6.3.5 *A sample of the GHS label is provided in Appendix C*.

7.0 TRADE SECRET INFORMATION:

7.1 Chemical manufacturers and importers may withhold specific chemical identity information from the SDS by claiming that it qualifies as a trade secret or confidential business information. The law states that this may be done provided that:

7.1.1 The chemical is not a carcinogen, a Teratogen (causes birth defects) or a substance that can induce abortion or sterility.

7.1.2 The claim of a trade secret can be supported.

7.1.3 Other information regarding the properties and effects of the hazardous chemical is disclosed.

7.1.4 The SDS indicates that a trade secret is involved.

7.1.5 The specific chemical identity information is made available to health professionals upon request.

7.2 Where a medical emergency exists, the Site Supervisor shall supply emergency or other telephone numbers to health professionals so they may obtain the necessary trade secret information directly by contacting the manufacturer. Telephone numbers are listed on the SDS, and in some cases, container labels.

7.3 The Site Supervisor shall coordinate any non-emergency requests for trade secret information.

8.0 NON-ROUTINE TASKS:

8.1 Non-routine tasks are defined as working on, near, or with unlabeled piping, unlabeled containers of an unknown substance, confined space entry where a hazardous substance may be present and/or a one-time task using a hazardous substance differently from intended (example: using a solvent to remove stains from floors).

8.2 The Site Supervisor will evaluate all non-routine tasks before the task begins to determine all hazards present. The Site Supervisor shall obtain the necessary information from the Client. The client is responsible for providing safety and health information to The Kuesel Group

employees engaged in non-routine tasks. This information can be conveyed through specific instructions on work orders, permits and/or through pre-job safety meetings.

8.3 Once the hazard determination is made, the Site Supervisor will determine the necessary precautions needed to remove the hazard, change to a non-hazard, or protect from the hazard (ex. PPE). In addition, the Site Supervisor or Responsible Safety Representative will provide specific safety training for employees affected and will document the training.

8.4 Work activities may sometimes be performed by employees in areas where materials are transferred through unlabeled pipes and/or are required to cut/open the pipe. Prior to starting work in these areas, if the material is unknown, the employee shall be trained on the following information:

8.4.1 The material in the pipe;

8.4.2 Potential hazards and safety precautions that should be taken.

9.0 TRAINING:

9.1 All employees shall be trained initially and prior to assignment of any work with hazardous chemicals. Transferred employees shall be provided with additional training when they will be handling hazardous chemicals under new conditions or handling new hazardous chemicals.

9.2 Hazard Communication Training is provided to all employees during annual safety training.

9.3 Employees shall be provided additional training whenever:

9.3.1 A new hazardous chemical or chemical product is introduced into their work area, or

9.3.2 New information is obtained on existing chemicals with regard to the hazard, precautionary measures, exposure conditions, etc.

9.3.3 Employee demonstrates a lack of understanding, when working with hazardous chemicals.

9.4 The Project Manager or Site Supervisor shall provide Hazard Communication training covering the requirements of this procedure to all new employees and when additional training is needed. Special provisions will be made to ensure understanding when an employee does not speak English (ex. interpreter, non-English labels, etc.)

9.5 Chemical specific training information shall be provided by the Project Manager or Site Supervisor to all new employees, transferred employees, and when new hazardous chemicals are introduced into the work area. This training shall include:

9.5.1 A review of the chemical's SDS.

9.5.2 Location of hazardous chemicals in the workplace and/or any operations employees may be assigned where hazardous chemicals are present

9.5.3 Methods of detecting the presence or release of a hazardous chemical

9.5.4 Information regarding hazards on non-routine tasks and hazards of chemicals contained in unlabeled pipes, where applicable

9.5.5 Precautionary measures to protect against hazards. These include specific work practices, engineering control methods, personal protective equipment, and emergency procedures.

9.6 Training shall be done on a hazard category basis, on a generic chemical class basis, or on a chemical-by-chemical basis, as appropriate for the jobsite or work area.

10.0 DOCUMENTATION:

10.1 Training records shall be kept for each new employee as well as when additional Hazard Communication training sessions have been conducted. Records shall be kept with the Project Manager/Site Supervisor.

10.2 Training can be conducted as part of their new hire orientation training, toolbox talks, and/or safety meetings.

10.3 The Project Manager/Site Supervisor shall maintain employee written requests for SDS copies.

11.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

Manufactures or distributors will be required to provide (SDS) that provides a standard format of information related to that particular chemical. The standard sections are provided below.

Section 1	**Chemical identification & company information**
Section 2	**Hazard Information**
Section 3	**Information on ingredients**
Section 4	**First Aid measures**
Section 5	**Firefighting measures**
Section 6	**Accidental release measures**
Section 7	**Handling and storage**
Section 8	**Exposure controls/personal protection**
Section 9	**Physical and chemical properties**
Section 10	**Stability and reactivity**
Section 11	**Toxicology information**
Section 12	**Ecology information**
Section 13	**Disposal considerations**
Section 14	**Transport information**
Section 15	**Regulatory information**
Section 16	**Other information**

Health Hazard	**Flame**	**Exclamation Mark**
		
• Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	• Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	• Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non Mandatory)
Gas Cylinder	**Corrosion**	**Exploding Bomb**
		
• Gases under Pressure	• Skin Corrosion/ burns • Eye Damage • Corrosive to Metals	• Explosives • Self-Reactives • Organic Peroxides
Flame over Circle	**Environment *(Non Mandatory)**	**Skull and Crossbones**
		
• Oxidizers	• Aquatic Toxicity	• Acute Toxicity (fatal or toxic)

SAMPLE LABEL

PRODUCT IDENTIFIER

CODE _____
Product Name _____

SUPPLIER IDENTIFICATION

Company Name _____
Street Address _____
City _____ State _____
Postal Code _____ Country _____
Emergency Phone Number _____

PRECAUTIONARY STATEMENTS

Keep container tightly closed. Store in cool, well ventilated place that is locked.
Keep away from heat/sparks/open flame. No smoking.
Only use non-sparking tools.
Use explosion-proof electrical equipment.
Take precautionary measure against static discharge.
Ground and bond container and receiving equipment.
Do not breathe vapors.
Wear Protective gloves.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Dispoae of in accordance with local, regional, national, international regulations as specified.

In Case of Fire: use dry chemical (BC) or Carbon dioxide (CO_2) fire extinguisher to extinguish.

First Aid
If exposed call Poison Center.
If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.

HAZARD PICTOGRAMS



SIGNAL WORD

Danger

HAZARD STATEMENT

Highly flammable liquid and vapor.
May cause liver and kidney damage.

SUPPLEMENTAL INFORMATION

Directions for use

_____
_____
_____

Fill weight: _____ Lot Number _____
Gross weight: _____ Fill Date: _____
Expiration Date: _____

SP 23 Heat Stress

1.0 PURPOSE:

1.1 The purpose of this program is to provide information to workers on the signs of heat stress and means of preventing heat stress and other heat related health hazards.

2.0 SCOPE:

2.1 This program applies to all employees working in or who may work in areas where the ambient temperature, measured with a standard thermometer, exceeds 85 degrees Fahrenheit.

3.0 REFERENCES:

3.1 Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs) - American Conference of Governmental Industrial Hygienists (ACGIH)

3.2 Working in Hot Environments - National Institute for Occupational Safety and Health (NIOSH)

4.0 RESPONSIBILITIES:

4.1 Project Manager/Site Supervisor- ensures uniform implementation and compliance with this program by all employees.

4.2 Competent Person/Qualified Person -Make the determination as to whether this program is applicable to a given job and implement methods to reduce or eliminate heat related illnesses. Ensure that personnel under their direction receive training and understand the hazards with working in high heat environments.

4.3 Safety Manager- ensures that Project Manager/Site Supervisors and employees are trained on this program and provides advice and counsel for the program.

4.4 Employees- shall be aware of the signs/symptoms of heat related illness as described in this program and shall practice preventive measures to reduce the chance of developing a heat related illness.

5.0 GENERAL INFORMATION:

5.1 How the body handles heat - If air temperature is as warm or warmer than the skin, blood brought to the body surface cannot lose its heat. Sweating does not cool the body unless the moisture is removed from the skin by evaporation. Under conditions of high humidity, the evaporation of sweat from the skin is decreased and the body's efforts to maintain an acceptable body temperature may be significantly impaired. These conditions adversely affect an individual's ability to work in a hot environment.

5.2 Safety Problems - Certain safety problems are common to hot environments. Heat tends to

promote accidents due to the slipperiness of sweaty palms, dizziness, or the fogging of safety glasses. Aside from these obvious dangers, the frequency of accidents, in general, appears to be higher in hot environments than in more moderate environmental conditions. One reason is that working in a hot environment lowers the mental alertness and physical performance of an individual. Increased body temperature and physical discomfort promote irritability, anger, and other emotional states, which sometimes cause workers to overlook safety procedures or to divert attention from hazardous tasks.

5.3 Health Problems - Excessive exposure to a hot work environment can bring about a variety of heat-induced disorders.

5.4 CAUTION - Persons with heart problems or those on a low sodium diet who work in hot environments should consult a physician about what to do under these conditions.

5.5 Heat Stroke

5.5.1 Signs and Symptoms. Heat stroke is the most serious of health problems associated with working in hot environments. It occurs when the body's temperature regulatory system fails and sweating becomes inadequate. A heat stroke victim's skin is hot, usually dry, red or spotted. Body temperature is usually 105oF or higher and the victim is mentally confused, delirious, perhaps in convulsions, or unconscious. Unless the victim receives quick and appropriate treatment, death can occur.

5.5.2 First Aid. Any person with signs or symptoms of heat stroke requires immediate hospitalization. However, first aid should be immediately administered. This includes removing the victim to a cool area, thoroughly soaking the clothing with water, and vigorously fanning the body to increase cooling. Further treatment at a medical facility should be directed to the continuation of the cooling process and the monitoring of complications, which often accompany the heat stroke. Early recognition and treatment of heat stroke are the only means of preventing permanent brain damage or death.

5.6 Heat Exhaustion

5.6.1 Signs and Symptoms. Heat exhaustion includes several clinical disorders having symptoms that may resemble the early symptoms of heat stroke. Heat exhaustion is caused by the loss of large amounts of fluid by sweating, sometimes with excessive loss of salt. A worker suffering from heat exhaustion still sweats but experiences extreme weakness or fatigue, giddiness, nausea, or headache. In more serious cases, the victim may vomit or lose consciousness. The skin is clammy and moist, the complexion is pale or flushed, and the body temperature is normal or only slightly elevated.

5.6.2 First Aid. In most cases, treatment involves having the victim rest in a cool place and drink plenty of liquids. Victims with mild cases of heat exhaustion usually recover spontaneously with this treatment. If symptoms are severe or persist, medical assistance must be sought. Those with severe cases may require extended care for several days. There are no known permanent effects.

5.7 Heat Cramps

5.7.1 Signs and Symptoms. Heat cramps are painful spasms of the muscles that occur among those who sweat profusely in heat and drink large quantities of water, but do not adequately replace the body's salt loss. The drinking of large quantities of water tends to dilute the body's fluids, while the body continues to lose salt. Shortly thereafter, the low salt level in the muscles causes painful cramps. The affected muscles may be part of the arms, legs, or abdomen, but tired muscles (those used in performing the work) are usually the ones most susceptible to cramps.

5.7.2 First Aid. Cramps may occur during or after work hours and may be relieved by taking salted or electrolyte liquids by mouth, salt tablets should not be taken.

5.8 Fainting

5.8.1 Signs and Symptoms. A worker who is not accustomed to hot environments and who stands erect and immobile in the heat may faint. With enlarged blood vessels in the skin and in the lower part of the body due to the body's attempts to control internal temperature, blood may pool there rather than return to the heart to be pumped to the brain.

5.8.2 First Aid. Upon lying down, the worker should soon recover. By moving around, and thereby preventing blood from pooling, the patient can prevent further fainting.

5.9 Heat Rash

5.9.1 Signs and Symptoms. Heat rash, also known as prickly heat, is likely to occur in hot, humid environments where sweat is not easily removed from the surface of the skin by evaporation and the skin remains wet most of the time. The sweat ducts become plugged, and a skin rash soon appears. When the rash is extensive or when it is complicated by infection, prickly heat can be very uncomfortable and may reduce a worker's performance.

5.9.2 First Aid. The worker can prevent this condition by resting in a cool place part of each day and by regularly bathing and drying the skin.

5.10 Transient Heat Fatigue

5.10.1 Signs and Symptoms. Transient heat fatigue refers to the temporary state of discomfort and mental or psychological strain arising from prolonged heat exposure. Workers unaccustomed to the heat are particularly susceptible and can suffer, to varying degrees, a decline in task performance, coordination, alertness, and vigilance.

5.10.2 First Aid. There are no immediate first aid methods. The severity of transient heat fatigue will be lessened by a period of gradual adjustment to the hot environment (heat acclimatization).

6.0 PROCEDURE:

6.1 Preparing for the heat

6.1.1 Heat Reduction. One of the best ways to reduce heat stress on workers is to minimize heat in the workplace by using engineering controls. However, there are some work environments where heat production is difficult to control, such as when furnaces or sources of steam or water are present in the work area or when the workplace itself is outdoors and exposed to varying warm weather conditions.

6.1.2 Acclimatization. Humans are, largely, capable of adjusting to the heat (acclimatization). This adjustment to heat, under normal circumstances, usually takes about 5 to 7 days, during which time the body will undergo a series of changes that will make continued exposure to heat more endurable. On the first day of work in a hot environment, the body temperature, pulse rate, and general discomfort will be higher. With each succeeding daily exposure, all of these responses will gradually decrease, while the sweat rate will increase. When the body becomes acclimated to the heat, the worker will find it possible to perform work with less strain and distress. Gradual exposure to heat gives the body time to become accustomed to higher environmental temperatures. Heat disorders in general are more likely to occur among workers who have not been given time to adjust to working in the heat or among workers who have been away from hot environments and who have gotten accustomed to lower temperatures. Hot weather conditions of the summer are likely to affect the worker who is not acclimatized to heat. Likewise, workers who return to work after a leisurely vacation or extended illness may be affected by the heat in the work environment. Whenever such circumstances occur, the worker should be gradually reacclimatized to the hot environment.

6.2 Lessening Stressful Conditions

6.2.1 Physical factors can contribute to heat related illnesses and should be taken into consideration before performing a task. The most common physical factors that can contribute to heat related illness are type of work, level of physical activity and duration, and clothing color, weight and breathability. Many industries have attempted to reduce these physical factors by introducing engineering controls, training workers in the recognition and prevention of heat stress, and implementing work-rest cycles.

6.2.2 Heat stress depends, in part; on the amount of heat the worker's body produces while a job is being performed. The amount of heat produced during hard, steady work is much higher than that produced during intermittent or light work. Therefore, one way of reducing the potential for heat stress is to make the job easier or lessen its duration by providing adequate rest time. Mechanization of work procedures can often make it possible to isolate workers from the heat sources (perhaps in an air-conditioned booth) and increase overall productivity by decreasing the time needed for rest. Another approach to reducing the level of heat stress is the use of engineering controls, including ventilation and heat shielding.

6.3 Number and Duration of Exposures

6.3.1 Rather than be exposed to heat for extended periods of time during the course of a job, workers should, wherever possible, be permitted to distribute the workload evenly over the day and incorporate work-rest cycles. Work-rest cycles give the body an opportunity to get rid of excess heat, slow down the production of internal body heat, and provide greater blood flow to the skin. Section 7.4 covers the amount of time a worker can stay in a particular high heat environment. Workers employed outdoors are especially subject to weather changes. A hot spell or a rise in humidity can create overly stressful conditions. The following practices can help to reduce heat stress:

6.3.1.1 Postponement of nonessential tasks,

6.3.1.2 Permit only those workers acclimatized to heat to perform the more strenuous tasks, or

6.3.1.3 Provide additional workers to perform the tasks, keeping in mind that all workers should have the physical capacity to perform the task and that they should be accustomed to the heat.

6.4 Calculation of Stay Times

6.4.1 The intensity of work is an important factor in determining stay times. For the purpose of avoiding heat related illness, work will be categorized as follows:

6.4.1.1 Light Work: sitting, paper work, equipment operations, walking

6.4.1.2 Moderate Work: standing, light or moderate arm work, work not requiring continual motion

6.4.1.3 Heavy Work: lifting, pushing, pulling, climbing, continual motion, and welding.

6.4.1.4 When combinations of the above categories are encountered, the work will be rated at the higher of the two.

6.4.2 To calculate stay times (amount of time permitted to continuously work in that environment):

6.4.2.1 Obtain ambient temperature from the area where the work will be performed

6.4.2.2 Obtain the relative humidity from the national weather service either at the time of the job's beginning or in the morning and use the projected high for all day.

6.4.2.3 Using the heat index chart (Appendix A), find the correct temperature.

6.4.2.4 If the employees performing heavy work will be wearing paper suits, coveralls, rubberized clothing, or respirators, add 10 degrees Fahrenheit to the heat index.

6.4.2.5 Determine the category of work - light, moderate, heavy.

6.4.2.6 Consult the table of heat exposure limits to find the stay times. (Appendix B).

6.4.2.7 The stay times indicated are general guidelines. The application of sound judgment will allow the work to be accomplished in a timely manner while, at the same time, controlling heat related illness.

6.5 Rest Periods and Areas

6.5.1 The length of the rest period between exposures shall be adequate to cool the body. Rest periods at a minimum shall be between 15 to 30 minutes depending on heat index and type of work. Note: it takes at least 30 minutes to cool the body once a person has become overheated.

6.5.2 Providing cool rest areas in hot work environments considerably reduces the stress of working in those environments. There is no conclusive information available on the ideal temperature for a rest area. However, a rest area with a temperature near 76oF appears to be adequate and may even feel chilly to a hot, sweating worker, until acclimated to the cooler environment. A shaded rest area will be provided for employees and located as close to the workplace as possible. Individual work periods should not be lengthened in favor of prolonged rest periods. Shorter but frequent work-rest cycles are the greatest benefit to the worker.

6.6 Thermal Conditions in the Workplace

6.6.1 The most common environmental factors that contribute to heat related illnesses are air temperature, humidity, radiant heat sources and air circulation. A variety of engineering controls can be introduced to minimize exposure to heat. For instance, improving the insulation on a furnace wall can reduce its surface temperature and the temperature of

the area around it. In a laundry room, exhaust hoods installed over those sources releasing moisture will lower the humidity in the work area. In general, the simplest and least expensive methods of reducing heat and humidity can be accomplished by:

6.6.1.1 Opening windows in hot work areas,

6.6.1.2 Using fans, air conditioners, or

6.6.1.3 Using other methods of creating airflow such as exhaust ventilation or air blowers.

6.7 Drinking Water

6.7.1 In the course of a day's work in the heat, a worker may produce as much as 2 to 3 gallons of sweat. Because so many heat disorders involve excessive dehydration of the body, it is essential that water intake during the workday be about equal to the amount of sweat produced. Most workers exposed to hot conditions drink fewer fluids than needed because of an insufficient thirst drive. A worker, therefore, should not depend on thirst to signal when and how much to drink. Instead, the worker should drink 5 to 7 ounces of fluids every 15 to 20 minutes to replenish the necessary fluids in the body. These fluids should be consumed during rest periods and/or anytime employees feel the need.

6.7.2 Potable water and individual drinking cups will be provided for all employees. Where applicable, portable water coolers/containers will be provided for locations that do not contain acceptable fixed/plumbed drinking water sources.

6.7.3 Heat acclimatized workers lose much less salt in their sweat than do workers who are not adjusted to the heat. The average American diet contains sufficient salt for acclimatized workers even when sweat production is high. If, for some reason, salt replacement is required, the best way to compensate for the loss is to add a little extra salt to the food. Salt tablets should not be used.

6.8 Protective Clothing

6.8.1 Clothing inhibits the transfer of heat between the body and the surrounding environment. Therefore, in hot jobs where the air temperature is lower than skin temperature, wearing clothing reduces the body's ability to lose heat into the air. When air temperature is higher than skin temperature, clothing helps to prevent the transfer of heat from the air to the body. However, this advantage may be nullified if the clothes interfere with the evaporation of sweat.

6.8.2 In dry climates, adequate evaporation of sweat is seldom a problem. In a dry work environment with very high air temperatures, protective clothing could be an advantage to the worker.

6.8.3 The proper type of clothing depends on the specific circumstance. Certain work in hot environments may require insulated gloves, insulated suits, reflective clothing, or infrared reflecting face shields. For extremely hot conditions, thermally conditioned clothing is available. One such garment carries a self-contained air conditioner in a backpack, while another is connected to a compressed air source that feeds cool air into the jacket or coveralls through a vortex tube. Another type of garment is a plastic jacket, which has pockets that can be filled with dry ice or containers of ice.

6.9 Awareness is important

6.9.1 The key to preventing excessive heat stress is educating the Project Manager/Site Supervisor and worker on the hazards of working in heat and the benefits of implementing proper controls and work practices. Supervisors must ensure personal factors that contribute to heat related illness are taken into consideration before assigning a task where there is the possibility of a heat-related illness occurring. The most common personal factors that can contribute to heat related illness are age, weight/fitness, drug/alcohol use, prior heat-related illness, etc.

6.9.2 The Project Manager/Site Supervisor shall establish control methods designed to acclimatize workers who must be exposed to hot environments and provide necessary work-rest cycles and water to minimize heat stress. To assist the Project Manager/Site Supervisor in developing control methods Appendix C contains a Heat Stress Control worksheet.

6.10 Special Considerations During Prolonged Heat Spells

6.10.1 During unusually hot weather conditions lasting longer than 2 days, the number of heat illnesses usually increases. This is due to several factors, such as progressive body fluid deficit, loss of appetite (and possible salt deficit); build up of heat in living and work areas, and breakdown of air-conditioning equipment. Therefore, it is advisable to make a special effort to adhere rigorously to the above preventive measures during these extended hot spells and to avoid any unnecessary or unusual stressful activity. Sufficient sleep and good nutrition are important for maintaining a high level of heat tolerance. Workers who may be at a greater risk of heat illnesses are the obese, the chronically ill, and older individuals.

6.10.2 When feasible, the most stressful tasks should be performed during the cooler parts of the day (early morning or at night). Double shifts and overtime should be avoided whenever possible.

6.10.3 Rest periods should be extended to alleviate the increase in the body heat load.

6.10.4 Avoid caffeine and alcoholic beverages. These beverages make the body lose water and increase the risk for heat illness.

6.10.5 Persons taking certain medications (e.g., medications for blood pressure control, diuretics, or water pills) should consult their physicians in order to determine if any side effects could occur during excessive heat exposure.

6.10.6 Daily fluid intake must be sufficient to prevent significant weight loss during the workday and over the workweek.

7.0 TRAINING:

7.1 All employees who work in or who may work in areas where the ambient temperature, measured with a standard thermometer, exceeds 85 degrees Fahrenheit shall be trained on this program. Training shall include:

7.2 Recognition of the signs/symptoms of heat related illnesses and first aid measures and

7.3 Methods to reduce or eliminate heat related illnesses

7.4 In addition to section 8.1, Project Manager/Site Supervisors with employees working in high heat conditions will be trained on this program, heat related illness prevention methods, and emergency response procedures prior to supervising employees.

7.5 Training rosters shall be kept for all training sessions.

7.6 The Safety Manager shall maintain all training rosters

8.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

HEAT INDEX

Relative Humidity	Air Temperature (Degrees in Fahrenheit)								
	70	**75**	**80**	**85**	**90**	**95**	**100**	**105**	**110**
0%	64	69	73	78	83	87	91	95	99
10%	65	70	75	80	85	90	95	100	105
20%	66	72	77	82	87	93	99	105	112
30%	67	73	78	84	90	96	104	113	123
40%	68	74	79	86	93	101	110	122	137
50%	69	75	81	88	96	107	120	135	150
60%	70	76	82	90	100	114	132	149	
70%	70	77	85	93	106	124	144		
80%	71	78	86	97	113	136	157		
90%	71	79	88	102	122	150	170		
100%	72	80	91	108	133	166			

National Weather Services

HOW TO USE HEAT INDEX:

1. Locate today's predicted high temperature across top axis.
2. Locate today's predicted relative humidity along side axis.
3. Intersect these two readings to find the Heat Index (What it feels like)

HEAT INDEX 90 degrees - 100 degrees

Sun stroke, heat cramps and heat exhaustion are possible with prolonged exposure and physical activity.

HEAT INDEX 101 degrees - 129 degrees

Sun stroke, heat cramps and heat exhaustion are likely. Heat stroke possible with prolonged exposure and physical activity.

HEAT INDEX 130 degrees or Higher

Heat stroke or sun stroke Imminent.

Heat Index	Light Work		Moderate Work		Heavy Work	
	Hours	Minutes	Hours	Minutes	Hours	Minutes
84	(Over 8 hrs.)		7	10	3	10
86	(Over 8 hrs.)		6	0	2	40
88	7	10	5	0	2	10
90	6	0	4	10	1	50
92	5	0	3	30	1	30
94	4	20	3	0	1	20
96	3	40	2	30	1	10
98	3	10	2	10	1	0
100	2	40	1	50	0	50
102	2	20	1	40	0	40
104	2	0	1	20	0	40
106	1	40	1	10	0	30
108	1	30	1	0	0	30
110	1	20	0	50	0	20
112	1	10	0	50	0	20
114	1	0	0	40	0	20
116	0	50	0	40	0	20
118	0	50	0	30	0	10
120	0	40	0	30	0	10
122	0	40	0	20	0	10
124	0	30	0	20	0	10

ASSUMES NO CUMULATIVE FATIGUE OR PREDISPOSING ILLNESS PRIOR TO HEAT EXPOSURE

NOTE – Stay times apply to heat acclimated workers.

The length of the rest period between exposures shall be adequate to cool the body. Rest periods at a minimum shall be between 15 to 30 minutes depending on heat index and type of work.

Note**: it takes at least 30 minutes to cool the body once a person has become overheated.**

Job Information

Job Location:_____Date:_____

Job Description:_____

_____

_____

Stay Time *(amount of time permitted to continuously work in this environment)*

Temperature:_____ Humidity:_____ Heat Index:_____

See Appendix A

Light Work_____ Moderate Work_____ Heavy Work_____

STAY TIME PERMITTED hrs min *LENGTH OF BREAK*

See Appendix B

Additional Control Methods

1. Engineering Controls Used (Air moving equipment: manhole blowers, fans, exhaust ventilation, etc.):
   A._____
   B._____
   C._____
2. Are Fluids Available? YES_____ or NO_____ List:
   A._____

B._____

C._____

3. Heat Reducing Personal Protective Equipment Required? YES_____ or NO_____

List: (ex. ice vests, water cooled clothing, circulating air, wetted clothing, etc.)

A._____

B._____

C._____

SP 24 Cold Stress

1.0 Purpose

1.1 The Kuesel Group works in many different environments and conditions. This document has been developed to educate employees and address scenarios when employees are faced with potential project work in environments that could lead to exposure to freezing or cold temperatures.

2.0 Scope

2.1 All Kuesel Group employees who may work in freezing or cold temperatures, both outdoors and indoors must be familiar with the information and comply with the procedures outlined in this document.

3.0 References

3.1 American Conference of Governmental Industrial Hygienist (ACGIH) TLV's and BEI's

3.2 Occupational Safety and Health Administration (OSHA) *Emergency Preparedness Guide*

4.0 Responsibilities

4.1 Safety Representative:

4.1.1 Develop and maintain the Cold Stress Safety procedures.

4.1.2 Ensure employees are provided pertinent information prior to working in freezing or cold temperatures conditions.

4.2 Project Manager/Site Supervisor:

4.2.1 Conduct an assessment of jobsite to determine:

4.2.1.1 Employees who will be at risk for exposure to freezing or cold temperatures.

4.2.1.2 Additional hazards due to buildup of snow and ice.

4.2.2 Provide employees detailed information on completed assessment and expected weather conditions when freezing or cold temperatures are anticipated.

4.2.3 Ensure adequate supplies and medical services are available on the project site to prevent climate related injuries and illnesses.

4.2.4 Be aware of employees' physical conditions throughout each shift on severely cold days.

4.2.5 Ensure all employees involved in the project are familiar with emergency medical

protocols for the site.

4.2.6 Make certain that the buddy system is implemented and that no employee is working alone in cold environments.

4.3 Employees:

4.3.1 Be aware of yours and other employees' physical conditions throughout each shift on extreme cold days.

4.3.2 Any employee that believes work conditions are unsafe must raise those concerns to the Site Supervisor as soon as possible.

4.3.3 Make certain that you are not working alone in extreme cold environments.

5.0 Definitions:

5.1 **Frostbite** – An injury caused by freezing of the skin and underlying tissues.

5.2 **Frost-nip** – The first stage and only stage of frostbite which does not cause permanent skin damage.

5.3 **Hypothermia** – A medical emergency that occurs when the body loses heat faster than it can produce heat, resulting in dangerously low body temperature (below 95°F)

6.0 COLD CLIMATE SAFETY:

6.1 Cold Climate Concerns

6.1.1 Serious health problems can result from prolonged exposure to the cold. The most common cold-related problems are hypothermia and frostbite.

6.2 Hypothermia

6.2.1 When exposed to cold temperatures, your body begins to lose heat faster than it can be produced. Prolonged exposure to cold will eventually use up your body's stored energy. The result is hypothermia, or abnormally low body temperature. Body temperature that is too low affects the brain, making the victim unable to think clearly or move well. This makes hypothermia particularly dangerous because a person may not know it is happening and won't be able to do anything about it.

6.2.2 Hypothermia is most likely at very cold temperatures, but can occur even at cool temperatures (above 40°F) if a person becomes chilled from rain, sweat, or submersion in cold water.

6.2.3 Recognizing warning signs of hypothermia

6.2.3.1 shivering / exhaustion

6.2.3.2 confusion / fumbling hands

6.2.3.3 memory loss / slurred speech / drowsiness

6.2.3.4 pale cold skin

6.2.3.5 numbness of the extremities

6.2.4 What to do to stop hypothermia

6.2.4.1 If you notice any of these signs, take the person's temperature. If it is below 95°, the situation is an emergency – get medical attention immediately.

6.3 Frostbite

6.3.1 Frostbite is an injury to the body that is caused by freezing temperatures. Frostbite causes a loss of feeling and color in affected areas. It most often affects the nose, ears, cheeks, chin, fingers, or toes. Frostbite can permanently damage the body, and in severe cases it can lead to amputation. The risk of frostbite is increased in people with reduced blood circulation and among people who are not dressed properly for extremely cold temperatures.

6.3.2 Recognizing Frostbite

6.3.2.1 At the first signs of redness or pain in any skin area, get out of the cold or protect any exposed skin - frostbite may be starting. Any of the following signs may indicate frostbite:

6.3.2.1.1 A white or grayish-yellow skin area.

6.3.2.1.2 Skin that feels unusually firm or waxy.

6.3.2.1.3 Numbness.

6.3.3 A victim is often unaware of frostbite until someone else points it out because the frozen tissues are numb.

6.3.4 What to Do After Frostbite Symptoms Appear

6.3.4.1 If you detect symptoms of frostbite, seek medical care. Because frostbite and hypothermia both result from exposure, first determine whether the victim also shows signs of hypothermia, as described previously. Hypothermia is a more serious medical condition and requires emergency medical assistance immediately.

6.4 Prevention of Cold Weather Illnesses

6.4.1 Protective clothing is the most important way to avoid cold weather illnesses. Employees should dress properly while working in cold weather. Wear at least three layers of clothing. The inner layer should be wool, silk or synthetic. The middle layer should be wool or synthetic and an outer layer to protect against wind and rain, which will allow some ventilation to prevent overheating. Hats or hoods should be worn while working in cold weather along with insulated work boots. Outer layers of clothing should not be tight fitting. Having a change of clothing is highly recommended.

6.4.2 Additional preventive measures include: drinking plenty of water, avoid caffeine and alcohol. Heavy or strenuous work should be completed during warmer parts of your shift. Take breaks out of the cold environment. If possible consume high calorie foods during meal times.

6.5 Additional Prevention

6.5.1 In order to avoid additional hazards related to cold weather conditions, it is important that regularly used walkways have been cleared and treated prior to the start of the job. Wherever possible, ice and snowed will be cleared away so as to eliminate any additional hazards.

7.0 TRAINING:

7.1 Employees who may work in freezing or cold temperature conditions will be trained upon initial assignment and annually thereafter.

7.2 Training will include the hazards of cold exposure and prevention of frostbite, hypothermia, and other cold weather exposure concerns. Topics should include:

7.2.1 Risk factors

7.2.2 Health Effects of cold weather exposure

7.2.3 Proper re-warming procedures

7.2.4 Required protective clothing required for cold weather

7.2.5 Use of proper warming shelters.

7.2.6 The importance of using the “Buddy System”

7.2.7 Different types of cold related illnesses or injuries, including how to recognize common signs and symptoms.

7.2.8 Vehicle Breakdown Procedures

7.2.9 Prevention procedures.

7.2.10 Proper First Aid for cold related illnesses.

7.2.11 Importance of immediately reporting signs or symptoms of illness to the supervisor.

7.2.12 Procedures to follow when contacting emergency medical services.

7.2.13 Procedures to ensure that clear and precise directions to the work site will be provided to emergency medical services.

7.2.14 Proper eating and drinking habits for cold weather.

8.0 PROGRAM REVIEW:

8.1 Safety Director shall review this procedure periodically to ensure the information is accurate and procedures provided are current.

9.0 RECORDKEEPING:

9.1 Training records shall be maintained by the Safety Department.

9.2 Where applicable, all medical records shall be maintained by the Human Resources Department in accordance with the OSHA's 29 CFR 1910.1020 *Access to Employee Exposure and Medical Records* standards.

10.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 25 Personal Protective Equipment (PPE)

1.0 PURPOSE:

1.1 To provide guidelines for wearing the proper Personal Protective Equipment (PPE) for employees performing work which may expose them to eye, face, hand, head, foot or other hazards.

2.0 SCOPE:

2.1 This program applies to all Kuesel Group employees exposed to workplace hazards.

3.0 RESPONSIBILITIES:

3.1 Management shall be responsible for:

3.1.1 Ensuring that proper PPE is being used for the task.

3.1.2 Ensure that PPE is provided and maintained in a sanitary and reliable condition

3.1.3 Ensure that appropriate training takes place and the training is understood.

3.2 Employees shall properly maintain assigned PPE and assure it is used when required.

4.0 GENERAL INFORMATION:

4.1 Design – All personal protective clothing and equipment will be of safe design and construction for the work to be performed. Only those items of protective clothing and equipment that meet National Institute of Occupational Safety and Health (NIOSH) or American National Standards Institute (ANSI) standards will be procured or accepted for use.

4.2 Controlling hazards – PPE devices alone should not be relied upon to provide protection against hazards, but should be used in conjunction with guards, engineering controls and safe work practices.

4.3 Selection guidelines – the general procedure for selection of protective equipment is to:

4.3.1 Become familiar with the potential hazards and the type of protective equipment that is available and what it can do; i.e. splash protection, impact protection, etc.

4.3.2 Compare the hazards associated with the environment; i.e. impact velocities, masses, projectile shape, radiation intensities, with the capabilities of the available protective equipment.

4.3.3 Select the protective equipment which ensures a level of protection greater than the minimum required to protect employees from the hazards.

4.3.4 Fit the user with the protective device and give instruction on care and use of the PPE. It is very important that end users be made aware of the limitations of their PPE.

4.3.5 Careful consideration must be given to comfort and fit. PPE that fits poorly will not afford the necessary protections. Continued wearing of the device is more likely if it fits the wearer comfortably. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the right size is selected.

4.4 Inspection – All PPE shall be inspected by the user prior to each use. Employees shall conduct a visual inspection of the PPE to ensure it is free of defect or damage. All PPE that is damaged or defective is unusable and shall be discarded and/or replaced.

4.5 Client and/or Jobsite Guidelines – employees must also know the PPE guidelines that are required by the client and/or jobsite. These guidelines must be followed in addition to The Kuesel Group requirements.

4.6 Employee Owned Equipment – where employees provide their own protective equipment, management shall be responsible to assure its adequacy, including proper maintenance and sanitation of such equipment.

5.0 EYE AND FACE PROTECTION:

5.1 The majority of occupational eye injuries can be prevented by the use of suitable/approved safety spectacle, goggles or shields. Approved eye and face protection shall be worn when there is a reasonable possibility of personal injury.

5.2 The Kuesel Group will provide appropriate eye protection devices for employees assigned to tasks in which an eye injury hazard exists. Safety glasses must conform to ANSI Z-87.1, a standard for industrial safety eyewear. Industrial safety glasses are patterned after conventional eyewear, but are of more substantial construction and have a minimum lens thickness of 3mm.

5.3 If the safety glasses become damaged through normal wear and tear or work related activities, they can be exchanged by the employee for a new pair.

5.4 Employees are required to wear safety glasses at all times in areas where there is a risk of eye injury such as punctures, contusions, or burns. Management is responsible for determining the need for suitable eye protection devices and ensuring that the employees use them.

5.5 Where there is a danger of flying particles or corrosive materials, employees must wear protective goggles and/or face shields provided by The Kuesel Group. Chemical splash goggles provide a tight seal completely enclosing the eyes and the bridge of the nose. Face shields are devices worn in front of the eyes and a portion of, or all of the face, the function of which is protection of the wearer's eyes and face. Safety glasses are still required when wearing a face shield.

5.6 Employees who need corrective lenses are required to wear only approved safety glasses, protective goggles or other medically approved precautionary procedures when working in area with harmful exposures or risk of eye injury. If the corrective lens glasses are not approved safety glasses, then oversized safety glasses must be worn over top of the corrective lens glasses. The oversized safety glasses must conform to ANSI Standard Z-87.1 for industrial safety eyewear.

6.0 HEAD PROTECTION:

6.1 Hard hats have been designed and manufactured to provide workers protection from falling objects, impact, heat, electrical and fire hazards. These protectors consist of the shell and the suspension combined as a protective system. Hard hats will be made from nonconductive, fire and water resistant materials. (Hard hats must conform to ANSI Standard Z-89.1)

6.2 Head protection will be furnished and used by all employees engaged in work that takes place in head hazard areas. The inside band of the hard hat should be adjusted properly to ensure a proper fit. The brim of the hard hat shall be worn in the forward position unless the manufacturer warrants other positions.

6.3 Selection guidelines for head protection

6.3.1 All head protection is designed to provide protection from impact and penetration hazards caused by falling objects. Head protection is also available which provides protection from electric shock and burn. When selecting head protection, knowledge of potential electrical hazards is important. Class A hard hats, in addition to impact and penetration resistance, provide electrical protection from low-voltage conductors (they are proof tested to 2,200 volts). Class B hard hats, in addition to impact and penetration resistance; provide electrical protection from high voltage conductors (they are proof tested to 20,000 volts). Class C hardhats provide impact and penetration resistance (they are usually made of aluminum which conducts electricity) and should not be used around electrical hazards.

7.0 FOOT PROTECTION:

7.1 Each affected employee shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or where objects piercing the sole and where employee's feet are exposed to electrical hazards.

7.2 Safety shoes and boots provide both impact and compression protection. Where necessary, safety shoes can be obtained which provide puncture protection. In some work situations, metatarsal protection should be provided and in other special situations electrical conductive or insulating safety shoes would be appropriate.

7.3 Safety shoes or boots with impact protection would be required for carrying or handling materials such as packages, objects, parts or heavy tools which could be dropped; and for other activities where objects might fall onto the feet.

7.4 Safety shoes or boots with compression protection would be required for work activities involving skid truck (manual material handling carts) around bulk rolls (such as paper rolls) and around heavy pipes, all of which could potentially roll over an employee's feet. Safety shoes or boots with puncture protection would be required where sharp objects such as nails, wire, tacks, screws, large staples, scrap metal, etc., could be stepped on by employees causing a foot injury.

7.5 Chemical protective boots shall be worn when there is a potential for chemicals exposure to the feet.

7.6 Employees that are tasked or assigned to work on any oil or gas drilling site will wear a safety boot meeting the below minimum criteria:

7.6.1 Standard six inch safety boot with safety toe meeting ASTM and ANSI requirements.

7.6.2 Built in metatarsal guard (on sites requiring the use). Meeting ASTM F2413-05 Mt75 class 75 metatarsal impact-resistance safety standards.

7.6.3 The boots can be of the laced up or slip on style; however, lace style is recommended for the added ankle support.

7.6.4 Removable metatarsal protection will not be accepted for wear.

7.6.5 Managers and supervisors will determine those employees that will be assigned to work on oil and/or gas drilling sites.

8.0 HAND PROTECTION:

8.1 Hand protection is required when employees' hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns, and harmful temperature extremes.

8.2 Skin contact is a potential source of exposure to toxic material; it is important that the proper steps be taken to prevent such contact. Gloves should be selected based on the material being handled, the particular hazard involved, and their suitability for the operation being conducted. One type of glove will not work in all situations.

8.2.1 The first consideration in the selection of gloves for use against chemicals is to determine, if possible, the exact nature of the substances to be encountered. Read instructions and warnings on chemical container labels and safety data sheets (SDS)

before working with any chemical. Recommended glove types are often listed in the section for PPE.

8.2.2 Chemicals eventually permeate all glove materials; however, they can be used safely for limited time periods if specific use and glove characteristics (i.e. thickness and permeation rate and time) are known. Management will assist in determining the specific type of glove material that should be worn for a particular chemical.

8.3 Most accidents involving hands and arms can be classified under four main hazard categories: chemicals, abrasions, cutting and heat. There are gloves available that can protect workers from any of these individual hazards or combination of hazards.

8.4 Gloves should be replaced periodically, depending on frequency of use and permeability to the substance(s) handled. Gloves overly contaminated should be rinsed and then carefully removed after use.

8.5 Gloves should also be worn whenever it is necessary to handle rough or sharp-edged objects, and very hot or very cold materials. The type of glove materials to be used in these situations includes leather, welder's gloves, aluminum-backed gloves and other types of insulated glove materials.

8.6 Careful attentions must be given to protecting your hands when working with tools and machinery. Power tools and machinery must have guards installed or incorporated into their design that prevent the hands from contacting the point of operation, power train or other moving parts. To protect the hands from injury due to contact with moving parts, it is important to:

8.6.1 Ensure that guards are always in place and used;

8.6.2 Always lockout machines or tools and disconnect the power before making repairs;

8.6.3 Treat a machine without a guard as inoperative; and

8.6.4 Do not wear gloves around moving machinery, such as drill presses, mills, lathes and grinders.

9.0 RESPIRATORY PROTECTION:

9.1 (See SP-27 Respiratory Protection)

10.0 HEARING PROTECTION:

10.1 (See SP-26 Hearing Conservation)

11.0 PROTECTIVE CLOTHING:

11.1 Fire/Burn Protection - All personnel working in or visiting any area requiring fire retardant clothing shall wear work uniforms (coveralls or shirt/pant) and, if necessary, outer garments (jackets, insulated coveralls, etc.) manufactured of 100% NOMEX or approved alternate materials. Nylon jackets and other types of personal clothing shall not be worn over the NOMEX work uniform. Exceptions to this may include the use of rain gear, disposable coveralls for chemical protection, acid suits and other specialized clothing approved by management.

11.1.1 Fire retardant clothing must be properly worn to achieve maximum protection. Shirts must be buttoned, coveralls must be fully zipped and long sleeves fully extended and secured.

11.1.2 Only approved markings and repair material are allowed on fire retardant garments.

11.1.3 Fire retardant clothing must be properly laundered to maximize the level of fire protection the garment will provide. The Kuesel Group employees will continue to launder their own clothing and will be provided with specific cleaning instructions to assure proper results. Certain work activities may require the use of disposable clothing, such as TYVEK coveralls, over the fire retardant garments to protect personnel and to prevent contamination of fire retardant clothing.

11.1.4 A typical NOMEX garment should last several years depending upon severity of use. Repairs for damaged clothing are the responsibility of the employee. Replacements, as deemed necessary by management will be made by the company. It is expected that all employees will take proper care of their NOMEX clothing and will maintain it in a neat, clean and presentable manner.

11.2 Chemical Protective Clothing - All personnel performing tasks that may subject the body to chemical splashes are required to wear chemical protective clothing (chemical suit, apron, slicker, etc.). Chemical protective clothing must be rated for the chemical involved.

12.0 HAZARD ASSESSMENT:

12.1 Hazard analysis procedures shall be used to assess the workplace or job task to determine PPE requirements, based on hazards that are present or likely to be present.

12.2 Management shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of PPE. This may be accomplished through conducting a job hazard analysis or using the PPE Hazard Assessment form (See Appendix A).

12.3 Management shall select, communicate and have each affected employee use PPE.

12.4 PPE shall be selected that properly fit each affected employee to include proper donning, doffing, cleaning and maintenance.

13.0 TRAINING:

13.1 Before being allowed to perform work requiring the use of PPE, each employee must be properly trained.

13.2 Management shall ensure that training is provided to each employee who is required to use PPE. The Kuesel Group training personnel will assist with the training where needed.

13.3 Each employee shall be trained to know at least the following:

13.3.1 When and what PPE is necessary and its limitations,

13.3.2 How to properly don, doff, adjust wear and maintain PPE,

13.3.3 The proper care, maintenance, useful life and disposal of the PPE,

13.3.4 Each affected employee shall demonstrate an understanding of the training and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

13.4 Retraining shall be conducted when:

13.4.1 Management has reason to believe that an employee who has already been trained does not have the understanding or skill to wear PPE properly;

13.4.2 When the workplace changes, making the earlier training obsolete;

13.4.3 The type of PPE changes; or

13.4.4 When the employee demonstrates lack of use, improper use, or insufficient skill or understanding.

13.5 Training shall be documented. The training document should include the name and signature of the trainer, the name and signature of the employee(s), the date the training was completed and the training subject. This documentation should be kept on file for review. Training can be accomplished through jobsite orientations, safety meetings and/or toolbox talks.

14.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

Job Task:_____

Date:_____ Project Location:_____

Assessed By:_____ Job Title:_____

Potential Hazards: (Check all that apply to either existing conditions or are a result of site operations)

( ) Rotating Machinery	( ) Projectiles	( ) Confined Space
( ) Heat Stress	( ) Physical Exertion	( ) Biological
( ) Cold Stress	( ) Noise (>90 dBA)	( ) Electrical (utilities)
( ) Heavy Equipment	( ) Vehicle Traffic	( ) Chemical Exposure
( ) Intrusive Activity	( ) Fire/Explosion	( ) Other Slips, trips, & falls
( ) Trench/excavation collapse	( ) Uneven Terrain	( ) Flammable materials
( ) Other:	( ) Contact with contaminated soil or water	

Control or Protective Measures: (Check all that apply)

( ) Tailgate Meetings	( ) PPE	( ) Safe Work Practices
( ) Employee or Operator Training	( ) Site Control	( ) Decontamination
( ) Engineering Controls	( ) Other:	

Install caution-tape/barriers around operation, establish sufficient work space and minimize access.

INITIAL LEVEL OF PERSONAL PROTECTIVE EQUIPMENT FOR ASSIGNED TASK:

PPE has been assigned for this work task per the potential for exposure. PPE requirements are outlined below. PPE may be upgraded or downgraded depending on monitoring data, site conditions, or as determined by qualified personnel.

Respirator:

( ) SCBA, Airline	( ) Full-face APR Resp.	( ) 1/2 Face APR Resp.
( ) N95 Dust Mask	( ) OV/AG/HEPA Cart.	( ) Other Cart_____

Protective clothing:

( ) Encapsulating Suit ( ) Tyvek ( ) Poly Coated Tyvek

( ) Saranex ( ) Splash Suit ( ) Other:_____

Head/eye/ear:

( ) Hard Hat ( ) Safety Glasses ( ) Goggles ( ) Welding Shield

( ) Splash Shield ( ) Ear Plugs/Muffs ( ) Face Shield ( ) Other: _____

Gloves:

( ) Nitrile ( ) Neoprene ( ) PVC - Use with Petroleum Products

( ) Vinyl ( ) Leather ( ) Cotton ( ) Other_____

Footwear:

( ) Leather work boots ( ) Safety-toed Leather ( ) Chemical Over boots

( ) Safety-toed Rubber ( ) Other: _____

Other PPE:

( )_____

( )_____

_____ _____

Signature of Person Performing Assessment **Date of Assessment**

SP 26 Hearing Conservation

1.0 PURPOSE:

1.1 The purpose of this Hearing Conservation Program is to protect The Kuesel Group employees from noise-induced hearing loss resulting from on-the-job noise exposure. A copy of this program shall be available by contacting management.

2.0 SCOPE:

2.1 This program applies to all applicable The Kuesel Group employees.

3.0 REFERENCE:

3.1 29 CFR 1910.95 Hearing Conservation

4.0 RESPONSIBILITIES:

4.1 The Site Supervisor is responsible for administering the program

4.2 Each applicable employee is responsible for adhering to the guidelines of the program.

5.0 GENERAL INFORMATION:

5.1 Exposure to high levels of noise may cause hearing loss. The extent of damage to hearing depends primarily on the intensity of the noise and the duration of the exposure. Noise-induced hearing loss can be temporary or permanent. Initially, this condition is temporary and results from short-term exposures to noise, with normal hearing returning after a period of rest. With prolonged exposure to high noise levels over a period of time, hearing loss can become permanent.

5.2 Noise-induced hearing loss often goes unnoticed because it generally occurs very gradually over time, is painless, except in very rare cases, and has no visible effects.

5.3 Noise can also interfere with communication (affecting the employee's safety), disturbs performance (causing errors or a decrease in work quality) and produces fatigue, irritability and stress. See the following table for permissible duration times in high noise environments without the use of hearing protective devices (HPD's).

Permissible Noise Exposures

Duration per day, hours	Sound Level dBA (slow response)
8……..	90
6……..	92

4…….. 95

3…….. 97

2…….. 100

1 ½…….. 102

1…….. 105

½……. 110

¼……. 115

5.4 To preclude the adverse effects of exposure to occupational noise, a Hearing Conservation Program has been established.

5.5 Exposure to continuous noise above 90 dBA is not permitted without hearing protection. Personnel must not be exposed to impact noises exceeding 140 dBA. Impact noises occur at intervals of greater than one per second.

5.6 The Responsible Safety Manager shall:

5.6.1 Approve personal hearing protection devices (HPD) and evaluate HPD attenuation.

5.6.2 Periodically review and update The Kuesel Group's Hearing Conservation program to assure continued effectiveness and compliance with current regulations.

5.6.3 Conduct periodic field audits to assess compliance with noise control practices.

5.6.4 Maintain records of employee exposure monitoring, audiometric test data, and training.

5.6.5 Coordinate employee-training sessions.

5.6.6 Coordinate employee noise exposure monitoring.

5.6.7 Provide the opportunity for effected employees to observe any noise measurements/data.

6.0 EXPOSURE MONITORING:

6.1 When information indicates that an employee's noise exposure may equal or exceed an 8-hour, time-weighted average sound level of 85 dBA *(i.e. the Action Level),* exposure monitoring shall be conducted.

6.2 The monitoring strategy shall be designed to identify all such employees whose exposure equals or exceeds the action level for inclusion in the hearing conservation program, as well as to collect sufficient measurements to enable the proper selection of hearing protection devices. This monitoring may be accomplished by means of either personal sampling (Noise Dosimeter Survey) or area sampling (Sound Level Surveys), as appropriate, to obtain the employee's representative 8 hour TWA noise exposure.

6.3 For personal monitoring, the employee wears a noise dosimeter for the duration of the work-shift and the time weighted average noise exposure measurement is read from the dosimeter at the completion of monitoring. Where circumstances such as high worker mobility, significant variations in sound level, or a significant component of impulse noise exists, personal monitoring shall be done.

6.4 When area sampling is done, a Sound Level Meter is used. Sufficient sound level measurements shall be taken throughout the day, and in different locations, in order to estimate the employee's noise exposure over the workday. These measurements can be recorded on a map of the work area or documented by location, equipment or process description. When noise levels fluctuate, the amount of time the employee remains at each of the various measured levels must be determined. Area monitoring can be used to estimate noise exposure when the noise levels are relatively constant and employees are not mobile. See Section 11.0 for example high noise areas or equipment.

6.5 Employee noise exposures shall be computed without regard to any attenuation provided by the use of personal protective equipment and in accordance with OSHA's Guidelines on Noise Exposure Computation. All continuous, intermittent, and impulsive sound levels from 80 to 140 dB shall be integrated into the noise measurements. All instruments shall be calibrated according to the manufacturer's instructions to ensure measurement accuracy.

6.6 Monitoring shall be repeated whenever a change in production, process, equipment or controls increases noise exposure levels such that additional employees may be exposed above the action level or the attenuation provided by the hearing protection devices is no longer adequate.

6.7 Results of all sound level and noise dosimeter surveys shall be forwarded to the affected employees for that particular work location. All employees shall be notified of the results of area or personal monitoring.

7.0 CONTROL MEASURES:

7.1 All employees who are exposed to noise levels that exceed the OSHA Action Level of 85 dBA (8-hr. TWA) shall be included in this program. Whenever employee noise exposures exceed 90 dBA (OSHA's permissible exposure level), noise control measures shall be instituted. They may include one or a combination of the following methods:

7.1.1 **Engineering Controls** – Whenever feasible, engineering controls should be investigated to reduce noise exposures below 90 dBA. These methods include isolation of noise source, redesign of machine or process, installing of absorbing materials or barriers and enclosures for employees. Purchasing specifications for new equipment shall require that the equipment not generate noise levels in excess of 90 dBA where feasible, and the manufacturer must provide documentation to prove it.

7.1.2 **Administrative Controls** – where engineering controls are not effective for reducing an individual's noise exposure below 90 dBA, administrative controls shall be used. These controls involve employee rotation on a high noise job or in a high noise area such that any one employees' exposure time is limited. Exposure to impulsive or impact noise should not exceed 140 dBA peak sound level.

7.1.3 **Hearing Protection Devices** – The use of hearing protection devices shall be made available, at no cost, to all employees exposed to an 8-hour TWA of 85 dBA. Additionally, HPD's shall be required and used for all employees exposed at or above the TWA of 90 dBA when engineering and administrative controls are not effective or feasible.

7.1.3.1 Employees required to use HPD's shall have the opportunity to select devices from among those approved and/or provided by The Kuesel Group for use, given the necessary attenuation for their work conditions. In all cases, HPD's must be selected that will attenuate noise exposures to below 90 dBA.

7.1.3.2 All HPD's shall have a Noise Reduction Rating (NRR). These ratings shall be used to determine if the HPD will offer adequate protection for the environment in which the employee will be exposed. The NRR of the hearing protection must be sufficient so that the 8-hour TWA will be 90 dBA or less. For employees who have already experienced a standard threshold shift, the attenuation of their hearing protection must reduce their 8-hour TWA to 85 dBA or less.

7.1.3.2.1 The listed NRR is a laboratory result. The real world NRR will be significantly less because of inadequate fit and application.

7.1.3.2.2 Subtract 7 dB from the NRR of the HPD to account for improper fit and application.

7.1.3.3 Employees shall be trained on proper fit, use, and care of HPD's.

7.1.3.4 HPD's shall be replaced as necessary.

7.2 **Warning Signs** – shall be posted at entrances to work areas where sound levels equal or exceed 85 dBA. The signs shall state:

Warning

HIGH NOISE AREA

HEARING PROTECTION REQUIRED

7.3 In areas where administrative controls are necessary in addition to engineering controls and HPD, signs shall be posted to state:

Warning

Extremely High Noise Area

HEARING PROTECTION REQUIRED

Reduced Stay Time Required

8.0 TRAINING:

8.1 Employees who have noise exposures at or above the TWA of 85 dBA shall participate in an annual training program.

8.2 All new or transferred employees who will be assigned to jobs where they may be exposed above the action level shall receive the training within 30 days of their initial employment or reassignment.

8.3 Training shall be updated as changes in PPE and work processes occur.

8.4 The training program shall include:

8.4.1 Effects of noise on hearing.

8.4.2 Purpose of hearing protectors, advantages, disadvantages and attenuation of various types.

8.4.3 Instructions for selection, fitting, use and care.

8.4.4 Purpose of exposure monitoring and audiometric testing and explanation of test procedures.

8.4.5 The Kuesel Group's Hearing Conservation Plan including the employer's and employee's responsibilities.

8.4.6 Noise control measures.

8.4.7 The Kuesel Group shall provide a copy of the noise exposure procedures to its employees and post a copy at the workplace.

9.0 RECORDKEEPING:

Records of exposure monitoring, audiometric testing and training shall be maintained as follows:

9.1 **Exposure Monitoring** – Results of sound level surveys shall be retained. These records shall include date of survey, noise level meter model, and calibration, noise levels, operating conditions, and name of person performing survey.

Results of personal monitoring shall be maintained with the audiometric test records. Exposure data shall be recorded as an 8 hour TWA noise level.

9.2 **Training** – attendance rosters shall be kept for all training sessions and include the date, name/signature of employee, and the name of the instructor.

9.3 All medical and exposure records generated through compliance with this procedure will be maintained in accordance with OSHA standard 1910.1020 Access to Employee Exposure and Medical Records.

9.3.1 Exposure records must be maintained for 30 years (including workplace monitoring).

9.3.2 Medical records must be maintained for the term of employment plus 30 years.

10.0 HIGH NOISE AREAS/EQUIPMENT:

10.1 This table gives ranges of typical noise levels for equipment with exposure times resulting in an 8-hour Time Weighted Average of 85 dBA. (The lower decibel level for each range is associated with the longer exposure time and the higher decibel level is associated with the shorter exposure time.) Note: normal conversation is about 60 dBA. Any employee who may be exposed to an 8-hour time weighted average noise level of 85 dBA or greater is included in the Hearing Conservation Program

Equipment	Range of Typical Noise Levels (dBA)	Exposure Time Resulting in 8-hour TWA of 85 dBA
Gasoline Generators	88-90	5.25 - 1.25 hrs.
Portable Air Compressors	91-99	3.5 - 1.0 hrs.
Gasoline Blower	91-97	3.5 - 1.5 hrs.
Gasoline Water Pump	88-92	5.25 - 3.0 hrs.
Diesel Generator	97-110	1.5 - 0.25 hrs.
Oil Purification Trailer	80-90	16.0 - 4.0 hrs.
Pavement Breaker	98-111	1.25 - 0.25 hrs.

Jack Hammer (air powered drill)	98-110	1.25	-	0.25	hrs.
Aerator	101-102	0.75	hrs.		
Air Spade	100-111	1.0	-	0.25	hrs.
Tamper	97	1.5	hrs.		
Backhoes	83-94	10.5	-	2.25	hrs.
Dozer	88-103	5.25	-	0.50	hrs.
Loader	84-98	9.0	-	1.25	hrs.
Locomotive	87-96	6.0	-	1.75	hrs.
Cherry Picker	89-90	4.5	-	4.0	hrs.
Pipe Threading Machines	82-92	12.0	-	3.0	hrs.
Pneumatic Wire Wheels	89-94	4.5	-	2.25	hrs.
Portable Electric Grinders	93-108	2.5	-	0.25	hrs
Portable Electric Saw	85-102	8.0	-	0.75	hrs.
Pneumatic Grinders	91-111	3.5	-	0.25	hrs.
Pneumatic Chipper	87-110	6.0	-	0.25	hrs.
Pedestal Grinders	85-108	8.0	-	0.25	hrs.
Bench Top Grinders	95-99	2.0	-	1.0	hrs.
Hilti Hammers	93-110	2.5	-	0.25	hrs.
Chain Saw	108-112	0.25	-	10	mins.
Rotary Hammers	100-105	1.0	-	0.5	hrs.
Pneumatic Wrench	98-104	1.25	-	0.5	hrs.
Pneumatic Hammer	120	4 mins.			
Pneumatic Cut-off Wheel	92-106	3.0	-	0.25	hrs.
Pneumatic Drill	89-90	4.5	-	4.0	hrs.
Radial Arm Saw	93-112	2.5	-	10	mins.
Band Saws	85-96	8.0	-	1.75	hrs.
Jointer	91-104	3.5	-	0.5	hrs.
Table Saw	79-96	>16	-	1.75	hrs.
Portable Hand Saw	88-105	5.25	-	0.5	hrs.

Miter Saw	94-105	2.25	-	0.5	hrs.
Panel Saw	104-111	0.5	-	0.25	hrs.
Router	96-110	1.75	-	0.25	hrs.
Power Washer	90-94	4.0	-	2.25	hrs.

11.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 27 Respiratory Protection

1.0 PURPOSE:

1.1 This document provides the directions necessary to satisfy regulations regarding the appropriate use of respiratory protection. Engineering controls, such as ventilation and substitution of materials, are the first lines of defense: however engineering controls may not always be feasible for some operations, or have not always completely controlled the identified hazard. In these situations, respirators and other protective equipment must be used. Respirators may also be needed to protect employees' health during emergencies.

2.0 SCOPE:

2.1 This program applies to all Kuesel Group employees who may be required to wear respirators.

3.0 RESPONSIBILITIES:

3.1 **Project Managers/Jobsite Supervisors**: Managers must ensure that the program is understood and followed by employees under their charge. Duties of the Manager include:

3.1.1 Ensuring employees under their supervision have received appropriate training, fit testing and annual medical evaluation.

3.1.2 Ensuring availability of appropriate respirators and accessories.

3.1.3 Being aware of tasks requiring the use of respiratory protection.

3.1.4 Enforcing the proper use of respiratory protection when necessary.

3.1.5 Ensuring that respirators are properly cleaned, maintained, and stored according to program.

3.1.6 Ensuring that respirators fit well and do not cause discomfort.

3.1.7 Continually monitor work areas and operations to identify respiratory hazards.

3.1.8 Coordinate with the Program Administrator on how to address hazards or other concerns regarding the program.

3.2 **Employees**: The employee shall use the respiratory protection in accordance with this procedure and training received:

3.2.1 The employee shall use respiratory protection to prevent exposure to hazardous chemical vapors and airborne particles when engineering controls are not feasible.

3.2.2 The employee shall report any malfunction of the equipment to supervision.

3.2.3 The employee shall report any lost or damaged respiratory protection equipment to supervision.

3.3 **Program Administrator**: The Program Administrator must be knowledgeable of the complexity of the program, conduct evaluations and be properly trained. The Program administrator is responsible for the implementation of the program. Duties include:

3.3.1 Identifying activities, operations and evaluate hazards that require workers to wear respirators.

3.3.2 Monitor respirator use to ensure that respirators are selected and used in accordance with their capabilities.

3.3.3 Provide guidance on the cleaning, inspection, storage, and maintenance of respirators.

3.3.4 Arrange for and/or conduct training and fit testing.

3.3.5 Coordinate the medical surveillance program.

3.3.6 Audit the respiratory program and work areas periodically to ensure compliance with standards and procedures.

3.3.7 Maintain records required by program.

4.0 GENERAL:

4.1 Engineering systems will be the primary means of limiting the need for respiratory protection. Respirator shall be used when engineering control measures are not feasible or during emergencies with high exposure.

4.2 Respiratory protection shall be worn when any permissible exposure limits (PEL) (or any other standard criteria available) are exceeded, or expected to be exceeded, as measured by industrial hygiene sampling for harmful vapors, dusts, mists, gases, oxygen deficient environments, etc.

4.3 Respirators will be worn, when necessary, by trained and certified fit-tested individuals, except those who have written notification to the contrary by the company physician.

4.4 Each user or potential user of a respirator will be fit-tested to determine the proper face-to-facepiece seal. The fit-tests will be the basis for the selection of personal respirators. If glasses are normally worn, and a full-face respirator is required, the individual will be issued modified spectacles that fit into the facemask.

4.5 All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in accordance with the terms of that certification. In addition, all

filters, cartridges, and canisters must be labeled with the appropriate NIOSH approval. The label must not be removed or defaced while it is in use.

4.6 An employee will be allowed to perform a job requiring a respirator only if successfully fit-tested, trained, and verified on the use of the specific type of respirator.

4.7 All respirators will be inspected before and after each use by the user. Those not used routinely will be inspected at least once per month.

4.8 Respirators will be cleaned and disinfected after each day's use or after each use if worn by more than one person in a single day. A disinfectant solution will be used. Alcohol must not be used for cleaning as it can cause the rubber areas to become brittle.

4.9 Maintenance on respirators will be performed by trained personnel.

4.10 Respirators must be stored in a carrying case or plastic bag to protect them from dust, sunlight, heat, extreme cold, excessive moisture, damaging chemicals, and physical damage.

4.11 Respirators, training, fit testing, and medical evaluations are provided at no cost to the employees.

5.0 SELECTION OF RESPIRATORS:

5.1 Types of Respirators

5.1.1 Air Purifying Respirators (APR) are used to purify the air when it contains a known concentration of particulates, gases or vapor contaminants. These respirators have time and concentration limitations. They cannot be used in oxygen deficient atmospheres. APR's shall not be used for emergency response purposes where the contaminant or concentration is unknown.

5.1.1.1 Cartridges must be selected and used according to the type of air contaminants present.

5.1.1.2 A cartridge change-out schedule must be developed to ensure proper cartridge effectiveness. Change-out schedules are based on length of exposure, concentration of contaminant and manufacturer's instructions.

5.1.1.2.1 At minimum, all vapor cartridges shall be replaced at the completion of the job or end of each shift.

5.1.1.2.2 Cartridges shall be changed more frequently depending on the concentration. Review sampling data and adjust change schedule accordingly. (Use manufacturer's information.)

5.1.1.2.3 Cartridges shall be changed immediately if vapor or gas breakthrough is detected or there is a change in breathing resistance.

5.1.2 Atmosphere Supplying Respirators include Supplied Air Respirators (Pressure Demand and 5 min. escape)/and Self Contained Breathing Apparatus (SCBA).

5.1.2.1 These respirators are to be used:

5.1.2.1.1 When there is a potential IDLH exposure

5.1.2.1.2 When there is an unknown concentration of a contaminant

5.1.2.1.3 When there is a potentially oxygen deficient atmosphere

5.1.2.1.4 When APR's are inadequate or the protection factor is exceeded

5.1.2.2 SCBA's shall be pressure demand and have an audible low air alarm.

5.1.2.3 Carbon Monoxide monitors are to be in place and set to alarm at 10 ppm or monitored frequently.

5.1.2.4 For supplied air respirators, only Grade D breathing air shall be used in the cylinders. The Program Administrator will ensure that all breathing air meets this standard.

5.1.2.5 Air cylinders used on SCBA's shall be hydrostatically tested every 3 years for composite (fiberglass) cylinders and every 5 years for steel cylinders.

5.1.2.6 Ensure proper fittings shall be compatible with respirable gases and containers.

5.1.2.7 A Compressor located in a "clean" atmosphere, with in-line purification and tagged to indicate date or change out.

5.1.3 Filtering face pieces (dust masks) - N95 dust masks should only be used in a low hazard particulate environment or worn for comfort. Typically, these masks have a protection factor of around 5, if properly fitted. If clouds of dust are present, employees should use, at a minimum, a half-face APR with P100 particulate filter cartridges. Employees shall be trained on their proper use, fit and limitations.

5.2 Selection

5.2.1 Each area of the jobsite must be assessed of its need for respirators. The selection of a respirator shall be based upon the hazards identified at the worksite and those hazards that affect respirator performance. A hazard evaluation of work activities, where airborne contaminants may be present or during emergencies where hazards may be released would indicate what type of respiratory protection would be required. A hazard evaluation should consider:

5.2.1.1 Identify any hazardous substances that are used in the workplace,

5.2.1.2 Estimate potential exposures and contaminant information,

5.2.1.3 Review of work processes to determine where potential exposure to these hazardous substances may occur.

5.2.1.4 Exposure monitoring to quantify potential hazardous exposures.

5.2.1.5 Duration of exposure.

5.2.2 When working at a client jobsite where respirators may be required, the site supervisor shall obtain information on potential exposures from the client.

5.2.3 The Program Administrator will select respirators to be used onsite based on the hazards to which workers are exposed and in accordance with all OSHA standards. The type of respiratory protection necessary will depend on the type of respiratory hazard. There are three general categories of respiratory hazards.

5.2.3.1 Oxygen deficiency, less than 19.5 % and/or Oxygen enrichment, greater than 23.5%

5.2.3.2 Gas or vapor contamination

5.2.3.3 Particulate contamination (aerosols including dust, fog, mist, smoke, and sprays)

5.2.4 Selection of the appropriate respirator should include:

5.2.4.1 The type of hazard.

5.2.4.2 Respiratory protection factor, concentration of the contaminant, and permissible exposure limits.

5.2.4.3 Characteristics and limitations of respirators (see 5.1).

5.2.4.4 Type of work being performed.

5.2.5 Voluntary Respirator Use:

5.2.5.1 Respirators may be used when exposures are below the exposure limit to provide an additional level of comfort and protection for employees. However, 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 a hazardous substance does not exceed the limits set by OSHA standards.

5.2.5.2 Employees who voluntarily choose to wear an air-purifying respirator when not required must comply with the procedures for medical evaluation, respirator use, cleaning, maintenance, and storage.

5.2.5.3 The use of filtering face pieces (dust masks) on a voluntary basis will not be required to comply with procedures described above. Hazard assessments should indicate what activities constitute voluntary respiratory use.

NOTE: SEE APPENDIX B: VOLUNTARY RESPIRATOR USE FORM. REQUIRED WHEN EMPLOYEES USE RESPIRATORS VOLUNTARILY.

5.2.6 Immediately Dangerous To Life and Health Atmospheres (IDLH)

5.2.6.1 In the unlikely situation where The Kuesel Group employees would have to enter an IDLH atmosphere, procedures shall be developed to ensure proper employee protection. These procedures shall address:

5.2.6.1.1 Outside standby persons

5.2.6.1.2 Maintaining communication (visual, voice, signal line, etc.)

5.2.6.1.3 Proper training, PPE, and equipment (including rescue/retrieval equipment)

5.2.6.1.4 Pre-entry notification procedures

5.2.6.1.5 Rescue procedures

6.0 RESPIRATOR MEDICAL EVALUATION PROGRAM:

6.1 Employees who are either required to wear tight-fitting face piece respirators, or who choose to wear respirators voluntarily, must pass a medical exam before being permitted to wear a respirator on the job or before fit testing. Employees are not permitted to wear respirators until it has been determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respiratory use.

6.2 Medical evaluation procedures are as follows:

6.2.1 The medical evaluation will be conducted using a standard respiratory user questionnaire (See Appendix A). The Program Administrator will provide a copy of this questionnaire to all employees requiring medical evaluations.

6.2.2 All affected employees will be given a copy of the medical questionnaire to complete. Employees will be permitted to complete the questionnaire on company time.

6.2.3 The questionnaire shall be convenient and easy to understand. Non-English versions shall be provided for employees whose primary language is other than English. Completed questionnaires shall be kept confidential

6.2.4 Follow-up medical exams will be granted to employees as required by the standard and/or as deemed necessary by the Physician or Licensed Health Care Professional, (PLHCP).

6.2.5 All employees will be granted the opportunity to speak with the PLHCP about their medical evaluation, if they so request. All examinations and questionnaires are to remain confidential between the employee and physician.

6.2.6 The Program Administrator will provide the PLHCP with a copy of this program, a copy of the Respiratory Protection standard, a list of any potentially hazardous substances, and for each employee requiring evaluation: his or her work area or job title, proposed respirator type and weight, length of time required to wear respirator, expected physical work load (light, moderate or heavy), potential temperature and humidity extremes, and any additional protective clothing required.

6.2.7 *Medical determination* - In determining the employee's ability to use a respirator, The Kuesel Group shall obtain a written recommendation regarding the employee's ability to use the respirator from the Physician. The recommendation shall provide only the following information:

6.2.7.1 Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator.

6.2.7.2 The need, if any, for follow-up medical evaluations.

6.2.8 Any employee not approved (for medical reasons) to wear a negative pressure air-purifying respirator will be provided with a powered air-purifying respirator (PAPR).

6.2.9 After an employee has received clearance and begun to wear his or her respirator, additional medical evaluations will be provided under the following circumstances:

6.2.9.1 Employee reports signs and/or symptoms related to their ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing.

6.2.9.2 The Manager informs the Program Administrator that the employee needs to be reevaluated.

6.2.9.3 A change occurs in workplace conditions that may result in an increased physiological burden on the employee.

6.2.10 Medical records are confidential and maintained at the PLHCP. Employees may gain access to their medical records at any time. Contact the Program Administrator to gain access or request a copy.

7.0 RESPIRATOR FIT-TESTING:

7.1 Fit testing is required for employees wearing tight-fitting face piece air purifying respirators (APR's) and supplied air respirators (SAR's). Employees voluntarily wearing APR's may also be fit tested upon request.

7.2 Employees who are required to wear APR's & SAR'S will be fit tested:

7.2.1 Prior to wearing any respirator with a tight fitting face piece.

7.2.2 Annually.

7.2.3 When there are changes in the employee's physical condition that could affect respirator fit (e.g. obvious change in body weight, facial scarring, etc.).

7.3 Employees will be fit tested with the make, model, and size of the respirator that they will actually wear. Employees will be provided with several models and sizes of respirators so that they may find an optimal fit. Fit testing of SAR's and PAPR's are to be conducted in the negative pressure mode.

7.4 The Program Administrator will ensure that fit tests follow approved OSHA Qualitative Fit Testing (QLFT) or Quantitative Fit Testing (QNFT) procedures. Fit-testing must be done by personnel who are qualified in proper fit testing methods.

8.0 RESPIRATOR USE:

8.1 Employees will use their respirators under conditions specified by this program, and in accordance with the training they received on the use of each particular model. In addition, the respirator shall not be used in a manner for which it is not certified by NIOSH.

8.2 All employees will conduct user checks each time that they don their respirator. At a minimum, employees shall conduct a negative pressure check (place hands over cartridges or inlet and breathe-in). If possible, a positive pressure check should be conducted (place hands over exhalation valve and exhale).

8.3 Employees are not permitted to wear tight fitting respirators if they have any condition that prevents them from achieving a good seal. (i.e. facial hair, facial scars, missing dentures, glasses, bandana, etc.)

8.4 The wearer of a respirator equipped with a full facepiece, helmet, hood or suit shall not be permitted to wear contact lenses. If glasses, goggles, face shield or welding helmet must be worn with a respirator, it shall be worn so as to not break or adversely affect the seal.

9.0 CLEANING:

9.1 The program administrator must address appropriate surveillance, and ensure employees leave the area to wash, change cartridges, or if they detect break-through or resistance.

9.2 Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.

9.3 Respirators not individually assigned and those for emergency use shall be cleaned and disinfected after each use by a designated person.

9.4 The following procedure shall be used for cleaning and disinfecting respirators:

9.4.1 Remove filters, cartridges, or canisters before washing and discard as necessary. Headbands can also be removed before washing.

9.4.2 Wash all respirator parts in warm water and soap or an approved cleaner/disinfectant.

9.4.3 Rinse well in clean warm water and allow to air dry in a clean area.

9.4.4 Reassemble the respirator.

9.5 Individual cleaning pads for respirators, such as "Safety Equipment Wipes," are an acceptable alternative to the above cleaning procedure. Unless approved for respirator cleaning by the manufacturer, do not use any other chemicals, alcohol, or solutions to clean/sanitize respiratory protection equipment.

10.0 INSPECTION AND MAINTENANCE:

10.1 All respirators shall be inspected by the user before and after each use and after cleaning to check the respirator function, tightness of connections, condition of the various parts, including, but not limited to, the face piece, head straps, inhalation/exhalation valves, connecting tube, cartridges, canisters or filters, and a check of elastomer parts for pliability and signs of deterioration. The Program Administer shall periodically inspect employee respirators to ensure that they are being properly maintained.

10.2 Respirators maintained for emergency use shall be inspected before and after each use and at least monthly by supervision or a designated person to assure they are in satisfactory working condition. These respirators shall be tagged noting the date of inspection and the initials of the person doing the inspection. An appropriate checklist or log can also be developed.

10.3 Emergency escape respirators shall be inspected before being carried into the workplace for use.

10.4 Respirators that do not pass inspection shall be replaced or repaired immediately. Deficiencies and the completed corrective action should be communicated to the Program Administrator.

10.5 Repair of individual respirators by the user is limited to changing filters, cartridges, canisters, head straps, and inhalation/exhalation valves and covers.

10.6 All other repairs or replacements shall be performed by designated trained personnel with parts designed for the respirator. No attempt shall be made to replace components or make adjustments, modifications, or repairs beyond the manufacturer's recommendations.

11.0 STORAGE:

11.1 After cleaning, inspection, and any necessary repairs, respirators shall be stored in a clean place and in a sealed plastic bag to protect against dust, sunlight, extreme heat or cold, excessive moisture, and damaging chemicals.

11.2 Routinely used respirators shall be stored in a sealed plastic bag/carton and kept in a locker or other cabinet. Respirators shall be stored such that the face piece and exhalation valve rest in a normal position.

12.0 PROGRAM EVALUATION:

12.1 Evaluations of the workplace are necessary to ensure that the written respiratory protection program is being properly implemented. This includes consulting with employees to ensure that they are using the respirators properly. Program evaluation will include discussions with employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

12.1.1 Respirator fit (including the ability to use the respirator without interfering with effective workplace performance)

12.1.2 Appropriate respirator selection for the hazards to which the employee is exposed

12.1.3 Proper respirator use under the workplace conditions the employee encounters

12.1.4 Proper cleaning, maintenance, and storage practices in place.

12.2 The Program Administrator shall conduct the program evaluations as necessary (typically at least annually) to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.

13.0 TRAINING:

13.1 Employees shall receive training on this program if they are required to wear a tight-fitting face piece respirator or their normal duties include response to emergencies that may require immediate respirator use. Training will be given by qualified instructors. The respiratory training program shall include:

13.1.1 An understanding of The Kuesel Group's Respiratory Protection Program and 29 CFR 1910.134.

13.1.2 The limitations and capabilities of respiratory protective equipment.

13.1.3 A discussion of the types and proper selection of respirators for each purpose.

13.1.4 Instruction in the proper use, care, fit, inspection, maintenance and storage of respirators.

13.1.5 How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.

13.1.6 How to deal with emergency situations involving the use of and malfunction of respiratory equipment.

13.2 This training is required annually and prior to employee use of respiratory protection in the workplace. Retraining is required when an employee shows a deficiency in understanding or a new type/brand of respirator is introduced. Training records will be forwarded to the Program Administrator.

14.0 DOCUMENTATION:

14.1 The Program Administrator is required to establish and retain written information regarding medical evaluations, fit tests, and the respirator program. The Program Administrator will be responsible for ensuring the follow records are maintained:

14.1.1 Current written Respiratory Protection Program.

14.1.2 Employee training and fit test records. A training record shall be maintained for each employee required to wear a respirator. Fit test records shall be maintained until the next fit test is performed.

14.1.3 Inspection and maintenance records of emergency respirators.

14.1.4 Voluntary Respirator Use Forms

14.1.5 Periodic program evaluations

14.1.6 The Physician's Statement certifying the employee is physically capable of wearing a respirator.

14.1.7 Records shall be maintained by the Program Administrator at The Kuesel Group office in O'Fallon, MO. Employee medical records shall be made available to the employee in accordance with 29 CFR 1910.1020 at the employee's request

15.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

Can you read (check one): (_) Yes (_) No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (PLEASE PRINT)

1. Today's date:_____

2. Your legal name:_____ SS#: _____

3. Your age (to nearest year):_____

4. Sex (check one): ____ Male _____ Female

5. Your height:_____ ft. _____ in.

6. Your weight:_____ lbs

7. Your job title:_____

8. A phone number where you can be reached by the health care professional, who reviews this questionnaire (include the Area Code):_____

9. The best time to phone you at this number:_____

10. Has your employer told you how to contact the health care professional who will review this questionnaire? (_) Yes (_) No

11. Check the type of respirator you will use (you can check more than one category):

a. _____ N, R, or P disposable respirator (filter-mask, non-cartridge type only).

b. _____ Other type (for example, half-or full-face piece type, powered-air purifying, supplied-air, self-contained breathing apparatus).

12. Have you worn a respirator? ( ) Yes ( ) No

If "yes," what type(s) _____

Part A. Section 2.

(PLEASE CHECK THE APPROPRIATE BOX)

YES	**NO**	
____	____	1. Do you <u>currently</u> smoke tobacco, or have you smoked tobacco in the last month? If yes please describe: _____
		2. Have you ever had any of the following conditions?
____	____	a. Seizures (fits)
____	____	b. Diabetes (sugar disease)
____	____	c. Allergic reactions that interfere with your breathing
____	____	d. Claustrophobia (fear of closed-in places)
____	____	e. Trouble smelling odors
		3. Have you ever had any of the following pulmonary or lung problems?
____	____	a. Asbestosis
____	____	b. Asthma
____	____	c. Chronic bronchitis
____	____	d. Emphysema
____	____	e. Pneumonia
____	____	f. Tuberculosis
____	____	g. Silicosis
____	____	h. Pneumothorax (collapsed lung)
____	____	i. Lung cancer
____	____	j. Broken ribs
____	____	k. Any chest injuries or surgeries
____	____	l. Any other lung problem that you've been told about
		4. Do you <u>currently</u> have any of the following symptoms of pulmonary or lung illness?

____	____	a. Shortness of breath
____	____	b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline
____	____	c. Shortness of breath when walking with other people at an ordinary pace on level ground
____	____	d. Have to stop for breath when walking at your own pace on level ground
____	____	e. Shortness of breath when washing or dressing yourself
____	____	f. Shortness of breath that interferes with your job
____	____	g. Coughing that produces phlegm (thick sputum)
____	____	h. Coughing that wakes you early in the morning
____	____	i. Coughing that occurs mostly when you are lying down
____	____	j. Coughing up blood in the last month
____	____	k. Wheezing
____	____	l. Wheezing that interferes with your job
____	____	m. Chest pain when you breathe deeply
____	____	n. Any other symptoms that you think may be related to lung problems

(PLEASE CHECK THE APPROPRIATE BOX)

YES	NO	
		5. Have you ever had any of the following cardiovascular or heart problems?
____	____	a. Heart attack
____	____	b. Stroke
____	____	c. Angina
____	____	d. Heart failure
____	____	e. Swelling in your legs or feet (not caused by walking)
____	____	f. Heart arrhythmia (heart beating irregularly)
____	____	g. High blood pressure
____	____	h. Any other heart problem that you've been told about
		6. Have you ever had any of the following cardiovascular or heart symptoms?
____	____	a. Frequent pain or tightness in your chest
____	____	b. Pain or tightness in your chest during physical activity
____	____	c. Pain or tightness in your chest that interferes with your job
____	____	d. In the past two years, have you noticed your heart skipping or missing a beat
____	____	e. Heartburn or indigestion that is not related to eating
____	____	f. Any other symptoms that you think may be related to heart or circulation problems
		7. Do you <u>currently</u> take medication for any of the following problems?
____	____	a. Breathing or lung problems Please list: _____
____	____	b. Heart trouble _____
____	____	c. Blood pressure _____
____	____	d. Seizures (fits) _____
		8. If you've used a respirator, have you ever had any of the following problems? (If you've never used a respirator, check the following space and go to question 9)
____	____	a. Eye irritation
____	____	b. Skin allergies or rashes
____	____	c. Anxiety

___ ___ d. General weakness or fatigue

___ ___ e. Any other problem that interferes with your use of a respirator

___ ___ 9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire?

___ ___ 10. Have you ever lost vision in either eye (temporarily or permanently)

11. Do you <u>currently</u> have any of the following vision problems?

___ ___ a. Wear contact lenses

___ ___ b. Wear glasses

___ ___ c. Color blind

___ ___ d. Any other eye or vision problem

____ ____ 12. Have you ever had an injury to your ears, including a broken ear drum?

(PLEASE CHECK THE APPROPRIATE BOX)

YES	NO		
		13.	Do you currently have any of the following hearing problems?
____	____	a.	Difficulty hearing
____	____	b.	Wear a hearing aid
____	____	c.	Any other hearing or ear problem
____	____	14.	Have you ever had a back injury? If yes, when? (Date):_____
		15.	Do you currently have any of the following musculoskeletal problems?
____	____	a.	Weakness in any of your arms, hands, legs, or feet
____	____	b.	Back pain
____	____	c.	Difficulty fully moving your arms and legs
____	____	d.	Pain or stiffness when you lean forward or backward at the waist
____	____	e.	Difficulty fully moving your head up or down
____	____	f.	Difficulty fully moving your head side to side
____	____	g.	Difficulty bending at your knees
____	____	h.	Difficulty squatting to the ground
____	____	i.	Climbing a flight of stairs or a ladder carrying more than 25 lbs
____	____	j.	Any other muscle or skeletal problem that interferes with using a respirator

PART B.

1. List any second jobs or side businesses you have:_____

_____

2. List your previous occupations:_____

3. List your current and previous hobbies:_____

_____

(PLEASE CHECK THE APPROPRIATE BOX)

YES	**NO**	
		4. Other than at Quality Testing Services, Inc. have you ever worked with any of the materials, or under any of the conditions, listed below:
____	____	a. Asbestos
____	____	b. Silica (e.g., in sandblasting)
____	____	c. Tungsten/cobalt (e.g., grinding or welding this material)
____	____	d. Beryllium
____	____	e. Aluminum
____	____	f. Coal (for example, mining)
____	____	g. Iron
____	____	h. Tin
____	____	i. Dusty environments

(PLEASE CHECK THE APPROPRIATE BOX)

YES **NO**

___ ___ j. Any other hazardous exposures. If "yes," describe these exposures:

_____

_____

___ ___ 5. Have you been in the military services?

If "yes," were you exposed to biological or chemical agents (either in training or combat)

___ ___ 6. Have you ever worked on a community volunteer fire, ambulance, or other emergency response team? If "yes" please describe:_____

_____

___ ___ 7. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason including over-the-counter medications. If "yes," name the medications if you know them:_____

_____

8. How often are you expected to use the respirator(s)? (Mark "yes" or "no" for all answers that apply to you).

___ ___ a. Escape only (no rescue)

___ ___ b. Emergency rescue only

___ ___ c. Less than 5 hours per week

___ ___ d. Less than 2 hours per day

___ ___ e. 2 to 4 hours per day

___ ___ f. Over 4 hours per day

___ ___ 9. Do you wear dentures?

___ ___ 10. Do you have a history of facial injury, surgery or deformity?

___ ___ 11. Do you have a history of hyperventilation (over breathing)?

___ ___ 12. Presently do you feel you have any medical problems that could interfere with proper and safe respirator use?

If yes please describe:_____

_____

Signature:_____ Date:_____

Information for Employees Using Respirators When Not Required Under the Standard

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 workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers 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.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirator's limitations.
2. 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.
3. 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.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator

CERTIFICATION:

I HAVE BEEN GIVEN A PERSONAL COPY OF THIS FORM. I HAVE READ AND UNDERSTAND ITS CONTENTS:

EMPLOYEE NAME:_____

SIGNATURE:_____ **DATE:**_____

SP 28 Fleet Management

1.0 PURPOSE:

1.1 Many employees operate company owned, leased, rental or personal vehicles as part of their jobs. Employees are expected to operate vehicles safely to prevent accidents which may result in injuries and property loss. It is the policy of The Kuesel Group to provide and maintain a safe working environment to protect our employees and the citizens of the communities where we conduct business from injury and property loss. The company considers the use of automobiles part of the working environment. The company is committed to promoting a heightened level of safety awareness and responsible driving behavior in its employees. Our efforts and the commitment of employees will prevent vehicle accidents and reduce personal injury and property loss claims. This program requires the full cooperation of each driver to operate their vehicle safely and to adhere to the responsibilities outlined in the Motor Vehicle Safety Program. Elements of this program include:

1.1.1 Assigning responsibilities at all levels of employment

1.1.2 Vehicle use and insurance requirements

1.1.3 Employee driver's license checks and identification of high risk drivers

1.1.4 Accident reporting and investigation

1.1.5 Vehicle selection and maintenance

1.1.6 Training standards

1.1.7 Safety regulations

2.0 SCOPE:

2.1 This policy applies to employees who operate vehicles on company business and will be reviewed by managers and supervisors to ensure full implementation and compliance.

Signed Date

3.0 RESPONSIBILITIES:

3.1 Company President –

3.1.1 The company president is responsible for directing an aggressive vehicle safety program.

3.2 Management will –

3.2.1 Implement the Motor Vehicle Safety Program in their areas of responsibility.

3.2.2 Establish measurement objectives to ensure compliance with the program.

3.2.3 Provide assistance and the resources necessary to implement and maintain the program.

3.3 Supervisors will –

3.3.1 Investigate and report all accidents involving a motor vehicle used in performing company business. Forward all accident reports to the Vehicle Safety Coordinator.

3.3.2 Be responsible for taking appropriate action to manage high risk drivers as defined by this program.

3.3.3 Provide driver training either internally or through external means for high risk drivers.

3.4 Vehicle Safety Coordinator -

3.4.1 Issue periodic reports of losses for the president's review.

3.4.2 Review motor vehicle accident reports.

3.4.3 Revise and distribute changes to the Motor Vehicle Safety Program to managers, supervisors and drivers as necessary.

3.4.4 Maintain appropriate records.

3.5 Drivers will –

3.5.1 Always operate a motor vehicle in a safe manner as explained under the section titled, "Driver Safety Regulations".

3.5.2 Maintain a valid driver's license and minimum insurance requirements on personal vehicles used in company business.

3.5.3 Maintain assigned vehicles according to established maintenance standards.

4.0 VEHICLE USE:

4.1 Company Owned Vehicles

4.1.1 Passenger Cars and Light Duty Trucks

4.1.1.1 Employees authorized by their supervisors will be permitted to operate a passenger car or light duty truck. The vehicle is to be driven for company use only, and only the employee will be permitted to operate the vehicle. No one under the age of 21 will be permitted to operate the vehicle.

4.1.2 Commercial Vans and Trucks

4.1.2.1 Employees with appropriate commercial driver's license (if required by the state), authorization from their supervisor and qualified by state and Federal DOT when applicable will be permitted to operate the vehicle.

4.2 Personal Vehicles on Company Business

4.2.1 Employees who drive their personal vehicles on company business are subject to the requirements of this program including:

4.2.1.1 Maintaining auto liability insurance with minimum limits of **$100,000** for bodily injury and **$100,000** for property damage with combined single limit of **$300,000**.

4.2.1.2 Maintain current state vehicle inspections when required.

4.2.1.3 Maintain their own vehicle in a safe operating condition when driven on company business.

4.2.1.4 Proof of insurance (copy of declaration page) will be sent to the Vehicle Safety Coordinator.

4.2.1.5 Acceptable Driver’s License Record (DLR).

4.2.1.6 No 'business use' exclusion on personal insurance policy.

4.3 Rental Vehicles

4.3.1 Rental vehicles will be leased from (*INDICATE VENDORS SUCH AS HERTZ, AVIS, ETC.*)

4.3.2 Collision damage waiver will be refused.

4.4 Unauthorized Use of Vehicles

4.4.1 Assigned drivers and other authorized employees will not allow an unauthorized individual to operate a company vehicle. No exceptions! Disciplinary action may be taken. Additionally, if unauthorized use results in an accident, the responsible employee will be required to make restitution for the damages.

4.5 Contractors and Temporary Hire Employees

4.5.1 Contractors and temporary employees will be treated as company employees and will comply with the requirements of this program. Failure to meet all requirements will result in the immediate loss of driving privileges.

5.0 DRIVER SELECTION:

5.1 Driver Evaluation

5.1.1 Employees will be evaluated and selected based on their driving ability. To evaluate employees as drivers, management will:

5.1.1.1 Review past driving performance and work experience through previous employer's reference checks. All new employees and current employees recently assigned to driving duties will be required to complete the "Application Addendum For Employment Requiring Driving".

5.1.1.2 Review the employee's Motor Vehicle Record (MVR) annually (more frequently if reasons warrant).

5.1.1.3 Ensure the employee has valid driver's license.

5.1.1.4 Ensure the employee is qualified to operate the type of vehicle he/she will drive.

5.2 Driver Qualification

5.2.1 Effective driver qualification controls are important elements of a successful motor vehicle safety program. Management developed and incorporated standards into this program, which reflect the skills necessary for satisfactory job performance while taking into consideration applicable Federal and state regulations.

5.2.1.1 The company has implemented three levels of driver qualification criteria. Use of any or all of these criteria is dependent upon the nature and scope of the driving requirements.

5.2.1.1.1 State-regulated driver qualification parameters must be met. Regulatory information will be obtained from applicable state departments of transportation and motor vehicle services.

5.2.1.1.2 Where applicable, drivers will comply with DOT Commercial Driver License (CDL) regulations.

5.2.1.1.3 Drivers involved in interstate or foreign commerce in vehicles with Gross Motor Vehicle Weight Rating (GMVR) of 10,001 pounds or more, designed to transport 16 or more passengers, including the driver, or used in the transportation of hazardous materials in a quantity requiring placarding under the DOT Hazardous Materials Regulations, are subject to the requirements of the DOT Federal Highway Administration's Federal Motor Carrier Safety Regulations.

5.2.1.1.4 Drivers involved in intra or interstate operations with GMVR of 26,001 pounds or more must have a CDL license and be enrolled in a DOT Drug and Alcohol Testing Program.

5.2.1.2 The following criteria was established to identify high risk drivers. A driver is unacceptable if the driver's accident/violation history in the past year includes one or more of the following moving violation convictions:

5.2.1.2.1 Driving under the influence of alcohol or drugs (DWI)

5.2.1.2.2 Hit and run

5.2.1.2.3 Failure to report an accident

5.2.1.2.4 Negligent homicide arising out of the use of a motor vehicle

5.2.1.2.5 Operating during a period of suspension or revocation

5.2.1.2.6 Using a motor vehicle for the commission of a felony

5.2.1.2.7 Operating a motor vehicle without the owner's authority

5.2.1.2.8 Permitting an unlicensed person to drive

5.2.1.2.9 Reckless driving

5.2.1.2.10 Speeding (3 or more in a 3 year period)

5.2.1.2.11 Two preventable accidents in a 12 month period

5.2.1.3 Drivers who are identified as high risk or in violation may be subject to several actions from management including, but not limited to:

5.2.1.3.1 Driver may be required to attend a Defensive or Safety Driving course on their own time & expense.

5.2.1.3.2 Driver may be required to operate their own personal vehicle on company business.

5.2.1.3.3 Driver may have their driving privileges suspended or revoked.

5.2.2 D.O.T. Driver Qualification Standards

5.2.2.1 It is of the highest priority that all drivers operating Kuesel Group vehicles are fully qualified in accordance with both company and D.O.T. requirements. Briefly stated, a driver must meet the following requirements:

5.2.2.1.1 Be in good health and pass a D.O.T. physical (FMCSA 391.41).

5.2.2.1.2 Have the experience and training to safely drive (FMCSA 391.11):

5.2.2.1.2.1 Have at least two (2) years of commercial driving experience or be a graduate of an accredited and company-approved truck driver training school.

5.2.2.1.2.2 Not have more than one (1) accident or two (2) driving traffic violations over the most recent 3-year period.

5.2.2.1.2.3 Not have been involved in more than two (2) preventable type of accidents within the past three (3) years.

5.2.2.1.2.4 Not have a DWI/DUI conviction within the past five (5) years, regardless of the type of vehicle operated (company or private).

5.2.2.1.2.5 Not have had their driver's license suspended for traffic violations within the past five (5) years. Insurance/overweight tickets are excluded.

5.2.2.1.2.6 Not have been terminated by a previous employer for failure to comply with safety regulations or for accident involvement.

5.2.2.2 Be at least 23-years of age. The D.O.T. requirement is 21-years of age (391.11). An exception to the 23-year age limit may be approved by the Vehicle Safety Coordinator if the applicant is at least 21-years of age and meets the above criteria.

5.2.2.3 Not be disqualified to drive a commercial motor vehicle (FMCSA 391.15).

5.2.2.4 Drivers must be medically examined and certified at least every 24 months. If there is cause to believe that the driver may not be physically fit for duty, the company may require an earlier examination. Any earlier examination must have the prior approval of the Vehicle Safety Coordinator.

5.2.2.5 Pass a controlled substance abuse-screening test.

5.2.2.5.1.1 A driver may be required to take a controlled substance/alcohol test for any of five reasons. More information regarding controlled substances (i.e., testing is presented in Drug and Alcohol Testing Policy).

5.2.2.5.1.2 Pre-employment (drug only).

5.2.2.5.1.3 Reasonable suspicion: Drivers will be required to take a test when the company requests it with good cause.

5.2.2.5.1.4 Random: The company program must randomly test at least half of the drivers each year for drugs and 25% for alcohol.

5.2.2.5.1.5 Post-accident: Drivers involved in reportable accidents must be tested within 32 hours of the accident for drugs and two (2) hours for alcohol.

5.2.2.5.1.6 Return-to-duty and follow-up: Drivers who are returned to work after successfully completing a Kuesel Group approved rehabilitation program are subject to continued testing.

6.0 ACCIDENT RECORDKEEPING, REPORTING AND ANALYSIS:

6.1 This company considers elimination of motor vehicle accidents as a major goal. To meet this objective, all accidents will be reported to management, investigated, documented and reviewed by the Company Management. The investigation identifies need for:

6.1.1 A more intensive driver training and/or remedial training

6.1.2 Improved driver selection procedures

6.1.3 Improve vehicle inspection and/or maintenance activities

6.1.4 Changes in traffic routes

6.2 Motor vehicle accident recordkeeping procedures consist of the following components:

6.2.1 Documentation of causes and corrective action

6.2.2 Management review to expedite corrective action

6.2.3 Analysis of accidents to determine trends, recurring problems and the need for further control measures

6.3 Responsibility:

6.3.1 Implementation of these procedures remains the responsibility of both the driver and manager.

6.3.1.1 Driver

6.3.1.1.1 Since the driver is the first person at the accident scene, he/she will initiate the information-gathering process as quickly and thoroughly as is feasible.

6.3.1.2 Management

6.3.1.2.1 Management will obtain accident data from the driver through the Transportation Accident Report form and/or by verbal

communication. It is important for management to determine the extent of the accident, especially if it involves injury or death to the driver, passengers, or other parties.

6.3.1.2.2 Management will immediately proceed with a formal investigation to determine the underlying causes as well as what can be done to prevent similar occurrences. The accident report will be forwarded to the insurance claims office along with any additional support data (e.g., witness statements, photographs, police reports, etc.).

6.4 Employee Accident Reporting Procedure:

6.4.1 Employees will take the following actions when there are injuries to persons and/or damage to other vehicles or property:

6.4.1.1 If possible, move the vehicle to a safe location out of the way of traffic. Call for medical attention if anyone is hurt.

6.4.1.2 Secure the names and addresses of drivers and occupants of any vehicles involved, their operator's license numbers, insurance company names and policy numbers, as well as the names and addresses of injured persons and witnesses. Record this information on the Accident Report form (in the reporting packet). Do not discuss fault with, or sign anything for anyone except an authorized representative of The Kuesel Group, a police officer, or a representative of our insurance company, Assured Partners of Missouri.

6.4.1.3 Immediately notify the Vehicle Safety Coordinator ***Kevin Keenoy*** (636) 474-1183. If any injuries were involved and the Vehicle Safety Coordinator is not available, contact your supervisor immediately.

6.4.1.4 You will be contacted by the Vehicle Safety Coordinator to advise you how to arrange for repairs to the vehicle. Do not have the vehicle repaired until you receive authorization from the Vehicle Safety Coordinator.

6.4.2 When there is theft of or damage to your vehicle only:

6.4.2.1 If you did <u>not</u> witness the damage to the vehicle, you must notify the local police department immediately.

6.4.2.2 Immediately notify Vehicle Safety Coordinator ***Kevin Keenoy*** (636) 474-1183.

6.4.2.3 You will be contacted by the Vehicle Safety Coordinator to advise you how to arrange for repairs or replacement of the vehicle. Do not have the vehicle repaired until you receive authorization from the Vehicle Safety Coordinator.

6.4.2.4 Send a copy of the police report along with a memo outlining any additional information to the Vehicle Safety Coordinator.

6.4.3 Note: Accident reporting kits: every company vehicle should have an accident reporting kit in the glove box. This should include an accident report form, pen or pencil, and an inexpensive or disposable camera.

7.0 VEHICLE SELECTION, INSPECTION AND MAINTENANCE:

7.1 Introduction:

7.1.1 Proper selection and maintenance of equipment are important aspects of this program. Reduced operational costs and accidents from vehicle defects are the direct result of a well implemented maintenance policy.

7.2 Vehicle Selection:

7.2.1 Selection of vehicles begins with understanding the wrong equipment can result in excessive breakdowns, create hazards to personnel, incur costly delays and contribute to poor service and customer complaints. The company will purchase vehicles designed for their intended use.

7.3 Vehicle Inspection:

7.3.1 The employee responsible for the vehicle will inspect the vehicle semi-annually using the Vehicle Inspection Report form (see appendix) and forward the report to the Vehicle Safety Coordinator. More frequent inspections and reports may be required based on heavy use.

7.4 Vehicle Maintenance:

7.4.1 Vehicle maintenance can take the form of three distinct programs: preventive maintenance, demand maintenance, and crisis maintenance. While all three types have their role in the Motor Vehicle Safety Program, the most cost effective control is preventive maintenance. The groundwork for a good preventive maintenance program starts with management. A review of manufacturer's specifications and recommendations for periodic preventive maintenance should be integrated with the actual experience of the vehicles.

7.4.1.1 Preventive maintenance (PM) is performed on a mileage or time basis.

Typical PM includes oil/filter changes, lubrication, tightening belts and components, engine tune-ups, brake work, tire rotation, hose inspection/replacement and radiator maintenance.

7.4.1.2 Demand maintenance is performed only when the need arises. Some vehicle parts are replaced only when they actually fail. These include light bulbs window glass, gauges, wiring, air lines, etc. Other "demand maintenance" items involve vehicle components that are worn based on information from the vehicle condition report. These include tires, engines, transmissions, universal joints, bushings, batteries, etc. Since these situations are identified through periodic vehicle inspection, they can actually be classified within the PM program.

7.4.1.3 Crisis maintenance involves a vehicle breakdown while on the road. While situations of this type may happen regardless of the quality of the PM program, it is an expensive alternative to not having an effective preventive maintenance program at all. Crisis maintenance situations should be minimized through proper PM procedures.

7.5 Recordkeeping:

7.5.1 This company's vehicle selection, inspection and maintenance program is only as good as its recordkeeping procedures. Employees will forward all vehicle maintenance records for maintenance performed each quarter to the Vehicle Safety Coordinator.

8.0 DRIVER TRAINING:

8.1 Drivers hired by this company to operate a motor vehicle will have the basic skills and credentials necessary to perform this function as confirmed through the driver selection process.

8.2 New employees, contractor, and temporary hires will receive a copy of this program as part of their initial orientation. A formal orientation program is established to help assure all drivers are presented with the company policy, understand their responsibilities and are familiarized with their vehicle. Areas that must be addressed, with the driver, include:

8.2.1 Understand, review and given a copy of the Fleet Safety Program

8.2.2 Understand and sign the Vehicle Assignment Agreement

8.2.3 Review individual Motor Vehicle Report (MVR)

8.2.4 Understand accident reporting & emergency procedures

8.2.5 Review operation and controls of vehicle being assigned

8.2.6 Inspect vehicle using Vehicle Inspection Form

8.3 License Suspension:

8.3.1 Drivers must notify the Vehicle Safety Coordinator if their license is suspended or revoked.

8.4 Remedial Training:

8.4.1 Drivers may be required to attend a safe driving school (National Safety Council Defensive Driving course of equivalent) or an alcohol/drug abuse program on their own time and at their own expense if a review of the driver's MVR indicates:

8.4.1.1 One or more violation convictions within any one-year period, or

8.4.1.2 A conviction for driving while under the influence of alcohol or drugs.

8.4.1.3 Depending on the severity of the conviction, the employee's driving privileges may be revoked and/or may result in employment termination.

9.0 DRIVER SAFETY REGULATIONS:

9.1 Safety Belts

9.1.1 The driver and all occupants are required to wear safety belts when the vehicle is in operation or while riding in a vehicle. The driver is responsible for ensuring passengers wear their safety belts. Children under four years of age or under 40-pounds in weight must be secured in a DOT approved child safety seat.

9.2 Impaired Driving:

9.2.1 The driver must not operate a vehicle at any time when his/her ability to do so is impaired, affected, influenced by alcohol, illegal drugs, prescribed or over-the-counter medication, illness, fatigue or injury.

9.3 Traffic Laws:

9.3.1 Drivers must abide by the federal, state and local motor vehicle regulations, laws and ordinances.

9.4 Vehicle Condition:

9.4.1 Drivers are responsible for ensuring the vehicle is maintained in safe driving condition. Drivers of daily rentals should check for obvious defects before leaving the rental

office/lot and, if necessary, request another vehicle of the first vehicle is deemed unsafe by the employee.

9.5 Cellular Telephones:

9.5.1 The Kuesel Group prohibits the use of personal cell phones during working hours on all jobsites. Personal cell phones may only be used during non-working times. Using a cell phone while operating equipment or commercial motor vehicle, or while laboring on a jobsite is not safe and any observed use will be considered a safety violation. Supervisory personnel will be permitted to use cellular phones within reason to accommodate the daily needs of the project site. If the supervisor must leave the jobsite, he/she may designate a worker to use their personal phone to fulfill any jobsite needs or emergencies.

9.5.2 The Kuesel Group recognizes cell phones have the capability to take photographs or video recordings. Because this capability could allow for theft of trade secrets or expose confidential information, employees are prohibited from taking photographs or video recordings anywhere on The Kuesel Group property or any project site unless authorized to do so. Anyone found not complying with the above cellular phone use requirements are subject to corrective action which could include a warning, a suspension and/or termination for repeat violations.

9.5.3 The Kuesel Group has established a Distracted Driving Policy (Appendix D) for all employees to review and sign.

9.6 Motorcycles:

9.6.1 Employees are prohibited from using motorcycles when traveling on company business.

9.7 General Safety Rules:

9.7.1 Employees are not permitted to:

9.7.1.1 Pick up hitchhikers

9.7.1.2 Accept payment for carrying passengers or materials

9.7.1.3 Use any radar detector, laser detector or similar devices

9.7.1.4 Push or pull another vehicle

9.7.1.5 Transport flammable liquids or gases unless a DOT or Underwriters' Laboratories approved container is used, and only then in limited quantities.

9.7.1.6 Use of burning flares will be discouraged. The preferred method is the use of reflective triangles.

9.7.1.7 Assist disabled motorists or accident victims beyond their level of medical expertise. If a driver is unable to provide the proper medical care, he/she must restrict his/her assistance to calling the proper authorities. Your safety and well-being are to be protected at all times.

9.8 Company and Personal Property:

9.8.1 Employees are responsible for company property such as computers, work papers and equipment under their control. The company will not reimburse the employee for stolen personal property.

10.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials
2/4/2022	Add Section 5.2.2 DOT Driver Qualification Standards		JMH
2/4/2022	Add Appendix E – MVR Evaluation		JMH
2/4/2022	Replace Appendix B – Motor Vehicle Safety Agreement		JMH

COMPANY

ADDRESS

NAME PHONE: (_____)

First Middle Last

DRIVER LICENSES: (list all licenses held in past 3 years and indicate those that are current)

STATE	LICENSE NUMBER	CLASS	ENDORSEMENT(S)	EXPIRATION

Have you ever been denied, or had revoked or suspended any license, permit, or privilege to operate a motor vehicle? (_) Yes (_) No

If you answered YES to the above questions, give details: (if additional space is needed, attach sheet)

TRAFFIC CONVICTIONS AND FORFEITURES FOR PAST 3 YEARS: (Other than parking)

LOCATION (CITY & STATE)	DATE	CHARGE	PENALTY

DRIVING EXPERIENCE:

	DATES		
CLASS OF EQUIPMENT	FROM	TO	APROX. NO. OF TOTAL MILES
Automobile			
Van/Pickup			
Truck/Tractor			
Bus			
Other (Specify)			

ACCIDENT RECORD FOR PAST 3 YEARS: (if additional space is needed, attach sheet)

DATE	LOCATION	NATURE OF ACCIDENT	FATALITIES	INJURIES

GENERAL:

Have you ever been convicted of a felony? Yes _____ No _____

Have you ever been refused bond Yes _____ No _____

If you answered YES to either question, give details: (if additional space is needed, attach sheet)

LIST SPECIAL TRAINING RELATED TO TRANSPORTATION:

(If additional space is needed, attach sheet)

TO BE READ AND SIGNED BY APPLICANT:

This certifies that this application was completed by me, and that all entries on it and information in it are true and complete to the best of my knowledge. I understand that, if hired, any misrepresentation of information in this application is cause for immediate dismissal. I authorize The Kuesel Group to investigate my background to ascertain all information of concern to my employment history, whether same is of record or not, and release those providing such information from all liability for any damages resulting from furnishing this information. Further, I understand that I may be asked to demonstrate my ability to perform the essential functions necessary to complete the job and, if offered the job, that it may be conditioned on results of a physical examination, and controlled substances and alcohol misuse test.

_____ _____

APPLICANT'S SIGNATURE Date

The following procedures are effective August 1, 2021. The purpose of the following policy is to safeguard employees who drive company vehicles, use their personal vehicle for company business, protect other drivers on the road, and ensure the Kuesel Group is represented with safe and courteous drivers. Any employee who does not follow these procedures could risk losing the privilege of driving a company vehicle and/or employment with this firm.

Company vehicles are to be regularly maintained and serviced according to the service schedule outlined in the Owner's Manual or the instructions issued by the Equipment Manager, whichever is appropriate. I understand the operation of this vehicle in a safe operating condition is my responsibility. If this vehicle becomes unsafe, it is my responsibility to notify my supervisor immediately.

Further, it is agreed this vehicle will be operated in a safe manner. I agree to wear my seat belt whenever the vehicle is in motion and will require other occupants to do so. I agree to be responsible for all traffic and parking violations that occur while the vehicle is assigned to me.

I understand articles of this agreement apply regardless of who is operating this vehicle. Only Kuesel Group employees are allowed to drive a company vehicle. Spouses and children are NOT allowed to drive the company vehicle. Company vehicles ARE NOT to be used for personal use at any time.

I agree to promptly report all accidents, traffic violations, or incidents resulting in injury or damage to the vehicle or other property, no matter how slight.

I understand I am required to maintain a valid driver's license. Further, I herewith grant The Kuesel Group the right to investigate my motor vehicle driving record any time. My current driver’s license is issued from the State of _____ License No. _____

EMPLOYEE NAME *(printed)* _____

If my driving record contains two moving violations within a three-year period, my record will be brought up before the Safety Committee for consideration of remedial training and/or loss of driving privileges. I will be required to attend a safe driving class on my own time and at my expense, and to provide the Safety Committee with confirmation of attendance within thirty days of notification if decided by the committee.

I understand I am not to modify the vehicle in any way without written permission. This specifically applies to the installation of cellular telephones, radios, CBs, speakers, etc.

I read and agree to the provisions of this Motor Vehicle Safety Agreement and the requirements of the Motor Vehicle Safety Program.

_____ _____

SIGNATURE **DATE**

This report is due during the month of **April** and **October** each year. A separate report must be completed for each unit. After completion this report should be forwarded to:

Date:

Vehicle unit number: License number: Mileage:

Branch and Department number: Driver:

Reporting office: Department:

Year: Make: Model:

Serial number:

4 cylinder 6 cylinder _____other Cruise Tilt wheel

INSPECT AND CHECK ONE:

Lights

Head:	OK	Out	Back-up:	OK	Out
Parking:	OK	Out	Side:	OK	Out
Tail:	OK	Out	Flashers:	OK	Out
Directional:	OK	Out			

Tires

Front left:	Good	Fair	Poor	Front right:	Good	Fair	Poor
Rear left:	Good	Fair	Poor	Rear right:	Good	Fair	Poor
Conventional spare:	Good	Fair	Poor	Snow tires:	Yes	No	

Mini spare: Yes No Good Fair Poor

Note and explain uneven wear:

Brakes

Check for master cylinder leaks. If unusual conditions, explain:

Check brake pedal: High Low

Comments:

Check brake fluid: Full Low

Exterior

Paint, overall condition: Good Fair Poor
Chrome, overall condition: Good Fair Poor
Glass, overall condition: No damage Damage

Explanation of overall exterior condition:

Nonstandard ornamentation or equipment? (decals, trailer hitch, etc.) Yes No

If "Yes," describe:

Exterior damage? Yes No

If "Yes," note and explain estimated cost of repairs:

If "Yes," was claim submitted? Yes No

If "No," why not:

Interior

Overall appearance:	Clean	Worn	Dirty		
Condition of seats:	Good	Springs broken	Sagging		
Condition of upholstery:	Clean	Worn	Dirty	Torn	Burn holes
Condition of carpets:	Clean	Worn	Dirty	Torn	
Floor mats:	Yes	No			
Windshield wipers:	Good	Fair	Poor		
Knobs, handles, etc.:	Good	Broken	Missing		

Accessories:

Flash light:	Yes	No
Horn working:	Yes	No
Safety belts:	Working	Nonworking
Windshield scraper: (if applicable)	Yes	No
Rear window defroster:	Working	Nonworking
Accident report kit:	Yes	No
Driver's manual:	Yes	No

Condition of trunk:	Clean	Dirty

Accessories:

Jack:	Yes	No
Handle and base:	Yes	No
Lug wrench:	Yes	No
Flares or reflectors (2-6):	Yes	No

Under Hood

Engine: Clean Dirty

Note apparent leakage:

Engine oil: Full Low
Condition:

Mileage of last oil change: Mileage of last filter change:
Mileage of last lubrication:

Windshield washer fluid: Full Low
Battery water level: Full Low
Nonfillable: Yes No
Transmission fluid condition: Full Low Color: Red Black
Power steering fluid: Full Low

Overall Rating of Car

Excellent Good Fair Poor

Driver's comments:

Inspector's comments and recommendations:

Inspector's signature:
Branch/Fleet Coordinator signature:
Driver's signature:
Scheduled completion date of corrective action:

Please read the Distracted Driving Policy, sign and return to your supervisor.

In order to increase employee safety and eliminate unnecessary risks behind the wheel, The Kuesel Group has enacted a Distracted Driving Policy, effective 9/13/18. We are committed to stopping distracted driving, and have created the following rules.

- Company employees may not use a hand-held cell phone while operating a vehicle – whether the vehicle is in motion or stopped at a traffic light. This includes, answering or making phone calls, engaging in phone conversations, and reading or responding to emails, instant messages, tweets and text messages.

- This policy applies to all employees when **any** of the following five conditions apply:

    - Operating a company vehicle
    - Operating a personal vehicle on company business
    - Driving on company property
    - Using a cell phone supplied by the company.
    - Using a personal phone for company business

- If company employees need to use their phones, they must pull over safely to the side of the road or another safe location.

- Additionally, company employees are required to:

    - Turn cell phones off or put them on silent before starting the car.
    - Consider modifying voice mail greetings to indicate that they are unavailable to answer calls or return messages while driving.
    - Inform clients, associates and business partners of this policy as an explanation of why calls may not be returned immediately.

- Failure to comply with this policy may result in corrective action which could include a warning, a suspension or revocation of driving privileges, and/or termination for repeat violations.

I acknowledge that I have received a written copy of the Distracted Driving Policy, that I fully understand the terms of this policy, that I agree to abide by these terms, and that I am willing to accept the consequences of failing to follow the policy.

_____ _____

Employee Signature Date

_____

Employee Name (printed)

MVR Evaluation

One of the most effective fleet management tools is a driver's Motor Vehicle Record (MVR). A MVR details an individual's past driving history indicating violations and accidents over a specified period.

Frequency is as much a concern as severity when evaluating a MVR. Equal emphasis should be placed on someone who, during the last three years, has had one minor accident and multiple speeding violations as someone who has had one major violation in the same amount of time. Recent history is the most important. A driver who had several moving violations over three years ago may be a better risk than a driver who had two violations within the last 12 months. All employees should be held to the same MVR standards.

When to Order MVRs

MVRs should be reviewed for each type of driver (currently employed or prior to placement) in a job with driving duties. Order MVRs in the following situations:

- **Upon hire or placement in a driving position:** It is critical to review the MVR before asking a driver to go out on the road on your behalf. Some companies wait until the next scheduled annual review or until their agent, broker, or insurance carrier asks for an updated driver list. However, this is a risky practice. No employee should be permitted to drive on company business until a MVR check has been completed.

- **After an accident happens or a Motorist Observation Report is received:** One way to determine if there has been a change in a driver's behavior is to obtain a MVR following an accident or after a call-in report/complaint has been received. A sudden increase in moving violations or accidents, even if they happened while the driver was in his or her own personal vehicle, may indicate a need for assistance such as driver training.

- **As part of a periodic review:** As part of an ongoing program to verify the qualifications of existing drivers, MVRs should be reviewed annually for all drivers. The reviews are meant to determine if remedial training or other action is necessary, including removal or restriction of driving responsibilities.

The MVR should be reviewed with the driver and made part of the driver's file. This review may give the supervisor insight into the driver's attitude regarding traffic rules and regulations.

MVR Evaluation Tools

MVR Point System

The MVR Point System does a good job of advancing drivers so that borderline individuals can be warned of their status and coached to improve. In the chart below, the Violation/Accident Guidelines and Points columns on the left are used to assign points to each accident or violation over a three-year period. The points are then totaled to establish the **Profile Points** in the right column. In the next chart, the suggested corrective action for that risk category appears based on profile points.

VIOLATION/ACCIDENT GUIDELINES	PTS
Preventable accident (backing and parking lot accidents)	1
Warning	1
Operating vehicle while on mobile phone	2
Preventable accidents (other than backing and parking lot)	2 - 4
Most moving violations (failure to stop at red light, failure to yield right of way, etc.)	3
Failure to use restraint system (safety belts)	4
Speeding 0 to 10 mph over 11 to 20 mph over 20+ mph over	2 3 6 – 8
Reckless, negligent driving, driving to endanger	8
Driving with suspended license Leaving scene of accident Fleeing officer	10
Any alcohol-related offense Refusal to submit to a blood alcohol test (BAC). DUI/DWI	10

PROFILE PTS	RISK CATEGORY	CORRECTIVE ACTION GUIDELINES

1-3	Low Risk	• Generally, no action needed
4-5	Minor Risk	• Manager is to discuss record and improvement with employee. Employee will be advised of responsibility to drive in a safe and courteous manner in accordance with defensive driving principles • Written warning
6-7	Borderline Risk	• Manager is to discuss record and improvement with employee • Written warning • Driver training: classroom defensive driving program
8-9	Medium Risk	• Manager is to discuss record and improvement with employee • Written warning • Driver training: structured behind-the-wheel driver training. • Possible loss of company vehicle (individual basis)

10+	High Risk	• Manager is to advise employee that driving record has resulted in "revoked driving privileges" • If employee can no longer perform essential functions of position and no other job assignments, termination could result

Example: Driver has a violation for talking on a cell phone (2 points) and a violation for speeding 15 miles over the speed limit (3 points). They would have 5 total points which would place them in the minor risk category.

The Corrective Action Guidelines column offers suggestions for corresponding profile risk points. It is important to develop your own point system and not use the points assigned on MVRs by the state. Several states do not assign points, and those that do have differing point systems, which could result in employees from different states being treated differently based on the same violations.

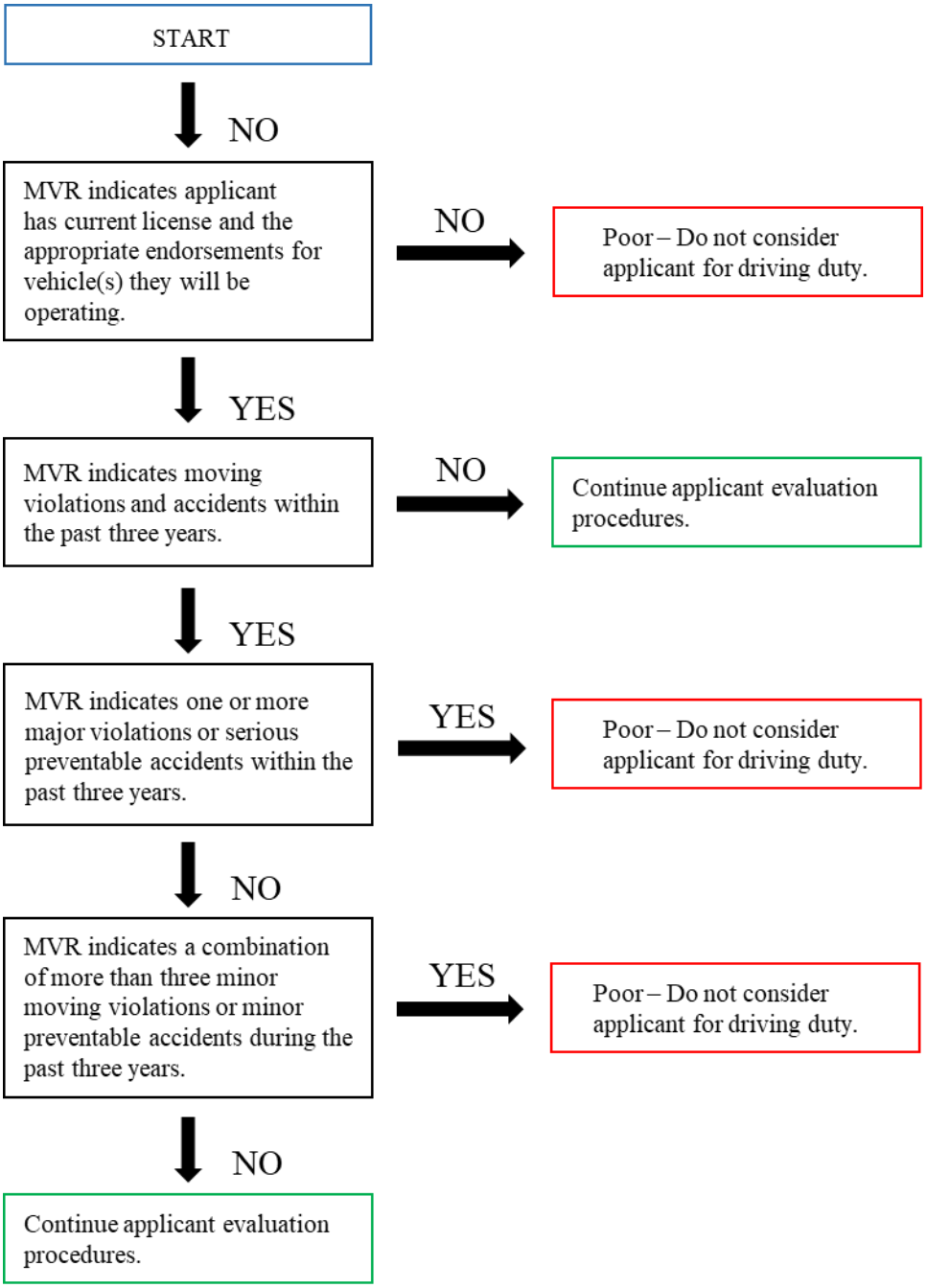
MVR Grid

The MVR Grid (shown below) also aids in identifying borderline individuals. Persons with borderline MVRs can be warned of their status and coached to improve so they do not move into the poor category.

Number of Moving Violations (past 3 years)	Number of Preventable Accidents (past 3 years)			
	0	1	2	3+
0	CLEAR	ACCEPTABLE	BORDERLINE	POOR
1	ACCEPTABLE	ACCEPTABLE	BORDERLINE	POOR
2	ACCEPTABLE	BORDERLINE	POOR	POOR
3+	POOR	POOR	POOR	POOR
Any Major (Past five years)	POOR	POOR	POOR	POOR

MVR Flow Chart

The MVR Flow Chart has similar criteria as the grid and point system; however, there are no graduations, simply a "yes-no" status.



Violation Types

Examples of Major Violations

- Leaving the scene of an accident
- Driving under the influence of drugs or alcohol
- Racing or excessive speed (greater than 20 mph over the speed limit)
- Reckless, negligent, or careless driving
- Felony, homicide, or manslaughter involving the use of a motor vehicle
- License suspension or revocation resulting from accidents or moving violations
- Following too closely or tailgating
- Erratic lane changing
- Attempting to elude a police officer

-

Examples of Minor Violations

- Speeding less than 20 mph over the speed limit
- Failure to obey sign
- Failure to yield
- Illegal turn
-

Examples of Non-Moving Violations*

- Parking tickets, Motor vehicle equipment violations
- Failure to have a valid operator's license available where one actually exists

* Non-moving violations are typically not included when evaluating MVRs.

SP 28A Defensive Driving

1.0 PURPOSE:

1.1 The Kuesel Group is committed to providing a comprehensive safe driving program for Kuesel Group employees. The goals of the program are to increase awareness of guidelines for the safe use of The Kuesel Group vehicles, and to provide a defensive driving training program.

2.0 SCOPE:

2.1 This procedure applies to all employees of The Kuesel Group.

3.0 RESPONSIBILITIES:

3.1 All Authorized Drivers must:

3.1.1 Possess a valid driver's license;

3.1.2 Complete a Kuesel Group Authorized Driver Agreement (Appendix A), to be retained in the department's file;

3.1.3 Use Kuesel Group vehicles only for Kuesel Group business;

3.1.4 Observe all city and state traffic regulations;

3.1.5 Assume personal responsibility for traffic/parking citations received when responsible for a Kuesel Group vehicle or personal vehicle used for Kuesel Group business;

3.1.6 Report to their supervisor in writing any citations, accidents, or incidents involving Kuesel Group vehicles;

3.1.7 Complete a Kuesel Group Accident Report form if involved in any accident or incident involving a Kuesel Group vehicle or the employee's personal vehicle on Kuesel Group business.

3.2 Managers and Supervisors shall:

3.2.1 Designate Authorized Drivers;

3.2.2 Verify that the driver has a valid driver's license;

4.0 PROGRAM COMPONENTS:

4.1 The Defensive Driving Program is intended to enhance driver safety and minimize accidents, injuries, and incurred liability resulting from motor vehicle accidents.

4.2 Defensive driving means driving in a manner that prevents accidents in spite of the actions of others or in the presence of adverse driving conditions. Three key elements for successful defensive driving are:

4.2.1 Recognizing driving hazards.

4.2.2 Knowing what to do to avoid a hazard.

4.2.3 Acting correctly and in time to avoid collisions.

4.2.4 Defensive Driving Training is coordinated by The Kuesel Group. The training programs have been developed and are designed to instruct participants in the techniques of safe driving and accident prevention.

4.2.5 The training is intended to enhance driver safety and minimize accidents, injuries, and incurred liability resulting from motor vehicle accidents. Completion of online or classroom training is strongly recommended for all employees who routinely operate Kuesel Group vehicles as an essential job function.

4.3 The Kuesel Group employees who use their own vehicles and do not routinely use Kuesel Group vehicles, are not required to complete Defensive Driving Training. However, department managers and supervisors may, at their discretion, have these employee's complete the training.

5.0 TRAINING:

5.1 The Kuesel Group recommends that Authorized Drivers complete Defensive Driving Training within the first 90 days of employment or prior to operating a Kuesel Group vehicle.

5.2

5.3 Retraining must be completed every 4 years or whenever the employee has had an accident or reportable incident involving a Kuesel Group vehicle. Retraining may also be required when a driver is observed driving in an unsafe manner or review of a driving record indicates an accumulation of points, added restrictions, change in status, and/or suspension of driving privileges.

5.4 The Kuesel Group maintains the Defensive Driving Training database.

6.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

The Kuesel Group Confidential - Internal Use Only

THE KUESEL GROUP AUTHORIZED DRIVER AGREEMENT

This form must be kept in the department and made available for review upon request by The Kuesel Group.

1. This section must be completed by all drivers prior to operating Kuesel Group owned or sponsored vehicles.

Department:	
Name of Driver:	
Employee ID #:	
Driver License Verified	☐ Has valid driver license
Type of Vehicle(s) Authorized for Use:	

This section must be completed by employees who operate KUESEL Group vehicles on a routine basis where driving is an essential job function.

Enrolled in DEFENSIVE DRIVING Program	☐ Complete DMV "**Authorization For Release Of Driver Record Information"** form and send to THE KUESEL GROUP
Date of completion for Defensive Driving Training	

All drivers must complete and acknowledge the following:

Defensive Driving means driving to prevent accidents in spite of the actions of others or the presence of adverse driving conditions. Three key elements for successful defensive driving include anticipating hazardous situations, being prepared for the unexpected, and responding proactively to the actions of other drivers, pedestrians, and changing driving/road conditions.

I, _____, have read and understand the KUESEL GROUP Defensive Driving Program and will adhere to all the requirements of this program. I have had an opportunity to ask questions regarding this program to THE KUESEL GROUP and/or my department supervisor.

- ☐ I will use KUESEL GROUP vehicles only on KUESEL GROUP business.
- ☐ I will observe all city and state traffic regulations and assume personal responsibility for any traffic/parking citations.
- ☐ I will report to my supervisor in writing any citations, accidents, or incidents involving KUESEL GROUP Vehicles and may be personally responsible for penalties incurred for moving and parking violations received when operating such vehicles.
- ☐ I will complete a KUESEL GROUP Accident Report Form when involved in any accidents or incidents involving company vehicles.
- ☐ I will report to my supervisor in writing any change in my driver license status.

Employee Signature: _____ Date: _____

I have verified that this employee possesses a valid driver license that has not expired

Supervisor Signature:_____ Date: _____

SP 29 Hazardous Materials 126 (DOT Training)

1.0 PURPOSE:

1.1 The Kuesel Group is committed to providing a comprehensive safe driving program for The Kuesel Group employees. The goals of the program are to increase awareness of guidelines for the safe use of Kuesel Group vehicles, and to provide a defensive driving training program.

2.0 SCOPE:

2.1 This procedure applies to all employees of The Kuesel Group.

3.0 REFERENCE:

3.1 49 CFR 172.704 Employee Training DOT

4.0 RESPONSIBILITIES:

4.1 The Site Supervisor is responsible for administering the program

4.2 Each applicable employee is responsible for adhering to the guidelines of the program.

5.0 GENERAL INFORMATION:

5.1 The United States Department of Transportation (DOT) has established a series of regulations governing training programs for what are termed Hazmat Employees. The DOT training program is sometimes referred to as HM-181 or HM-126 training. In actuality, it could be anyone who meets any of the following criteria: a person who offers a hazardous material for transportation; a person who is involved in the transportation of a hazardous material; a person who labels or marks packages that are being transported.

5.2 Hazardous materials may be used throughout our course of business. Additionally, there may be occasions where personnel may be either shipping or receiving hazardous materials in completion of their duties. As such, these personnel are required to have training to appropriately manage hazardous materials which are offered for transportation.

5.3 Recent changes to the training requirements include General Awareness Training regarding hazardous materials security as required by HM-232.

5.4 Training is conducted using a combination of videos and presentations. The training program will be reviewed annually to revise and update the program as the requirements change or as The Kuesel Group’s responsibilities change.

6.0 TRAINING:

6.1 Employees who have responsibilities for shipping and/or receiving hazardous materials shall participate in the training program.

6.2 All new or transferred employees who will be assigned to jobs where they may ship and/or receive hazardous materials shall receive the training within 30 days of their initial employment or reassignment.

6.3 The training program shall include:

6.3.1 Hazardous materials identification and classification.

6.3.2 Understanding the Hazardous Materials Table (49 CFR 172.101)

6.3.3 Hazard communication, including, shipping papers, marking, labels, and placards.

6.3.4 Packaging requirements.

6.3.5 Operational rules (site and job function specific).

6.3.6 Security awareness training.

6.3.7 Refresher training shall be provided on a 3-year basis

7.0 RECORDKEEPING:

7.1 **Training Records** – records shall include: name and job classification of employee and job responsibilities as it relates to DOT. These records shall be retained for the duration of the employee's employment.

7.2 **Training** – attendance rosters shall be kept for all training sessions and include the date, name/signature of employee, and the name of the instructor.

7.3 Training certificates shall be issued for those employees who satisfactorily complete the training. These certificates shall be kept in the personnel files.

7.4 Records shall be maintained for a minimum period of three years.

7.5 Since there is some overlap of this training with OSHA's Hazard Communication and Emergency Response requirements, these records will be maintained jointly

8.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 30 Asbestos Awareness

1.0 PURPOSE:

1.1 The purpose of this procedure is to establish guidelines to protect The Kuesel Group employees when working in areas where asbestos-containing materials may be found. This procedure applies to all Kuesel Group projects or jobsite locations.

2.0 SCOPE:

2.1 This procedure applies to all employees of The Kuesel Group who may work in areas that contain asbestos containing materials.

3.0 REFERENCES:

3.1 29 CFR 1910.1001

4.0 DEFINITIONS:

4.1 Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered.

4.2 Asbestos-containing material (ACM) means any material containing more than 1% asbestos.

4.3 Authorized person means any person authorized by the employer and required by work duties to be present in regulated areas.

4.4 Certified Industrial Hygienist (CIH) means one certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

4.5 Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

4.6 High-efficiency particulate air (HEPA) filter means a filter capable of trapping and retaining at least 99.97 percent of 0.3 micrometer diameter mono-disperse particles.

4.7 Industrial hygienist means a professional qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards.

4.8 Presumed asbestos containing material (PACM) means thermal system insulation and surfacing material found in buildings constructed no later than 1980.

4.9 Regulated area means an area established by the employer/or property owner to demarcate areas where airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limits.

4.10 Surfacing ACM means surfacing material which contains more than 1 percent asbestos.

4.11 Surfacing material means material that is sprayed, troweled-on or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes).

4.12 Thermal System Insulation (TSI) means ACM applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain.

4.13 Thermal System Insulation ACM means thermal system insulation which contains more than 1 percent asbestos.

5.0 RESPONSIBILITIES:

5.1 Project Manager/Jobsite Supervisors shall provide effective on-site management where work activities are conducted in areas that contain asbestos. Supervisors will notify the client immediately upon discovering damaged asbestos material.

5.2 Unqualified employees are to stay clear of all asbestos work areas and report any damaged asbestos containing material to their supervisor. Extra care must be given to work activities that are in close proximity to asbestos containing materials.

6.0 PRACTICE:

6.1 HAZARDS:

6.1.1 Asbestos is a common, naturally occurring group of fibrous minerals. Asbestos fibers have been used in a variety of building materials. Generally, most asbestos is found in building & pipe insulation (thermal insulation), doors, textured paints, plasters, coatings, structural fireproofing, and floor tiles. Depending on the work site or type of facility, asbestos may be found in the following: heat-resistant clothing, automotive brake and clutch linings, and a variety of building materials including insulation, soundproofing, floor tiles, roofing felts, ceiling tiles, asbestos-cement pipe and sheet, and fire-resistant drywall. Asbestos is also present in pipe and boiler insulation materials, pipeline wrap and in sprayed-on materials located on beams, in crawlspaces, and between walls.

6.1.2 The primary routes of exposure to asbestos are through inhalation and ingestion.

6.1.3 Friable asbestos (that is, material that contains more than 1.0% asbestos by weight and can be crumbled by hand) is a potential hazard because it can release fibers into the air

if damaged. Non-friable asbestos includes a range of products in which asbestos fiber is effectively bound in a solid matrix from which asbestos fiber cannot normally escape. Cutting, braking, sanding, drilling or similar activities can release asbestos fiber from even non-friable asbestos materials.

6.1.4 Long-term exposure to airborne asbestos may lead to chronic lung disease as well as cancer of the stomach and colon. Significant and long-term exposure to asbestos from activities that directly disturb asbestos-containing materials (such as asbestos mining) can lead to a variety of respiratory diseases, including asbestosis and mesothelioma (cancer of the lung lining). Asbestosis is a non-malignant, irreversible disease resulting in fibrosis of the lung. Asbestos-related cancers tend also to result from substantial long-term exposure; however, mesothelioma may result from much smaller exposures to asbestos.

6.2 HAZARD CONTROL:

6.2.1 It is The Kuesel Group's policy that only qualified employees shall be involved in any asbestos repairs, maintenance or removal. The Kuesel Group employees are not permitted to disturb, remove, repair, or remove asbestos containing products.

6.2.1.1 All unqualified employees shall be protected from exposure to asbestos fibers by isolating and controlling access to all affected areas during asbestos work.

6.2.1.2 All tasks involving the disturbance of asbestos containing material will be conducted only after appropriate work controls have been identified and implemented.

6.2.1.3 A qualified supervisor shall be available at asbestos controlled work sites during all activities. If outside contractors are used, the company shall ensure all contractor employees have been properly trained and have been issued proper equipment and protective gear.

6.2.2 Engineering Controls **-** Engineering controls include the use of enclosures such as monitoring equipment, glove bags, tenting, negative pressure work areas, HEPA filters, controlled vacuums, water misters and other equipment to ensure containment and clean-up of asbestos work areas.

6.2.3 Administrative Controls - All qualified workers shall be issued proper personal protective equipment, such as respirators, disposable coveralls, gloves, etc. Written procedures and management authorizations are required for all work involving asbestos containing material.

6.2.4 Training Controls - All qualified employees; supervisors and managers shall receive the proper level of training.

6.3 GENERAL RULES:

6.3.1 When in doubt, treat all material as containing asbestos and comply with all applicable rules and regulations and protective measures.

6.3.2 All Asbestos Containing Material (ACM) will be handled by certified and licensed asbestos abatement personnel. Employees who are uncertified and unlicensed will not handle any ACM >1%. This will include encapsulation projects, renovation/removal and/or demolition of any type of structure. This will prevent the potential for accidental exposure from the mishandling of any ACM.

6.3.3 When an uncertified, unlicensed employee questions whether they may be handling suspect ACM, the employee will immediately contact their supervisor. The employee shall not resume working at the site until the area has been checked to verify the material is not ACM. Uncertified, unlicensed employees will not cross over a barrier/containment area where asbestos projects are in progress.

6.3.4 Any employee who discovers ACM or suspect ACM in damaged or poor condition should report it to their supervisor so the identified material is repaired.

6.3.5 Asbestos shall be identified by tags, stickers, pipe labels, signs and other high visibility means. Where feasible, stickers should be used to indicate the presence of asbestos in thermal insulation, in asbestos board/tiles and in other locations. Warnings may also be placed near the entrances of rooms -particularly mechanical rooms where unusually large amounts of asbestos may be present. Employees will abide by warning signs and labels and will not disturb the asbestos containing material.

6.3.5.1 Signs and labels shall identify the material which is present, its location, and appropriate work practices which, if followed, will ensure that asbestos containing material (ACM) and/or presumed asbestos containing material (PACM) will not be disturbed.

6.3.6 Access to mechanical and electrical rooms, service shafts, tunnels and other locations is to be restricted where asbestos may be present in unusually large amounts and where other hazards may also be present. Such areas are locked and accessible only to authorized personnel. Where sprayed asbestos-containing fireproofing is present in a building above a false ceiling, access to the space is restricted to maintenance employees, Communications Services or authorized contractors.

6.3.7 Should an employee encounter material, which is asbestos, or which might reasonably be expected to be asbestos, the person will stop any work and report the discovery to a supervisor. The supervisor will immediately limit access to the location. Where there is reasonable doubt about the composition of a friable material, it will be treated as asbestos until testing demonstrates that asbestos is present at levels below 1%. Cleanup and repair of asbestos-containing material will only be carried out by the appropriate clean up procedure by employees or contractors who have been properly trained.

6.3.8 When routine work is to take place in an area where asbestos is present or when the

work might disturb friable asbestos, employees will be informed of the potential for exposure. If upon reviewing the work situation, the employee believes that normal work practices do not provide an adequate measure of safety, the employee will report these concerns to the supervisor. The supervisor will review the work situation and authorize any required additional precautions.

6.3.9 If employees are to work immediately adjacent to an asbestos job (Class I-III) at a multi-employer worksite and are potentially exposed to asbestos due to the inadequate containment of such job, the employee shall remove themselves from the area until the enclosure breach is repaired or an exposure assessment is performed.

6.3.10 Handling and disposal of asbestos containing waste is regulated by both State and Federal regulations. Shipments for disposal must be done in accord with State/Federal DOT regulations. Asbestos waste must be disposed of at a waste disposal site that is approved to receive asbestos by the State. Shipment of waste asbestos must be coordinated with the waste disposal site that is to receive the waste. Asbestos disposal will normally be carried out by external contractors.

7.0 TRAINING:

7.1 All Kuesel Group employees who work around asbestos and those whose work might disturb friable asbestos-containing materials will be trained on this procedure and will carry out their work without endangering themselves, their coworkers, and other site personnel. Annual refresher will be provided to those employees who work at sites that contain asbestos. All training sessions will be documented and records maintained.

7.2 Personnel who handle, repair, or remove asbestos containing materials will be trained in accordance with state and federal (29 CFR 1910 & 1926) regulations.

8.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 31 Hot Work

1.0 PURPOSE:

1.1 The purpose of this procedure is to establish a safety program that will ensure sources of ignition are controlled and used only when the appropriate safety precautions have been taken. Cutting, burning, grinding, welding, electric power tools, and vehicles may create a fire when performed or operated in areas that contain a flammable gas or combustible materials.

2.0 SCOPE:

2.1 The Kuesel Group does not actively perform most common forms of Hot Work (ex. welding, cutting, burning, grinding), however, in the event that this activity is needed to be performed, the following program applies. This program covers all Kuesel Group personnel who are engaged in hot work activities (ex. cutting, burning, grinding, welding, using electric power tools, using equipment that may generate heat, operating vehicles, etc.).

3.0 REFERENCES:

3.1 THE KUESEL GROUP RESPIRATORY PROTECTION (KE-SP-27)

3.2 OSHA 29 CFR 1910

4.0 RESPONSIBILITIES:

4.1 **Manager/Jobsite Supervisor**- shall ensure that all employees under their direction understand and comply with this procedure.

4.2 **Employees**- shall follow the provisions contained within this program to ensure that conditions are safe before performing hot work activities.

5.0 GENERAL PROCEDURE:

5.1 **Hot Work** - any activity that may create an ignition source (ex. spark, fire, slag, heat) that has the potential to cause fires or explosions.

5.2 **Restricted Areas** – Some work areas or client jobsites may contain hot work restricted areas. These areas, because of the hazards or potential hazards present (ex. flammable gases, liquids, etc.), may require the use of a Hot Work Permit. The Kuesel Group employees are required to adhere to the client's procedure. The Site Supervisor shall ensure Kuesel Group employees fully understand the client's procedures before performing hot work.

5.3 **Air monitoring** may be required where the potential exists for a flammable atmosphere. Only trained and qualified personnel shall conduct air monitoring. No employees are permitted to work in an atmosphere where the lower explosive limit (LEL) is 10% or greater.

5.4 **Fire Watch -** a designated person whose primary responsibility is to monitor hot work activities. Fire Watch personnel shall have fire-extinguishing equipment readily available and be trained in

its use. A fire watch is required when hot work is performed near combustible materials and/or in areas where a fire could occur.

5.4.1 Fire watch individuals shall be familiar with the use of the available fire extinguishing equipment. They shall also be aware of the location of fire alarms (if applicable).

5.4.2 They shall watch for fires in all exposed areas, try to extinguish them only when obviously within the capacity of the equipment available, or otherwise sound the alarm.

5.4.3 A fire watch shall be maintained for at least a half hour after completion of welding or cutting operations to detect and extinguish possible smoldering fires.

5.4.4 Some client locations may require the use of fire watch personnel.

5.5 Appropriate firefighting equipment will be maintained at the work site and be ready for use by the fire watch (or the employee performing the hot work if a fire watch is not required) prior to the start of any hot work operations. The Kuesel Group will provide the appropriate number/type of fire extinguishers for the project. Typically, this will be the multi-purpose dry chemical type. Client mounted extinguishers shall only be used for emergency situations.

5.6 Prior to performing all hot work, inspect the job site to ensure that appropriate precautions are taken. Ensure that all personnel in the immediate area are aware of the nature of the work. A hot work permit must be completed by authorized personnel prior to beginning any welding, cutting, or hot work. The Kuesel Group employees will adhere to the client specific hot work program. This may include using the client's hot work permitting process and permit. Following the completion of the hot work, again inspect the area to determine if anything is left that may develop into a problem later.

5.7 Hot work will only be permitted in areas that have been made or determined to be fire-safe. Such areas will be of noncombustible or fire resistant construction and be free of combustible materials and flammable contents. When the hot work cannot be moved to a fire-safe area, the work area should be made safe by removing all combustible/flammable materials or protecting combustible materials from the ignition source.

5.8 When practical, all fire hazards shall be relocated at least 35 feet from the work site. If this is impractical, the fire hazards shall be protected from heat, flames, sparks, and slag by using flame proof blankets, curtains, covers, shields, or guards.

5.9 Welding, cutting or burning performed at elevations requires personnel safeguards in addition to those for fire hazards.

5.9.1 Areas below the welding work where hot slag and sparks may fall require safety tape and/or barricades to warn personnel of overhead welding work in progress.

5.9.2 In some instances involving overhead welding work, a fire watch stationed below the work, in addition to warning devices such as caution tape or barriers, is necessary to provide sufficient warning to personnel while fulfilling the function of fire prevention.

5.9.3 If there are cracks or openings in the floor that cannot be closed or covered, precautions shall be taken to ensure that combustible material below will not be exposed to flame or sparks which may drop through the floor. This requirement also applies to cracks and openings in walls, doors, windows etc.

5.10 When cutting or welding is performed near walls, partitions, ceilings or roofs of combustible construction, fire resistant shields should be utilized to prevent ignition. If shields cannot adequately protect these areas, they should be wetted and a fire watch provided.

5.11 If the hot work is to be performed in an enclosed or confined space, a combustible gas detector shall be utilized continuously to ensure that the atmosphere is not explosive and there is sufficient oxygen.

5.12 Ventilation shall be used to remove toxic fumes (ex. welding/cutting on lead, zinc, hexavalent chromium, cadmium, etc.), vapors, gases, or dust produced during welding, cutting, or hot work. Respiratory equipment may be required if ventilation is not feasible or adequate. See The Kuesel Group's Respiratory Protection program for additional requirements.

5.13 If the work area cannot be made fire-safe (using the methods identified in 4.7 thru 4.10), hot work shall not be attempted if the work area cannot be made fire-safe.

5.14 Defects or safety hazards recognized by welders or equipment operators must be reported immediately. Equipment will not be used until replaced or repairs have been made by qualified personnel. All equipment must be safe and in proper working order before it is used.

6.0 TRAINING:

6.1 All employees and their supervisors who will be performing hot work or who are designated as a fire watch shall be appropriately trained in the safe use of the process and operations of their equipment. If applicable, training will include client or jobsite specific procedures.

6.2 Fire watch personnel shall be trained on their specific responsibilities and the proper use of fire extinguishing equipment (ex. portable fire extinguisher, small hose, etc.). Additionally, the fire watch will understand the site's emergency action plan as well as the emergency notification procedures that will be followed in the event of a fire.

6.3 Although The Kuesel Group does not perform most types of hot work (welding, cutting, grinding, burning, etc.), employees performing hot work operations shall be trained in the process and the safe use of the associated equipment (i.e. welders). Supervisors of employees performing hot work operations shall receive training on this program as well as the client specific procedures relating to the hot work.

6.4 Retraining will be conducted when an employee reveals inadequacies in knowledge or performance.

7.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 34 Fire Protection

1.0 PURPOSE:

1.1 The purpose of this program is to understand the main causes of fires in the workplace and the ways to prevent them. Fire protection and prevention policies are designed to preserve life and property from exposure to fire hazards. The result should be routine fire safety and prevention practices on the job.

2.0 SCOPE:

2.1 This program applies to all Kuesel Group employees and subcontractors.

3.0 REFERENCES:

3.1 Applicable 29 CFR 1910 and 1926 Regulations

3.2 National Fire Protection Association Standards

4.0 RESPONSIBILITIES:

4.2 Managers/Jobsite Supervisor shall ensure that personnel under their direction comply with this program.

4.3 Employees shall maintain compliance with this program and routinely use appropriate fire safety and prevention practices on the job. Employees shall ensure that they receive the appropriate training.

5.0 PROCEDURE:

5.1 **Storage & Usage of Flammable Liquids**- Flammable and combustible liquids require careful handling at all times. The proper storage of flammable liquids within a work area is very important in order to protect personnel from fire and other safety and health hazards.

5.1.1 Storage Cabinets- Flammable and combustible liquids, including wastes, in quantities greater than 25 gallons but not more than 60 gallons must be stored in approved flammable liquid storage cabinets. Flammable and combustible liquids removed from flammable liquid storage cabinets shall be returned to the cabinet when they are not in use. These cabinets must meet the following requirements:

5.1.1.1 Cabinets must be placed where they will not obstruct egress.

5.1.1.2 Cabinets shall be labeled in red letters “Flammable – Keep Flames and Heat Away”.

5.1.1.3 If ventilation is required, cabinets must be vented outdoors in such a manner that they will not compromise their fire resistance.

5.1.2 Safety Cans - Safety cans are constructed of stainless steel, Monel, or tin and come equipped with a flame arrestor and spring-loaded cap on both the filling and pouring

spouts. The double perforated metal surface of the flame arrestor screen prevents flames from entering the container. Safety cans are available for both dispensing products and collecting waste. These cans have been tested and listed by a nationally recognized testing laboratory and shall not be modified. Portable containers of gasoline or diesel are not to exceed 5 gallons. Each container shall be appropriately labeled.

5.1.3 Drums and Drum-Storage Areas - The following are the requirements for drums and drum-storage areas:

5.1.3.1 Store drums in the vertical position.

5.1.3.2 Keep drum bungs closed when liquids are not being transferred into or out of drums.

5.1.3.3 Shield drums from the sun.

5.1.3.4 When transferring flammable liquids into drums, use an approved funnel with an installed flash arrestor.

5.1.3.5 Allow a minimum distance of 25 ft between a drum storage area and a building. There is no minimum distance requirement when the drum storage area faces a blank masonry wall.

5.1.3.6 Post a “No Smoking” signs in the area.

5.1.3.7 Keep an emergency spill kit near the drum storage area. The kit may consist of a garbage can, dustpan, whiskbroom, and absorbing compound.

5.1.3.8 Install a 20-lb, dry-chemical fire extinguisher not less than 10 ft. or more than 50 ft from the storage area.

5.1.3.9 Bulk drums of flammable liquids must be grounded and bonded to containers during dispensing.

5.1.4 Elimination of Ignition Sources - All nonessential ignition sources must be eliminated where flammable liquids are used or stored. The following is a list of some of the more common potential ignition sources:

5.1.4.1 Open flames, such as cutting and welding torches, furnaces, matches, and heaters-these sources should be kept away from flammable liquids operations. Cutting or welding on flammable liquids equipment should not be performed unless the equipment has been properly emptied and purged with a neutral gas, such as nitrogen.

5.1.4.2 Electrical sources of ignition such as DC motors, switches, and circuit breakers. These sources should be eliminated where flammable liquids are handled or stored. Only approved explosion-proof devices should be used in these areas.

5.1.4.3 Sparks can be produced as a result of friction. Only non-sparking tools should be used in areas where flammable liquids are stored or handled.

5.1.4.4 Static sparks can be generated as a result of electron transfer between two contacting surfaces. The electrons can discharge in a small volume, raising the temperature to above the ignition temperature. Every effort should be made to eliminate the possibility of static sparks. In addition, proper bonding and grounding procedures must be followed when flammable liquids are transferred or transported.

5.1.4.5 Materials that can contribute to a flammable liquid fire should not be stored with flammable liquids. Examples are oxidizers and organic peroxides, which, on decomposition, can generate large amounts of oxygen.

5.2 Welding, Cutting, and Hot Work Operations - Welding, Cutting, and other hot work operations with fire potential require additional safety precautions.

5.2.1 Before any welding, cutting, or hot work operations are permitted, the area shall be inspected, safety precautions shall be identified, and authorization shall be given. Depending on the location, a Hot Work Permit may be required. (Note: the jobsite may have additional requirements concerning hot work operations.)

5.2.2 Compressed gas cylinders shall be stored upright and secured. Cylinders shall not be stored with regulators, hoses, or torches attached, and shall be capped when not in use. All gas cylinders shall be transported with an approved cart with caps in place. Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet (6.1 m) or by a noncombustible barrier at least 5 feet (1.5 m) high having a fire-resistance rating of at least one-half hour.

5.3 Housekeeping - Maintain good housekeeping in all area to prevent the accumulation of combustible material that could be ignited. Immediately place all trash, wood, and oil soaked debris in approved containers for disposal. Empty all containers on a daily basis or more often as needed.

5.4 Electrical Equipment - Ground and bond all electrical equipment to prevent sparks. Avoid using frayed extension cords. Frayed cords are hazardous and may result in fire or injury. Remove any damaged cords from service.

5.5 Employee Smoking - Smoking or open flames shall not be permitted in areas where dangerous gases might be present, for example, oil or grease storage rooms, hydrogen areas, acetylene storage, or similar areas. Neither shall smoking be permitted in storerooms, battery rooms, flammable liquid storage and use locations, or in other areas where quantities of combustible materials are kept. Absence of “No Smoking” signs shall not excuse smoking in dangerous places.

5.6 Portable Fire Extinguishers -A portable fire extinguisher is very effective when used while the fire is small. The use of fire extinguisher by a person who is well trained can save both lives and property. The successful performance of a fire extinguisher in a fire situation largely depends on its proper selection, inspection, maintenance, and distribution. An adequate number of portable extinguishers will be maintained in a fully charged and operable condition in the work area. Client owned or mounted extinguishers shall only be used for emergency situations.

5.6.1 Classification of Fires and Selection of Extinguishers - Fires are classified into four general categories depending on the type of material or fuel involved. The type of fire determines the type of extinguisher that should be used to extinguish it.

5.6.1.1 Class A fires involve materials such as wood, paper, and cloth which produce glowing embers or char.

5.6.1.2 Class B fires involve flammable gases, liquids, and greases, including gasoline and most hydrocarbon liquids, which must be vaporized for combustion to occur.

5.6.1.3 Class C fires involve fires in live electrical equipment or in materials near electrically powered equipment.

5.6.1.4 Class D fires involve combustible metals, such as magnesium, potassium, and sodium.

5.6.2 Location of Extinguishers - Extinguishers will be conspicuously located throughout the work area or jobsite. Fire extinguishers shall be readily accessible for their immediate use in the event of fire. Extinguishers will be clearly visible.

5.6.3 Inspections - Fire Extinguishers shall be visually inspected at least monthly. Site managers or supervisors will assign a designated employee(s) to conduct the monthly inspections. Personnel conducting the inspections shall follow the check list provided in 5.6.3.3 of this section. In addition, fire extinguishers shall undergo a maintenance check at least annually.

5.6.3.1 A tag will be placed on each fire extinguisher that allows the inspecting employee to record the date of inspection and the inspecting employee's initials. The tag will have space for 12 months of recording.

5.6.3.2 Once a tag is filled or removed for any reason, it will be kept for one year to be available for records review. A log or computerized system will be used to document that monthly fire extinguisher inspections was conducted.

5.6.3.3 The monthly inspection of fire extinguishers shall include a check of at least the following items:

5.6.3.3.1 The fire extinguisher is un-obstructed and can be readily accessible to employees without subjecting employees to possible injury.

5.6.3.3.2 An inspection tag is present

5.6.3.3.3 Pressure gauge reading or indicator in the operable range or position (ex. gauge in green area for dry chemical extinguishers)

5.6.3.3.4 Safety seals and tamper indicators not broken or missing

5.6.3.3.5 Examination for obvious physical damage, corrosion, or leakage. (Fire Extinguishers shall be protected from the weather and any local environmental condition that can be harmful to the extinguisher.)

5.6.3.3.6 Nozzle is not obstructed

5.6.3.3.7 **Any non-serviceable fire extinguisher shall be removed and replaced immediately**

5.6.4 Testing and Maintenance:

5.6.4.1 Hydrostatic testing of stored pressure CO_2 fire extinguishers must be completed every 5 years.

5.6.4.2 Hydrostatic testing of Dry Chemical extinguishers must be completed every 12 years, in addition to a 6-year maintenance and test discharge.

(**NOTE**: The most recent hydrostatic test date is located on the extinguisher, either as a permanent stamp, an affixed label or a neck ring.)

5.6.4.3 The Responsible Safety Representative shall ensure that portable fire extinguishers are subjected to an annual maintenance check by a qualified person or contractor and documented. Tags on the fire extinguishers should indicate when the last annual maintenance check was performed.

6.0 TRAINING:

6.1 Where the employer has provided portable fire extinguishers for employees use in the workplace, The Kuesel Group also shall provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved in incipient stage fire fighting.

6.2 At a minimum, all employees will be trained on the facility/site evacuation procedures and the appropriate fire safety and prevention practices for their worksite.

6.3 Upon initial assignment all employees expected to use fire extinguishers shall be trained on their proper use. Training shall be conducted on an annual basis.

6.4 Training rosters shall be kept for all training sessions on this procedure and for fire extinguisher training sessions.

6.5 Managers will ensure training rosters are maintained

7.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 35 Electrical Safety

1.0 PURPOSE:

1.1 The purpose of this Electrical Safety Program is to define the requirements and procedures necessary for safeguarding employees who work near, with, or on electrical circuits and equipment.

2.0 SCOPE:

2.1 This program applies to all Kuesel Group employees who work with or around electrical equipment. This includes employees who adjust, repair or replace electrical components or equipment.

3.0 REFERENCES:

3.1 OSHA 29 CFR 1910 Subpart S: Electrical Safety Requirements

3.2 NFPA 70E 2015 Edition, Electrical Safety Requirements for Employee Workplaces

4.0 RESPONSIBILITIES:

4.1 The Kuesel Group Project Manager/Site Supervisor shall ensure that all qualified and unqualified employees receive the appropriate training. Additionally, the Project Manager/Site Supervisor shall conduct periodic inspections to identify electrical safety deficiencies.

4.2 The Site Supervisor shall ensure that only trained and qualified employees work on or around exposed energized equipment.

4.3 Employees shall not work on electrical equipment unless authorized and trained. Employees shall report electrical deficiencies immediately and inspect all electrical equipment prior to use

5.0 DEFINITIONS:

5.1 ***Arc Flash*** - When an electric current passes through air between ungrounded conductors or between ungrounded conductors and grounded conductors. Arc flash temperatures can reach 35,000°F. Exposure to these extreme temperatures both burns the skin directly and causes ignition of clothing, which adds to the burn injury.

5.2 ***Arc Flash Hazard*** - A dangerous condition associated with the release of energy caused by an electric arc.

5.3 ***Arc Flash Risk Assessment***- A study investigating a worker's potential exposure to arc-flash energy, conducted for the purpose of injury prevention and the determination of safe work practices and the appropriate levels of PPE.

5.4 ***Arc Flash Protection Boundary*** - An approach limit at a distance from exposed live parts within which a person could receive a second degree burn if an electrical arc flash were to occur.

5.5 ***Authorized Person*** - Any employee, including contractors, with acquired skills and training who has been approved or assigned by their supervisor to perform specific work or tasks.

5.6 ***Electrical Equipment*** - A general term for material, fittings, devices, appliances, fixtures, apparatus and the like that are used as a part of or in connection with an electrical installation. The term applies to power-generation, distribution and electronics equipment.

5.7 ***Electrical Hazard*** - Any situation in which 1) an employee or an energized piece of equipment or part could contact or approach any live part or other energized conductor or 2) any situation in which electrical equipment is likely to cause a fire because of defective components. Examples of electrical hazards include: inadequate working clearance while working on energized circuits; exposed energized parts; and electrical equipment inadequately guarded or enclosed.

5.8 ***Exposed*** - Physically accessible to any part of the body or hand held tool.

5.9 ***GFCI*** - Ground-Fault Circuit Interrupter. A device that de-energizes a circuit when it senses a difference in the amount of current passing through the device and returning through the device, or a “leak” of current from the circuit.

5.10 ***Grounded*** - Physically connected to the earth or to some conducting body that serves in place of the earth, through a ground connection of sufficiently low impedance and with sufficient current-carrying capacity to prevent the buildup of voltages that may result in undue hazard to connected equipment or persons.

5.11 ***High Voltage*** *(HV)* **-** Greater than 600 Volts.

5.12 ***Limited Approach Boundary*** - An approach limit at a distance from an exposed live part within which a shock hazard exists.

5.13 ***Live/Energized Parts*** - An electrically conducting part or a part that must be assumed to be electrically conducting until proven otherwise by LOTO procedures.

5.14 ***Live-Line Tools*** - Tools specifically designed to permit working on electrical conducting parts in a live/energized condition.

5.15 ***Lockout/Tagout Procedure*** - Procedure for affixing appropriate locks and tags to energy-isolating devices to prevent inadvertent energizing or start-up of machines or equipment while service or maintenance is being performed.

5.16 ***Low Voltage*** *(LV)* **-** Greater than 50 Volts but less than 600 Volts. Note: Live parts that operate at less than 50 volts need not be deenergized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.

5.17 ***Minimum Work Distance/Clearance*** - A minimum separation distance between a qualified electrical worker or any conducting object touching the worker and any energized component. Also, a minimum separation distance between any energized component and vehicles or machinery.

5.18 ***Nationally Recognized Testing Laboratory*** *(NRTL)* - An organization that is concerned with product evaluation and maintains periodic inspection of listed equipment and materials. The "NRTL" certification ensures that the equipment or materials meet appropriate designated

standards and that they have been tested and found to be suitable for use in a specified manner.

5.19 ***Nominal System Voltage*** - A nominal value assigned to a circuit or system to conveniently designate its voltage class (e.g., 120/240 V, 600 V).

5.20 ***Qualified Person*** - One who has demonstrated skills and knowledge related to the construction and operation of electrical equipment and installations and has received safety training to identify and avoid the hazards involved.

5.21 ***Restricted Approach Boundary*** - An approach limit at a distance from an exposed live part within which there is an increased risk of shock, due to electrical arc over combined with inadvertent movement, for personnel working in close proximity to the live part.

5.22 ***Shock Risk Assessment –*** A study used to determine the voltage to which personnel will be exposed, the boundary requirements, and the PPE necessary in order to minimize the possibility of electric shock.

5.23 ***Temporary Wiring*** - Electrical wiring that is temporarily installed for a limited time to complete a specific task. Temporary wiring methods must apply sound engineering practices to ensure adequate electrical safety of temporary wiring installations.

5.24 ***Ungrounded*** - A condition having no physical connection or continuity with earth ground.

5.25 ***Unqualified Personnel*** - Personnel that are further removed from exposure to energized conductors above 50 Volts as part of their normal job duties. Unqualified personnel may operate selected Low Voltage electrical equipment such as electrically powered hand tools (e.g. drills, skill saws, cut off wheels, etc.), floor mounted electrically powered equipment (e.g. lathes, milling machines, etc.) and/or office equipment (e.g. overhead projectors, computers, etc.) because there is no anticipated exposure from this type of equipment. Unqualified employees shall receive specific training for tasks involving exposure to live energized conductors at or below 50 Volts.

5.26 ***VOM*** - Volt-Ohm-Meter, a direct reading Voltage Sensing Device for use only on Low voltage circuits.

5.27 ***Voltage Sensing Device*** - Any of a variety of devices (e.g. Fluke VOM, Triplett VOM, Tic Tracer, Magnascope, Statiscope, Salisbury, Hubbell-Chance Super Tester Voltage Detector, et al) designed to detect the presence of voltage on a circuit in either a direct reading or an inductive "go / no-go" manner.

6.0 GENERAL INFORMATION:

CAUTION

This procedure has been prepared under the premise that it is to be used only by electrically "Qualified" and LOTO trained employees. No electrically unqualified personnel shall be involved with any aspects of work on equipment governed by this procedure except as specified.

6.1 General Safety Requirements

6.1.1 Except in extreme cases, work on energized electrical equipment or work in areas that contain exposed energized electrical equipment will be done with all electrical circuits de-energized in accordance with The Kuesel Group's Lockout/Tagout Program.

6.1.2 Under no circumstances should anyone initiate work with or on a piece of equipment until they fully understand the operation and are confident that adequate safety precautions are in place.

6.1.3 Sufficient access and working space (minimum of 3 ft.) shall be provided and maintained about all electric equipment to permit ready and safe operation and maintenance of such equipment.

6.1.4 Appropriate covers must be installed on all outlets, switches, junction boxes, pull boxes, panel boards, conduit fittings, etc. that are in service, even if some or all of the associated wiring is temporary.

6.1.5 No live electrical work shall be accomplished in a wet or damp environment or in any other hazardous environment.

6.1.6 Circuits of less than 50 Volts may be worked on while energized, provided there is no exposure to electrical burns or potential of explosion from electric arcs. **Improper regard for safety while working on circuits of less than 50 Volts can cause severe injury up to and including death.**

6.1.7 Normal operation of equipment shall only be permitted when the equipment is properly installed, maintained, equipment doors closed and secured, all covers in place and secured, and there is no evidence of impending failure.

6.1.8 Housekeeping and cleaning activities are not permitted in close proximity to exposed energized equipment or parts. Equipment should be de-energized and zero energy verified before these activities are performed.

6.1.9 Electrical equipment shall be rated and designed for the environment in which they will be used. (e.g. explosive or damp conditions, proper voltage rating, intrinsically safe for potential explosive environments, etc.)

6.1.10 Flexible electric cords may not be used for raising or lowering tools or equipment.

6.1.11 Flexible electric cords shall not be hung with staples (unless rated to the appropriate insulation level) or any other device which could cause damage to the insulation.

6.1.12 Extension cords shall be covered or elevated to protect them from accidental damage as may be caused by traffic, sharp corners, or projections and pinching in doors or elsewhere, during construction or temporary use.

6.1.13 Working spaces, walkways, and similar locations shall be kept clear of extension cords so as not to create a hazard to employees.

6.1.14 Hands shall not be wet when plugging and unplugging electrical equipment and extension cords.

6.1.15 Temporary lights and hand lamps shall be equipped with guards to prevent accidental contact with the bulb and shall not be suspended by their electric cords.

6.1.16 All equipment and extension cords must be inspected visually for defects or damage prior to each use. Any equipment exhibiting evidence of damage shall be immediately removed from service and tagged with "DANGER: DO NOT OPERATE" tags until necessary repairs are completed.

6.1.17 If grounded type equipment is used, attachment plugs, adapters, and cords must be compatible with the grounded equipment (i.e. 3-prong receptacles and extension cords). Alteration of such equipment, such as removal of the grounding prong on the plug, is prohibited. Double-insulated tools need not be grounded.

6.1.18 Ground Fault Circuit Interrupters (GFCI) shall be used for all extension cords and portable tools and in close proximity to wet or damp areas. All 115 VAC receptacle outlets shall be grounded.

6.1.19 The non-current-carrying metal parts of portable and/or plug-connected equipment, such as welders, blowers, generators, test instruments, etc. shall be grounded. Non-current carrying metal parts of equipment or devices, such as transformer cases and circuit breaker housings, shall be treated as energized at the highest voltage to which they are exposed, unless the employee inspects the installation and determines that these parts are grounded before work is performed.

6.1.20 Portable electric lighting used in moist locations shall be approved for that type of environment and be protected by a GFCI or operated at a maximum of 12 VDC.

6.1.21 All ladders used while doing electrical work shall have non-conductive side rails. No metal ladders shall be used for electrical work.

6.1.22 Conductive articles of jewelry and clothing (such as watchbands, bracelets, rings, key chains, necklaces, metalized aprons, cloth with conductive thread, metal headgear, or metal frame glasses) shall not be worn within the restricted approach boundary or where they present an electrical contact hazard with exposed live parts.

6.1.23 All insulating personal protective equipment (PPE) must be inspected before use and immediately after any incident in accordance with The Kuesel Group's Personal Protective Equipment Program.

6.1.24 Failure to follow the requirements of this program will subject the employee to The Kuesel Group's Disciplinary Action Program.

6.2 General Requirements for Unqualified Personnel

6.2.1 Unqualified personnel may be affected by the Lockout/Tagout of a piece of electrical equipment by others. Unqualified personnel shall be trained to have a fundamental knowledge of electrical equipment, allowing for awareness of the associated danger and need for additional training as required.

6.2.2 Unqualified personnel may not approach closer to energized lines or exposed energized parts of equipment than the following distances plus an amount providing for the maximum sag and side swing of all conductors and providing for the height and movement of material handling equipment:

6.2.2.1 For power lines and equipment energized at 50 kV or less, the distance is 10 feet.

6.2.2.2 For power lines and equipment energized at more than 50 kV, the distance is 10 feet plus 4 inches for every 10 kV over 50 kV.

6.2.2.3 Unqualified persons shall not re-energize any circuit that is de-energized, or a circuit that has been de-energized by an over current protective device.

6.2.3 Re-closing of circuits after a protective device has been activated cannot be performed until a qualified individual has evaluated the cause of the activation and determined the system is safe to re-energize. Repetitive closure of breakers and replacement of fuses to energize circuits is prohibited.

6.3 General Requirements for the Qualified Employee

6.3.1 Under no circumstances should anyone initiate work with or on a piece of equipment until they fully understand the operation and are confident that adequate safety precautions are in place. If there is anything unfamiliar or unclear about the adequacy of the safety precautions in place, the employee to perform work should seek additional guidance from a Team Leader, Manager, or other knowledgeable source.

6.3.2 Qualified electrical work/testing, as specifically described and permitted by this procedure, shall be accomplished by a minimum of one electrically qualified person present.

6.3.3 All electrical protective tools, barriers, and PPE shall be used, stored, inspected, and tested in accordance with the manufacturer's recommendation and/or applicable OSHA regulations.

6.3.4 All employees involved in qualified electrical work must be First Aid and Cardiopulmonary Resuscitation (CPR) trained.

6.3.5 Until all Lock-Out/Tag-Out steps have been accomplished (as per The Kuesel Group's Lockout/Tagout Procedure), equipment is to be considered energized. Qualified Employees are allowed to work on energized equipment only as permitted in Section 7.0 thru 10.0 of this procedure.

6.3.6 Employees may not enter spaces containing exposed energized parts unless sufficient illumination is provided to perform the work safely. When lack of illumination or other obstructions preclude adequate observation of the work, employees are prohibited from any task on or near energized or potentially energized parts. (Reaching blindly into an area which may contain energized parts is prohibited).

6.4 Electrical Equipment Examination

6.4.1 Electrical equipment shall be free from recognized hazards that are likely to cause death or serious physical harm to employees.

6.4.2 The Kuesel Group must determine the safety of equipment using the following considerations:

6.4.2.1 Suitability for installation and use in conformity with the provisions of 29 CFR 1910 Subpart S. Suitability of equipment for an identified purpose may be evidenced by listing or labeling for that identified purpose.

6.4.2.2 Mechanical strength and durability, including, for parts designed to enclose and protect other equipment, the adequacy of the protection thus provided.

6.4.2.3 Status of equipment maintenance in accordance with manufacturer's recommendations.

6.4.2.4 Electrical insulation.

6.4.2.5 Heating effects under conditions of use.

6.4.2.6 Arcing effects.

6.4.2.7 Classification by type, size, voltage, current capacity, and specific use.

6.4.2.8 Other factors which contribute to the practical safeguarding of employees using or likely to be exposed to the equipment.

6.5 Testing Instrument Maintenance

6.5.1 Test instruments and associated test leads used to verify the absence or presence of voltage shall be maintained to assure functional integrity.

6.5.2 When test instruments are used for testing the absence of voltage on conductors or circuit parts operating at 50 volts or more, the operation of the test instrument shall be verified on a known voltage source before and after an absence of voltage test is performed.

6.5.3 Test instruments and equipment shall be rated for the circuit that they will be used on.

6.6 Electrical Equipment Markings

6.6.1 Electric equipment may not be used unless the following markings have been placed on the equipment:

6.6.1.1 The manufacturer's name, trademark, or other descriptive marking by which the organization responsible for the product may be identified; and

6.6.1.2 Other markings giving voltage, current, wattage, or other ratings as necessary.

6.6.2 Electrical equipment markings shall be of sufficient durability to withstand the environment involved

6.7 Identification of Disconnecting Means and Circuits

6.7.1 Each disconnecting means for motors and appliances as well as each service, feeder, and branch circuit, at its disconnecting means or over current device shall be legibly marked to indicate its purpose.

6.7.1.1 A disconnecting means is a switch that is used to disconnect the conductors of a circuit from the source of electric current. Disconnect switches are important because they enable a circuit to be opened, stopping the flow of electricity, and thus can effectively protect workers and equipment.

6.7.1.2 Each disconnect switch or over current device required for a service, feeder, or branch circuit must be clearly labeled to indicate the circuit's function, and the label or marking should be located at the point where the circuit originates. For example, on a panel that controls several motors or on a motor control center, each disconnect must be clearly marked to indicate the motor to which each circuit is connected.

6.7.2 All labels and markings must be durable enough to withstand weather, chemicals, heat, corrosion, or any other environment to which they may be exposed.

6.8 Guarding of Live Parts

6.8.1 Live parts of electric equipment operating at 50 volts or more shall be guarded against accidental contact by use of approved cabinets, enclosures, barriers or by location in a room, vault, balcony, or platform that is accessible only to qualified persons

6.8.2 The entrances to all buildings, rooms, or enclosures containing exposed live parts or exposed conductors operating at over 600 volts, nominal, shall be kept locked or shall be under the control of a qualified person. Access to electrical distribution rooms are limited to those employees who are authorized, qualified, and have a need to enter. These rooms shall be properly signed to warn unauthorized employees to keep out (ex. Danger High Voltage, Unauthorized Personnel KEEP OUT)

6.8.3 A clear approach (at least 3 feet) shall be maintained in front of all electrical disconnects, breaker panels, motor control centers, etc. in which ready access is needed to control the electrical equipment.

6.9 Arc Flash Safety Signs and Labeling

6.9.1 Electrical equipment, including electrical disconnect, switchboards, panel boards, industrial control panels and motor control centers, that are likely to require examination, adjustment, servicing, or maintenance while energized shall be marked, by the owner of the equipment, to warn qualified persons of potential electrical arc flash hazards.

6.9.2 The warning sign/label shall be clearly visible and contain all of the following information:

6.9.2.1 Nominal system voltage

6.9.2.2 Arc flash boundary

6.9.2.3 At least one of the following:

6.9.2.3.1 Available incident energy and the corresponding working distance, or the arc flash PPE category identified for the equipment

6.9.2.3.2 Minimum arc rating of clothing

6.9.2.3.3 Site-specific level of PPE

7.0 PROCEDURE (WORKING ON OR NEAR LIVE PARTS):

7.1 Live parts to which an employee might be exposed shall be put into an electrically safe work condition before an employee works on or near them, unless the employer can demonstrate that deenergizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. Energized parts that operate at less than 50 volts to ground shall not be not required to be deenergized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.

7.1.1 Examples of increased or additional hazards include, but are not limited to, deactivation of emergency alarm systems, and shutdown of hazardous location ventilation equipment.

7.1.2 Examples of work that might be performed on or near exposed energized electrical conductors or circuit parts because of infeasibility due to equipment design or operational limitations include performing diagnostics and testing (e.g., start-up or troubleshooting) of electric circuits that can only be performed with the circuit energized and work on circuits that form an integral part of a continuous process that would otherwise need to be completely shut down in order to permit work on one circuit or piece of equipment.

7.1.3 Testing, troubleshooting, and voltage measurement on energized equipment shall only be performed by qualified employees.

7.2 **Electrical Hazard Risk Assessment** - If the live parts operating at 50 volts or more are not placed in an electrically safe work condition (i.e. Lockout/Tagout), other safety-related work practices shall be used to protect employees who might be exposed to the electrical hazards involved. Such work practices shall protect each employee from arc flash and from contact with live parts operating at 50 volts or more directly with any part of the body or indirectly through some other conductive object. Work practices that are used shall be suitable for the conditions under which the work is to be performed and for the voltage level of the live parts. Appropriate safety-related work practices shall be determined before any person approaches exposed live parts within the Limited Approach Boundary by using both shock risk assessment and arc flash risk assessment. Additionally, an Energized Electrical Work Permit shall be used for all tasks that required work on or near energized electrical circuits (see Section 8.0)

7.2.1 *Shock Risk Assessment*. A shock risk assessment shall determine the voltage to which personnel will be exposed, boundary requirements, and the personal protective equipment necessary in order to minimize the possibility of electrical shock to personnel.

7.2.1.1 Shock Protection Boundaries. The shock protection boundaries identified as Limited and Restricted Approach Boundaries are applicable to the situation in which approaching personnel are exposed to live parts. See the Table 7.2.1 below for distances associated with various system voltages. In many instances, the shock and arc flash protection boundaries are identified on the Arc Flash

Labels that are affixed to the specific equipment. Information found on these labels shall be followed. Note: In certain instances, the Arc Flash Protection Boundary might be a greater distance from the exposed live parts than the Limited Approach Boundary.

7.2.1.2 Shock Protection and/or Arc Flash Protection Boundaries (whichever is greater) must be physically marked using barrier devices, non-conductive chain/rope, or other approved delineating devices. Additionally, appropriate danger signage shall be affixed to the barrier devices. If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant shall be stationed to warn and protect employees.

Table 7.2.1

Approach Boundaries to Live Parts for Shock Protection.

(All dimensions are distance from live part to employee or conductive object)

Nominal System Voltage Range, Phase to Phase	Limited Approach Boundary		Restricted Approach Boundary; Includes Inadvertent Movement
	Exposed Movable Conductor	Exposed Fixed Circuit Part	
Less than 50	Not specified	Not specified	Not specified
50 to 300	10 ft 0 in.	3 ft 6 in.	Avoid contact
301 to 750	10 ft 0 in.	3 ft 6 in.	1 ft 0 in.
751 to 15 kV	10 ft 0 in.	5 ft 0 in.	2 ft 2 in.
15.1 kV to 36 kV	10 ft 0 in.	6 ft 0 in.	2 ft 7 in.
36.1 kV to 46 kV	10 ft 0 in.	8 ft 0 in.	2 ft 9 in.

7.2.1.3 Approach by Unqualified Persons. Unqualified persons shall not be permitted to enter spaces that are inside of the Limited Approach Boundary or Arc Flash Protection Boundary, unless the electric conductors and equipment involved are in an electrically safe work condition.

7.2.2 *Arc Flash Risk Assessment*. An arc flash risk assessment shall be done in order to protect personnel from the possibility of being injured by an arc flash. The assessment shall determine the Arc Flash Protection Boundary and the personal protective equipment that people within the Arc Flash Protection Boundary shall use.

7.2.2.1 Arc Flash Protection Boundary. The Arc Flash Boundary is the distance required to prevent injury from a potential arc flash. Table 7.2.2 below shows a simplified method of determining the Arc Flash Protection Boundaries. Only "qualified persons" should be working within this boundary which also requires the use of the appropriate Personal Protective Equipment and work clothing.

Table 7.2.2

Simplified Method of Determining Arc Flash Boundaries

Arc Location Relative to Equipment	System Voltage	Flash Protection Boundary (feet)
Arc in Open Air	Between 200-1000 Volts	4
Arc in Enclosure	**Between 200-1000 Volts**	**10**
Arc in Enclosure	1000 Volts and Above	20

*For administrative purposes, **4 feet** is the Arc Flash Protection Boundary to be used for all work on energized circuits.*

7.2.2.2 If the simplified method of calculating the Arc Flash Boundary is not used or is not appropriate, a Qualified Electrical Engineer/Consultant shall calculate the appropriate Arc Flash Protection Boundary.

7.2.3 *Battery Risk Assessment* - Prior to any work on a battery system, a risk assessment shall be performed to identify the chemical, electrical shock, and arc flash hazards and assess the risks associated with the type of tasks to be performed.

7.2.4 Prior to cutting or drilling into equipment, floors, walls, or structural elements where a likelihood of contacting energized electrical lines or parts exists, a risk assessment shall be performed to:

7.2.4.1 Identify and mark the location of conductors, cables, raceways, or equipment.

7.2.4.2 Create an electrically safe work condition.

7.2.4.3 Identify safe work practices and PPE to be used.

7.2.5 A safety observer (Electrically Qualified Person) shall be stationed outside the work area. The sole function of this person is to quickly de-energize all power sources or to

pull the worker free, using the proper safeguards (ex. PPE) if contact is made with an energized electrical circuit. Additionally, a person qualified in First Aid/CPR must be able to respond to the scene within 4 minutes.

7.3 Protective Clothing and Personal Protective Equipment for Application with an Arc Flash Risk Assessment

7.3.1 Where it has been determined that work will be performed within the Arc Flash Protection Boundary, the arc flash risk assessment shall determine, and the employer shall document, the incident energy exposure of the worker (in calories per square centimeter).

7.3.2 The incident energy exposure level shall be based on the working distance of the employee's face and chest areas from a prospective arc source for the specific task to be performed.

7.3.3 Flame-resistant (FR) clothing and personal protective equipment (PPE) shall be used by the employee based on the incident energy exposure associated with the specific task. Recognizing that incident energy increases as the distance from the arc flash decreases, additional PPE shall be used for any parts of the body that are closer than the distance at which the incident energy was determined.

7.3.4 As an alternative, the site may choose to identify the Hazard/Risk Category of the specific task to determine the PPE requirements (see NFPA 70E – 130.7). This method shall be permitted to be used in lieu of the detailed arc flash risk assessment approach.

Table 7.3.4.1

Arc-Flash Hazard PPE Categories for Alternating Current (ac) Systems

Equipment	Arc Flash PPE Category	Arc Flash Boundary
Panel boards or other equipment rated 240 V and below Parameters: Maximum of 25 kA short circuit current available; maximum of 0.03 sec (2 cycles) fault clearing time; working distance 455 mm (18 in.)	1	485 mm 19 inches
Panel boards or other equipment rated >240 V and up to 600 V Parameters: Maximum of 25 kA short-circuit current available; maximum of 0.03 sec (2 cycles) fault clearing time; working distance 455 mm (18 in.)	2	900 mm 3 feet
600-V class motor control centers (MCCs) Parameters: Maximum of 65 kA short-circuit current available; maximum of 0.03 sec (2 cycles) fault clearing time; working distance 455 mm (18 in.)	2	1.5 m 5 feet
600-V class motor control centers (MCCs) Parameters: Maximum of 42 kA short-circuit current available; maximum of 0.33 sec (20 cycles) fault clearing time; working distance 455 mm (18 in.)	4	4.3 m 14 feet
600-V class switchgear (with power circuit breakers or fused switches) and 600 V class switchboards Parameters: Maximum of 35 kA short-circuit current available; maximum of up to 0.5 sec (30 cycles) fault clearing time; working distance 455 mm (18 in.)	4	6m 20 feet
Other 600-V class (277 V through 600 V, nominal) equipment	2	1.5 m 5 feet

Parameters: Maximum of 65 kA short circuit current available; maximum of 0.03 sec (2 cycles) fault clearing time; working distance 455 mm (18 in.)		
NEMA E2 (fused contactor) motor starters, 2.3 kV through 7.2 kV Parameters: Maximum of 35 kA short-circuit current available; maximum of up to 0.24 sec (15 cycles) fault clearing time; working distance 910 mm (36 in.)	4	12 m 40 Feet
Metal-clad switchgear, 1 kV through 15 kV Parameters: Maximum of 35 kA short-circuit current available; maximum of up to 0.24 sec (15 cycles) fault clearing time; working distance 910 mm (36 in.)	4	12 m 40 feet
Arc-resistant switchgear Type 1 or 2 [for clearing times of < 0.5 sec (30 cycles) with a perspective fault current not to exceed the arc-resistant rating of the equipment], and metal-enclosed interrupter switchgear, fused or unfused of arc-resistant-type construction, tested in accordance with IEEE C37.20.7, 1 kV through 15 kV Parameters: Maximum of 35 kA short-circuit current available; maximum of up to 0.24 sec (15 cycles) fault clearing time; working distance 910 mm (36 in.)	Closed Doors: N/A Doors Open: 4	Doors Closed: N/A Doors Open: 12 m 40 feet
Other equipment 1 kV through 15 kV Parameters: Maximum of 35 kA short-circuit current available; maximum of up to 0.24 sec (15 cycles) fault clearing time; working distance 910 mm (36 in.)	4	12 m 40 feet
Note: For equipment rated 600 volts and below, and protected by upstream current-limiting fuses or current-limiting circuit breakers sized at 200 amperes or less, the arc flash PPE category can be reduced by one number but not below arc flash PPE category 1.		

Table 7.3.4.1

Arc-Flash Hazard PPE Categories for Direct Current (dc) Systems

Equipment	Arc Flash PPE Category	Arc Flash Boundary
Storage batteries, dc switchboards, and other dc supply sources 100 V > Voltage < 250 V Parameters: Voltage: 250 V Maximum arc duration and working distance: 2 sec @ 455 mm (18 in.)	N/A	N/A
Short-circuit current < 4 kA	1	3 feet
7 kA ≤ short-circuit current < 15 kA	3	6 feet
4 kA ≤ short-circuit current < 7 kA	2	4 feet
Storage batteries, dc switchboards, and other dc supply sources 250 V ≤ Voltage ≤ 600 V Parameters: Voltage: 600 V Maximum arc duration and working distance: 2 sec @ 455 mm (18 in.) Short-circuit current 1.5 kA	1	3 feet
1.5 kA ≤ short-circuit current < 3 kA	2	4 feet
3 kA ≤ short-circuit current < 7 kA	3	6 feet
7 kA ≤ short-circuit current < 10 kA	4	8 feet

7.4 Protective Clothing and Personal Protective Equipment

7.4.1 Once the Hazard/Risk Category has been identified, NFPA 70E – 130.7 shall be used to determine the required personal protective equipment (PPE) for the task. NFPA 70E – 130.7 lists the requirements for protective clothing and other protective equipment based on Hazard/Risk Category numbers -1 through 4. This clothing and equipment shall be used when working on or near energized equipment within the Arc Flash Protection

Boundary.

Table 7.4.1 - Arc Flash PPE Category Requirements

PPE Category	Required PPE
1	**Arc-Rated Clothing, Minimum Arc Rating of 4 cal/cm2** Arc-rated long-sleeve shirt and pants or arc-rated coverall Arc-rated face shield or arc flash suit hood Arc-rated jacket, parka, rainwear, or hard hat liner Hard hat Safety glasses or safety goggles Hearing protection (ear canal inserts) Heavy duty leather gloves Leather footwear
2	**Arc-Rated Clothing, Minimum Arc Rating of 8 cal/cm2** Arc-rated long-sleeve shirt and pants or arc-rated coverall Arc-rated flash suit hood or arc-rated face shield and arc-rated balaclava Arc-rated jacket, parka, rainwear, or hard hat liner Hard hat Safety glasses or safety goggles Hearing protection (ear canal inserts) Heavy duty leather gloves Leather footwear
3	**Arc-Rated Clothing With Arc Rating Meets the Required Minimum Arc Rating of 25 cal/cm2** Arc-rated long-sleeve shirt Arc-rated pants Arc-rated coverall Arc-rated arc flash suit jacket Arc-rated arc flash suit pants Arc-rated arc flash suit hood Arc-rated gloves Arc-rated jacket, parka, rainwear, or hard hat liner

	Hard hat Safety glasses or safety goggles Hearing protection (ear canal inserts) Leather footwear
4	**Arc-Rated Clothing With Arc Rating Meets the Required Minimum Arc Rating of 40 cal/cm2** Arc-rated long-sleeve shirt Arc-rated pants Arc-rated coverall Arc-rated arc flash suit jacket Arc-rated arc flash suit pants Arc-rated arc flash suit hood Arc-rated gloves Arc-rated jacket, parka, rainwear, or hard hat liner Hard hat Safety glasses or safety goggles Hearing protection (ear canal inserts) Leather footwear

7.4.1.1 All electrical protective equipment must be maintained and according to the method and frequency required by applicable ANSI or ASTM standards.

7.4.1.2 Rubber insulating sleeves must be tested before first issue and every 12 months thereafter; upon indication that insulating value is suspect; and after repair.

7.4.1.3 Rubber insulating blankets must be tested before first issue and every 12 months thereafter; upon indication that insulating value is suspect; and after repair.

7.4.1.4 Rubber insulating covers and hose must be tested upon indication that insulating value is suspect and after repair.

7.4.2 High Voltage Rubber Gloves

7.4.2.1 Employees who work on or near live conductors must inspect and test their own rubber gloves before each use. Grasp the cuff of the rubber glove at opposite ends and twist. While the end is closed with one hand (so no air can escape) squeeze the glove with the other hand to force air into the thumb, fingers, and palm. Rubber gloves with a hole or a thin spot shall not be used, regardless of the size or location of the hole or spot.

7.4.2.2 An electrical proof test shall be conducted for all rubber insulating gloves before the first issue and every 6 months. If rubber insulating gloves have been electrically tested but not issued for service, they may not be placed into service

unless they have been electrically tested within the previous 12 months. Note: gloves shall be marked with the date and results of the test on the cuff or a log shall be maintained to indicate that the required inspection(s) has been completed.

7.4.2.3 Rubber gloves should never be worn or stored inside out.

7.4.2.4 If rubber protective items are found to be dirty or greasy, notify your Team Leader who will arrange for replacement.

7.4.2.5 Always return the rubber gloves and sleeves to their original shape, with the rubber drip roll on the outside of the cuff after cleaning. The internal stresses set up in the rubber when it is left in reverse shape are sufficient to decrease the dielectric and mechanical strength of the glove.

7.4.2.6 Whenever any item is found or thought to be defective, a danger tag must be attached and the item shall be submitted for testing. Notify your Team Leader to arrange for a replacement.

8.0 ENERGIZED ELECTRICAL WORK PERMIT:

8.1 If live parts are not placed in an electrically safe work condition (i.e., for the reasons of increased or additional hazards or infeasibility), work to be performed shall be considered energized electrical work and shall be performed by written permit only.

8.2 **Elements of Work Permit**. The energized electrical work permit shall include, but not be limited to, the following items:

8.2.1 A description of the circuit and equipment to be worked on and their location

8.2.2 Justification for why the work must be performed in an energized condition

8.2.3 A description of the safe work practices to be employed

8.2.4 Results of the shock risk assessment

8.2.5 Determination of shock protection boundaries

8.2.6 Results of the arc flash risk assessment

8.2.7 The Flash Protection Boundary

8.2.8 The necessary personal protective equipment to safely perform the assigned task

8.2.9 Means employed to restrict the access of unqualified persons from the work area

8.2.10 Evidence of completion of a job briefing (see Section 10.0), including a discussion of any job-specific hazards

8.2.11 Energized work approval signature

8.3 No work may begin until the Manager of Facilities or higher ranking official authorizes the work by signing the Energized Electrical Work Permit.

8.4 **Exemptions to Work Permit**. Work performed on or near live parts by qualified persons related to tasks such as testing, troubleshooting, voltage measuring, etc., shall be permitted to be performed without an energized electrical work permit, provided appropriate safe work practices and personal protective equipment in accordance with Section 7.0 are provided and used.

9.0 JOB BRIEFING:

9.1 Before starting each job involving exposure to energized electrical equipment, the employee in charge shall conduct a job briefing with the employees involved. The briefing shall cover such subjects as hazards associated with the job, work procedures involved, special precautions, energy source controls, the location, sizing, and application of temporary protective grounding equipment, and personal protective equipment requirements.

9.2 **Repetitive or Similar Tasks**. If the work or operations to be performed during the work day or shift are repetitive and similar, at least one job briefing shall be conducted before the start of the first job of the day or shift. Additional job briefings shall be held if significant changes that might affect the safety of employees occur during the course of the work.

9.3 **Routine Work**. A brief discussion shall be satisfactory if the work involved is routine and if the employee, by virtue of training and experience, can reasonably be expected to recognize and avoid the hazards involved in the job. A more extensive discussion shall be conducted if either of the following apply:

9.3.1 The work is complicated or particularly hazardous.

9.3.2 The employee cannot be expected to recognize and avoid the hazards involved in the job.

10.0 WRITTEN SAFE WORK PROCEDURES:

10.1 The Kuesel Group must evaluate each electrical task in which employees may be exposed to energized electrical circuits/equipment. A detailed written safe work procedure must be completed for all tasks where employees work on or near live exposed parts.

10.2 The written safe work procedures should include, but are not limited to, the following:

10.2.1 Purpose of task

10.2.2 Qualifications and number of employees to be involved

10.2.3 Hazardous nature and extent of task

10.2.4 Limits of approach (Arc Flash, Limited Approach, Restricted Approach Boundary distances)

10.2.5 Safe work practices to be utilized

10.2.6 Hazard/Risk Category Identification

10.2.7 Personal protective equipment involved

10.2.8 Insulating materials and tools involved

10.2.9 Special precautionary techniques (ex. barriers, signage, etc.)

10.2.10 Electrical diagrams

10.2.11 Equipment details

10.2.12 Sketches/pictures of unique features

10.2.13 Reference data

10.2.14 Signatures for the approval of the written safe work procedure

11.0 CONTRACTORS:

11.1 Contractors shall comply with the requirements of this program.

11.2 Whenever outside servicing personnel are to be engaged in activities covered by the scope and application of this program, The Kuesel Group and the outside employer(s) shall inform each other of existing hazards, personal protective equipment/clothing requirements, safe work practice procedures, and emergency/evacuation procedures applicable to the work to be performed.

11.3 This coordination shall include a meeting and documentation.

11.4 Contractor employees performing live electrical work must be trained as a Qualified Worker. If requested, Contractors must provide applicable training documentation.

12.0 TRAINING:

12.1 Employees who may reasonably be expected to face a comparable risk of injury due to electric shock (greater than 50 Volts) or other electrical hazards must be trained.

12.2 Unqualified Employees shall be trained on this program and general electrical safety related work practices that pertain to their respective job assignments. Unqualified Employees shall be able to demonstrate an awareness and understanding of electrical hazards. At a minimum training shall include:

12.2.1 Selection and use of work practices

12.2.2 Use of applicable equipment

12.2.3 Safeguards for personnel protection (including clearance distances)

12.3 Qualified Workers (i.e., those permitted to work on or near exposed energized parts) shall be, at a minimum, trained in and familiar with the following:

12.3.1 The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment,

12.3.2 The skills and techniques necessary to determine the nominal voltage of exposed live parts,

12.3.3 The appropriate clearance distances and the corresponding voltages to which the qualified person will be exposed, and

12.3.4 The proper use of procedures, PPE, testing instruments, insulating and shielding materials, and insulated tools for working on or near exposed parts of electrical equipment.

12.3.5 The requirements contained in Sections 7.0 thru 10.0.

12.4 Training will be comprised of classroom instruction, hands-on activities, and practical field exercises.

12.5 Electrically Qualified Employees in the training process may work on electrical equipment if they have completed the mandatory classroom training required, but only under direct supervision of an electrically qualified person.

12.6 The Kuesel Group shall determine, through regular observations and inspections conducted by supervision, that each employee is complying with the safety-related work practices required by this program.

12.7 An employee shall receive retraining under any of the following conditions:

12.7.1 If the inspection indicates a deficiency, the employee is observed not complying with the safety-related work practices, or

12.7.2 If new technology, new types of equipment, or changes in procedures necessitate the use of safety related work practices that are different from those which the employee would normally use.

12.7.3 At intervals not exceeding 3 years

13.0 AUDITING:

13.1 This electrical safety program shall be audited to verify that the principles and procedures are in compliance with NFPA 70E. Audits shall be performed at intervals not to exceed 3 years.

13.2 Field work shall be audited to verify that the requirements contained in the procedures of this electrical safety program are being followed. Audits shall be performed at intervals not to exceed 1 year.

14.0 DOCUMENTATION:

14.1 The Kuesel Group shall maintain all training records for each qualified and unqualified employee. Records shall be maintained for the duration of the employee's employment.

14.2 The Kuesel Group shall maintain documentation of the maintenance of all electrical equipment.

14.3 The Safety Representative or designee shall maintain a log for electrical proof tests of rubber insulating gloves, if the alternative method of marking gloves is not selected.

14.4 The Safety Representative or designee shall maintain documentation of all electrical safety program audits and field work audits performed.

15.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 36 Ground Fault Circuit Interrupter (GFCI) Conductor Program

1.0 PURPOSE:

1.1 The purpose of this procedure is to prevent electrical shock resulting from possible malfunctions, improper grounding, or defective electrical tools. When all portable electrical equipment is used, including outdoors or in wet or damp locations, ground fault circuit interrupters (GFCIs) shall be used or if not feasible an assured grounding conductor program will be followed. When an assured grounding conductor program is used (ex. not using GFCIs), this program shall be available at the jobsite.

2.0 SCOPE:

2.1 This procedure applies to all Kuesel Group employees using portable electrical equipment.

3.0 REFERENCE:

3.1 29 CFR 1926.404 Wiring Design and Protection

4.0 RESPONSIBILITIES:

4.1 **Project Managers/Site Supervisors** shall implement this program and ensure the requirements of this procedure concerning identification, inspections, and testing are being met. She/he shall have the authority to remove any defective electrical equipment from the work area and render it non-operational until completing repairs.

4.2 **Employees** are responsible to ensure that they are trained and they maintain compliance with this procedure. Employees shall perform a daily inspection to ensure integrity.

5.0 GROUND FAULT CIRCUIT INTERRUPTERS (GFCI's):

5.1 It is The Kuesel Group's policy to use GFCI's in all situations in which a GFCI has been designed and rated for the task. This includes their use on all 120-volt, single-phase, 15 and 20 ampere receptacle outlets which are not part of the permanent wiring of the building or structure and are in use by employees.

5.2 There are three types of GFCI's that can be used at the worksites:

5.2.1 A GFCI receptacle can be used in place of a standard receptacle.

5.2.2 A portable GFCI

5.2.3 A GFCI circuit breaker

5.3 To prevent nuisance tripping of GFCI's, the following good work practices are recommended:

5.3.1 Mount GFCI receptacles and GFCI circuit breakers in dry locations (if this is not possible, use portable GFCI's rated rainproof).

5.3.2 Connect only one power tool to each GFCI

5.3.3 Cover power tools to protect them from the rain when they are not in use

5.3.4 Store power tools and extension cords in a dry location

5.3.5 Maintain extension cords and power tools in good condition

5.3.6 Use extension cords that are rated for hard usage or better

5.3.7 Do not use extension cords longer than 150 feet

5.3.8 Test the GFCI in accordance with the manufacturer's recommendations

5.4 As stated above, the preferred method of compliance with 29 CFR 1926.404 is the use of ground fault circuit interrupters. If their use is not feasible, all cord sets or receptacles to be used in a construction area, which are not connected to the permanent wiring of the building or structure, shall be tested, identified, and coded in accordance with this Assured Grounding Conductor Program.

6.0 ASSURED GROUNDING CONDUCTOR PROGRAM:

6.1 Daily Inspections

6.1.1 Daily inspections shall be performed by competent individuals in a crew or by the Site Supervisor. The inspection shall consist of visually inspecting for:

6.1.1.1 Frayed or missing insulation

6.1.1.2 Missing terminal connection pins

6.1.1.3 Damaged housing or covers

6.1.1.4 Missing guards

6.1.1.5 Any other identifiable hazards

6.1.2 If any of the above-listed hazards are detected during the inspection, the electrical equipment shall be immediately removed from service and repaired. No person other than a qualified electrician may repair this equipment. Note: There are no written reports or documentation required for the daily inspection.

6.2 Immediate Inspection and Tests

6.2.1 Immediate inspections are conducted by the competent person or designee:

6.2.1.1 Before first use

6.2.1.2 After any repairs

6.2.1.3 After any damage can be reasonably suspected to have occurred (example: when a cord is run over).

6.2.2 There are two tests that are required:

6.2.2.1 All equipment grounding conductors shall be tested for continuity. Continuity checks may be conducted by using an ohmmeter or other testing devices that will assure the ground continuity.

6.2.2.2 Each receptacle and attachment cap or plug shall be tested for correct attachment of equipment ground conductor. The equipment-grounding conductor shall be connected to its proper terminal. Correct attachment tests may be conducted by using a device such as a receptacle circuit tester to assure that the ground wire is connected to the proper terminal

6.2.3 Record the results of Immediate Inspections on the Assured Equipment Grounding Log (See Section 7.0).

6.3 Periodic Inspection and Tests

6.3.1 Periodic inspections and tests are conducted by the competent person or designee at intervals not to exceed 3 months, except that cord sets and receptacles, which are fixed and not exposed to damage, shall be tested at intervals not exceeding 6 months.

6.3.2 There are two tests that are required:

6.3.2.1 All equipment grounding conductors shall be tested for continuity. Continuity checks may be conducted by using an ohmmeter or other testing devices that will assure the ground continuity.

6.3.2.2 Each receptacle and attachment cap or plug shall be tested for correct attachment of equipment ground conductor. The equipment-grounding conductor shall be connected to its proper terminal. Correct attachment tests may be conducted by using a device such as a receptacle circuit tester to assure that the ground wire is connected to the proper terminal

6.3.3 Record the results of the Periodic Inspections on the Assured Equipment Grounding Log (See Section 7.0).

7.0 RECORDKEEPING AND TRAINING:

7.1 Tests performed as required in Sections 6.2 and 6.3 shall be recorded. This test record shall identify each receptacle, cord set, and cord- and plug-connected equipment that passed the test and shall indicate the last date it was tested or the interval for which it was tested.

7.2 Equipment must be color coded as it is inspected. The competent person will determine the color and sequence for these markings.

7.3 The log shall be made available on the jobsite for inspection by the Project Manager/Site Supervisor and any affected employee.

7.4 All workers using extension cords and power tools under the Assured Grounding Conductor Program must be trained on this program. Training records shall be kept for employees who receive the training.

8.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 37 Hazardous Energy Control (LOTO)

1.0 PURPOSE:

1.1 The purpose of this policy is to ensure that before any employee performs any work activities, testing, servicing, or maintenance on machinery or equipment, where the unexpected energizing, start up or release of any type of energy could occur and cause injury, the machinery or equipment will be rendered safe to work on by being locked and tagged out.

2.0 SCOPE:

2.1 This program covers all Kuesel Group employees potentially exposed to the unexpected release of stored energy, which could cause injury to employees during testing, servicing, or maintenance of machines, equipment or systems.

3.0 RESPONSIBILITIES:

3.1 **Project/Site Supervisor-** is responsible for initiating and controlling this procedure onsite. She/he ensures that the proper procedures for isolating all energy sources have been conducted.

3.2 **Employees-** who perform work activities in which the unexpected energizing, start up or release of any type of energy could occur and cause injury, shall comply will this procedure. Employees will receive the appropriate training according to their responsibilities.

4.0 DEFINITIONS:

4.1 **Affected Employee**- An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under Lockout/Tagout or whose job requires him or her to work in an area in which such servicing or maintenance is being performed. An affected worker cannot perform work under a Lockout/Tagout.

4.2 **Authorized Employee**- A person who either applies the locks and tags on machines, equipment and systems or works under the protection of Lockout/Tagout in order to perform testing, servicing, or maintenance on that machine or equipment. This person has completed the mandatory training to be qualified as an Authorized Employee. Only an Authorized Employee installs and removes his or her own lock(s) and tag(s) as required by this program.

4.3 **Authorized Locks and Tags-** These are locks and tags that are used to ensure the safety of the Authorized Employees performing testing, servicing, and maintenance of machines equipment or systems. Servicing or maintenance may not begin until these devices are applied to the Energy Isolation Device(s). These locks and tags shall not be used for any other purpose. The print and format of tags shall be standardized and will warn against hazardous conditions if the machine or equipment is energized. The tag shall read “Danger – Do Not Operate” and will have black lettering with a white background. The tag will have an unlocking strength of at least 50 pounds. Personal locks will identify the Authorized Employee applying the device. At a minimum, tags shall contain the name of the authorized employee.

4.4 **Energy Source-** Any source of hazardous energy or materials. Energy sources include, but are not limited to; electrical, mechanical, hydraulic, pneumatic, chemical, radiation, and thermal energies, as well as various forms of potential energy such as that stored in springs, compressed gases, or in suspended objects (gravitational).

4.5 **Double Block and Bleed-** The closure of a line, duct, or pipe by closing and locking and tagging two in-line valves and by opening and locking/tagging a drain or vent in the line between the two closed valves.

4.6 **Energy Isolation Device-** A device that prevents the transmission or release of hazardous energy or hazardous materials. Examples include, but are not limited to; restraint blocks, electrical circuit breakers, disconnect switches, slide gates, slip blinds, or line valves. For lockout/tagout purposes, isolating devices that provide visible indication of the device's position are desirable.

4.7 **Lockout Device-** A device that utilizes a positive means such as a lock, either keyed or combination type, to hold an energy-isolating device in a safe position to prevent the energizing of a machine, equipment or system. Other Lockout Devices include dead ends (blanks), bolted slip blinds, valve hand wheel covers, and chains/lock. Lockout devices shall contain the name of the authorized employee when not used in conjunction with a tag.

NOTE: If an energy source cannot be locked out a tagout system shall be utilized.

4.8 **Lockout/Tagout (LOTO) -** Installation of lock(s) and tag(s) on the Energy Isolation Devices to ensure that work can be performed safely. The lock(s) and tag(s) ensure that the Energy Isolating Device(s) and the machine, equipment or system(s) they isolate and/or control, cannot be operated until the lock(s) and tag(s) are removed. Devices shall indicate the identity of the employee applying it.

4.9 **Other Employees-** Employees whose work operations are or may be in an area where energy control procedures are utilized.

4.10 **Safe Condition Check (Verification of De-energizing) -** The inspection or test of a system or component performed by the Authorized employee to ensure that the hazardous energy or materials are controlled to prevent injury or accident. **Note: This is an essential element of all energy control programs and procedures, which ensures the safety of all potentially exposed personnel.**

4.11 **Maintenance and/or Construction-** Work place activities such as maintenance inspections, construction, installing, setting up, modifying, adjusting, testing, maintaining and/or servicing machines, equipment, or systems. These activities include lubrication, cleaning, or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energizing or start-up of the equipment or release of hazardous energy. This applies to all personnel regardless of job title, (i.e., operator, maintenance, electrician, etc.)

4.12 **Tag-** A "Danger – Do Not Operate" Tag, which can be securely fastened to an energy isolating device with an unlocking strength of 50 pounds, to indicate that the Energy Isolating Device and the equipment being controlled cannot be operated until the Tag is removed. Tags are essentially warning devices affixed to energy isolating devices and do not provide the physical restraint of a lock. At a minimum, tags shall contain the name of the authorized employee.

4.13 **Tagout Device** - A warning tag (weather & chemical resistant) standardized in size, color, with wording warning of hazardous energy (Do Not Start) (Do Not Open) (Do Not Close) (Do Not Energize) (Do Not Operate).

5.0 LOCKOUT/TAGOUT (LOTO) PRINCIPLES:

5.1 This procedure establishes the requirements for the lockout/tagout of energy isolating devices.

5.1 **It is mandatory that all personnel comply with the restrictions and limitations of this lockout/tagout program and related procedures.**

5.2 No individual shall attempt to start, energize, use, or operate a piece of equipment that has been locked out and tagged out after the safe condition check has been completed.

5.3 No individual other than the Authorized Employee who placed the device and tag shall attempt to remove it, except as noted in Section 8**.**

5.4 The personal lockout and "Danger- Do Not Operate" tag signifies that there is an Authorized Employee working on a component and it was installed by that task's Authorized Employee prior to starting work and will be removed by that Authorized Employee when their work is completed.

5.5 The Authorized Employee "Danger – Do Not Operate" tag is reserved for the exclusive use of the authorized worker identified on that tag. The identifying markings shall be made in permanent form.

5.6 No one shall authorize another person to ignore or violate this program and its procedures.

5.7 No person shall remove a Lockout Device when an unsafe condition exists until they have corrected the condition or another person has installed a Lockout Device.

5.8 No Authorized Employee shall install a lockout/tagout on any system without following the proper procedures and have notified the Client or Supervisor.

5.9 A check valve cannot be used as an Energy Isolation Device.

5.10 Whenever an outside firm is contracted to perform work, The Kuesel Group will inform the management of the outside contractor of the contents and requirements of this program. This is to ensure the safety of all employees. The contents of the outside contractors' LOTO program will be reviewed by management to ensure that the program does not violate the requirements of the site LOTO program and for the purpose of ensuring that employees are not exposed to any potential hazards that may be created by the outside firm's LOTO program.

5.11 When electrical system grounds need to be applied, they shall be, the last devices applied and the first devices removed in application of LOTO. Qualified electrical personnel shall only apply grounding devices.

5.12 All employees shall receive the appropriate level of training based upon their LOTO duties (i.e., Authorized, Affected, or Other).

5.13 Any employee who observes any apparent violation of this program or related procedures shall immediately notify their supervisor.

5.14 This program does not apply to the work on cord and plug connected electrical equipment for which exposure to the hazards of unexpected energizing or start up of the equipment is controlled by the unplugging of the equipment from the energy source and by the plug being under the exclusive control (within arm's reach and line of sight) of the employee performing the servicing or maintenance.

6.0 CONDUCTING LOTO AT A CLIENT SITE:

6.1 The Kuesel Group employees who will be performing work at a client jobsite must follow, at a minimum, the requirements of The Kuesel Group's LOTO procedure and the Client's program.

6.2 The Kuesel Group and the Client must inform each other of their respective Lockout/Tagout procedures. For the protection of the Kuesel Group employees, the Client's LOTO program must be reviewed in detail by the Project/Site Supervisor in charge of the work to ensure that The Kuesel Group employees will not be injured. If there are any discrepancies, it is the responsibility of the Supervisor to ensure that the Kuesel Group employees understand and comply with any restrictions and prohibitions of the Client's LOTO program.

6.2 Several LOTO conditions must be met by the Client before The Kuesel Group personnel can begin work at the facility.

6.2.1 The Client shall establish and have available for review a LOTO program that meets 29 CFR 1910.147, Control of Hazardous Energy (LOTO); 29 CFR 1910.333, Lockout/Tagout Electrical Safe Work practices; and 1926.417, locking and tagging of circuits, as they relate to the control of hazardous energy sources.

6.2.2 Prior to The Kuesel Group performing work, a designated point of contact will be made within the Client's organization for the purpose of interfacing and coordinating the Lockout/Tagout procedures.

7.0 PROCEDURE:

7.1 A specific written procedure for all machines, equipment or system shall be developed and will be followed before beginning any servicing or maintenance work. The steps outlined in Section 7.1 will serve as a guide to ensure compliance with this requirement.

7.2 Detailed Lockout/Tagout Procedure

7.2.1 The Authorized Employee will determine all potential sources of hazardous energy (written isolation procedures, equipment walk down, equipment diagrams, and any other resources to properly identify all energy sources). The Client will inform The Kuesel Group of their requirements for Lockout/Tagout. Depending on the site, the Client will identify all energy isolation points and lock them out. It is still important for the Kuesel Group employee who will be performing the work to walk down the equipment to ensure that this has been done correctly.

7.2.1.1 The Kuesel Group personnel shall develop specific energy control procedures in the event the Client does not have or provide them for the equipment to be worked on.

7.2.1.2 All energy sources shall be taken into consideration when developing the specific energy control procedures. Energy sources to be considered include:

7.2.1.2.1 Electrical

7.2.1.2.2 Hydraulic

7.2.1.2.3 Pneumatic

7.2.1.2.4 Steam

7.2.1.2.5 Tension

7.2.1.2.6 Gravity

7.2.1.3 The machine or equipment shall be turned off or shutdown using the procedures established for the machine or equipment. Before an authorized or affected employee turns off a machine or equipment, the authorized employee shall have knowledge of the type & magnitude of the energy, the hazards of the energy to be controlled, & the methods or means to control the energy.

7.2.1.4 All energy isolating devices that are needed to control the energy to the machine or equipment shall be physically located & operated in such a manner as to isolate the machine or equipment from the energy source.

7.2.2 The Authorized Employee will obtain the appropriate number of locks and tags. Some Lockout's might require the use of other lockout devices (valve covers, chains, breaker covers, etc.).

7.2.3 Depending on the Clients LOTO procedure, the Authorized Employee may go to each identified energy isolation device (which is in the correct position) and place their lock and tag on the device. Lockout devices shall be affixed in a manner that will hold the energy isolating devices in a safe or off position. The host may also lockout all isolation points and put the keys to the locks in a lockbox. (Note: the above procedures may be controlled through the use of a LOTO Permit). The Kuesel Group authorized employee

would place their lock on the lockbox, preventing unauthorized access to the keys. All authorized employees working on that system shall put their lock on the lockbox.

7.2.4 Tagout procedures

7.2.4.1 Tagout devices, where used, shall be affixed in such a manner as will clearly indicate that the operation or movement of energy isolating devices from the safe or off position.

7.2.4.2 Where tagout devices are used with energy isolating devices designed with the capability of being locked, the tag attachment shall be fastened at the same point at which the lock would have been attached.

7.2.4.3 Where a tag cannot be affixed directly to the energy isolating device, the tag shall be located as close as safely as possible to the device in a position that will be immediately obvious to anyone attempting to operate the device.

7.2.5 The Authorized Employee's personal key will be kept under their possession.

7.2.6 Following the application of a lockout or tagout device to energy isolating devices:

7.2.6.1 The Kuesel Group employee shall ensure that all stored residual energy has been relieved, disconnected, restrained & other wise rendered safe.

7.2.6.2 If there is a possibility of re-accumulation of stored energy then verification of isolation shall be continued until the servicing or maintenance is complete, or until the possibility of such accumulation no long exists.

7.2.6.3 When all energy isolation devices have been properly de-energized and locked/tagged out, the Authorized Employee will perform the necessary safe condition check(s) and verify the isolation to ensure that all energy has been dissipated and controlled (Example: pushing local start buttons, throwing switches, etc.). The work can now begin.

7.2.7 If testing is required and LOTO devices must be temporarily removed the authorized employee will use the following procedures:

7.2.7.1 Clear away tools, unnecessary equipment, materials, etc.

7.2.7.2 Remove all employees from the area

7.2.7.3 Remove LOTO devices

7.2.7.4 Energize and proceed with testing. Note: the Client may perform re-energizing of the equipment.

7.2.7.5 De-energize and reapply control measures (see 7.1.1 thru 7.1.6).

7.2.7.6 The LOTO permit can be used to document the above procedures.

7.2.8 When all work on the system is complete, the Authorized Employee will make sure that all machines, equipment, systems, and areas are clear from personnel and equipment before energizing.

7.2.9 The Authorized Employees will remove their locks/tags from the equipment or lock from the lockbox. The Client will be notified when all personnel and equipment are clear. The system will then be put back into service as necessary by the Client.

7.3 Energy Isolation Devices Not Capable of Accepting a Lock

7.3.1 If an energy isolation device is physically incapable of accepting a lock, a tagout system can be used which offers full employee protection similar to that of a lockout system. Tagout devices shall be affixed in such a manner as will clearly indicate that there should be no operation or movement of energy isolating devices from the safe or off position.

7.3.2 The tagout system includes all of the steps of this lockout program except the actual use of a lockout device on that particular energy isolation device. Additional means to be considered as a part of the demonstration of full employee protection shall include the implementation of additional safety measures such as the removal of an isolating circuit element, blocking of a controlling switch, opening of an extra disconnecting device, or the removal of a valve handle to reduce the likelihood of inadvertent energizing.

7.4 Adding Energy Isolation Devices

7.4.1 Energy Isolation Devices may be added to the existing LOTO. The Authorized Employee responsible for the LOTO will review the scope of the additional work task and determined if it can be addressed under the existing LOTO. If the work can be performed under this LOTO, the Authorized Employee responsible for the LOTO will perform the steps per Section 6.1 of this procedure. If this task cannot be addressed by the existing LOTO, a new LOTO shall be developed.

7.5 Group Lockout

7.5.1 It may be necessary during larger projects to have several personnel on one LOTO permit. In this case, it is permissible to have a group LOTO.

7.5.2 An Authorized Employee will be chosen to put on an authorized lock on all energy isolation devices on the permit. He/she will have the responsibility as the LOTO Supervisor to ensure continuity of protection for all Authorized Employees and to coordinate affected personnel. The Supervisor will ensure all locks and tags are properly installed on the energy isolating devices by visually checking all energy isolation points.

7.5.3 The authorized employee shall ascertain the exposure status of individual group members. Each employee shall attach a personal lockout or tagout device to the group's device while he/she is working & then removes it when finished. During shift change or

personnel changes, there should be specific procedures to ensure the continuity of lockout or tagout procedures. Documentation should be specific.

7.5.4 The Supervisor will list all of the other Authorized Employees on the permit with which he/she is working with. All keys to the locks that are securing the energy isolation devices will be placed in a lockbox or similar lockable holding device.

7.5.5 Each Authorized Employee will put his/her own lock on the lockbox before beginning work.

7.5.6 The Supervisor cannot remove any locks or tags from the energy isolation devices unless all other Authorized Employees have first removed their locks and tags from the lockbox. If there is a need to remove a lock and tag from the lockbox because an Authorized Employee is not on site, then Section 8.0 must be followed.

8.0 REMOVAL OF AUTHORIZED EMPLOYEE LOCKS AND TAGS WHEN OFF-SITE:

8.1 There may be times when the LOTO needs to be closed out to put equipment back into service when an Authorized Employee still on the LOTO is off-site and cannot be located. Removal of an Authorized Employee lock and tag will require a review by the Authorized Employee's direct Supervisor.

8.2 The Authorized Employee's Supervisor will attempt to reach the Authorized Employee to determine if the LOTO may be closed. If the Authorized Employee indicates that the LOTO may be closed, the Authorized Employee must return to the site to follow the normal LOTO removal procedure.

8.3 If the Authorized Employee cannot be contacted or cannot return to the facility, the Authorized Employee's Supervisor may authorize removal of the Authorized Employee from the LOTO.

8.4 If the Supervisor authorizes the removal of the Authorized Employee's lock(s) and tag(s) all potentially affected employees shall be notified.

8.5 The Authorized Employee will be contacted by his/her Supervisor immediately upon their return to work, to notify them that they have been removed from the LOTO.

9.0 LOCKOUT/TAGOUT PERIODIC INSPECTIONS:

9.1 Annually, management shall ensure that a review of its energy control program (LOTO) is being conducted. This review is conducted for the purpose of ensuring that the LOTO procedures and requirements of 29 CFR 1910.147 & 1926.417 are being met. A written report shall be made documenting inspection findings, results, and as appropriate any corrective actions taken for LOTO program deficiencies.

9.1 Periodic inspections shall be scheduled and documented in writing. Periodic inspections shall occur at least annually.

9.2 A representative trained as an Authorized Employee must perform the periodic inspection. The representative may not review any Lockout/Tagout that they currently have responsibility for. The representative must review the procedures being implemented by and under the control of other Authorized Employees. The inspection shall include a review of each Authorized Employee's responsibilities under the program and related procedures. Written documentation of findings shall be made and retained.

9.3 If LOTO permits are available, an inspection of various LOTO's that have been closed out will be inspected to verify that they have been properly completed and closed out. Written documentation of findings shall be made and retained.

9.4 Active LOTOs will be visually verified that all locks and tags are in place and The Kuesel Group LOTO and/or the host employee's program requirements are being followed.

9.5 If during the inspection a discrepancy or procedural inadequacy is found, steps shall be taken immediately to determine the reason for, and the corrective action necessary to remedy the discrepancy. Written documentation of findings shall be made and retained.

9.6 All discrepancies or noncompliance with The Kuesel Group program and procedures will be corrected as soon as possible but no later than 7 days from the date of identification. If a discrepancy or inadequacy is identified the appropriate individuals shall be retrained.

9.7 The Safety Representative shall certify in writing that the periodic inspection has been performed. This certification shall identify and document the machine, equipment or system, on which the LOTO procedure was utilized, date of inspection, the employees (by name) covered by the inspection, and the individual performing the inspection.

10.0 TRAINING:

10.1 Employees shall be trained so that they understand the purpose and function of the LOTO program and procedures. Employees shall also be trained so that they understand the purpose, contents and requirements of 29 CFR 1910.147 and 1926.417.

10.1 Authorized Employees shall receive training in the recognition of sources of hazardous energy, the types and magnitude of hazardous energy and the means and methods of isolation and control.

10.2 Affected Employees shall be instructed in the purpose and use of the Kuesel Group LOTO program.

10.3 Other Employees shall be instructed about the Kuesel Group LOTO program and about the prohibition against attempting to restart equipment, machines or systems that have been locked and tagged out of service.

10.4 Employees retraining will be conducted when there are changes in job assignment; machines, equipment or processes; or in the Kuesel Group LOTO program and procedures. Retraining will also be conducted when a periodic inspection of the effectiveness of this procedure reveals inadequacies in employee knowledge or performance.

10.5 A record of all training and retraining shall be maintained. The training record shall include the name of the employee, level of training, name of the instructor and the date of the training. The Responsible Safety Representative will keep all training records on file. (Training records will be retained indefinitely or until the employee is no longer employed.)

11.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 38 Confined Space Entry

1.0 PURPOSE:

1.1 The purpose of this procedure is to protect workers against the hazards involved in confined spaces. This procedure establishes the controls and responsibilities for entering, working in, and exiting confined spaces.

2.0 SCOPE:

2.1 This program covers all Kuesel Group employees and Contractors required to enter confined spaces such as manholes, ducts, tanks, piping, vessels, boilers, silos, storage bins, hoppers, vaults, etc.

3.0 RESPONSIBILITIES:

3.1 **Project Managers/Site Supervisors-** Shall ensure that personnel under their direction maintain compliance with this program.

3.1.1 Ensures that the proper procedures for isolating all energy sources have been controlled.

3.1.2 Understands client jobsite requirements for confined space entry.

3.1.3 Shall ensure that only trained employees assume roles and perform work in confined spaces in accordance with this program.

3.1.4 Ensures that a periodic review of the overall effectiveness of the Confined Space Program/Procedures is completed.

3.2 **Employees**

3.2.1 Employees shall be properly trained according to their role in confined space entry operations.

3.2.2 Employees shall comply with this procedure as well as client jobsite requirements.

4.0 DEFINITIONS:

4.1 **Attendant or Authorized Attendant-** a Qualified Employee stationed outside of the Permit-Required Confined Space who monitors the authorized entrant(s).

4.2 **Confined Space -** a space which:

4.2.1 Is large enough and so configured that an employee can enter and perform assigned work and

4.2.2 Has limited or restricted means for entry or exit (some examples are tanks, boilers, manholes) and

4.2.3 Is not designed for continuous employee occupancy.

4.3 **Entrant** or **Authorized Entrant -** a Qualified Employee or contractor who will enter the Confined Space. The entrant is trained on the procedures of the Confined Space and is authorized by The Kuesel Group to enter.

4.4 **Entry -** the action by which a person passes through an opening into a Permit-Required Confined Space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

4.5 **Entry Permit -** a written authorization to enter a Permit-Required Confined Space. It defines the conditions under which the permit space may be entered. It states the reasons for entering, identifies all hazards and identifies the Entry Supervisor.

4.6 **Entry Supervisor or Authorized Entry Supervisor -** a Qualified Employee who is responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, authorizes entry, oversees entry operations, and terminates entry when required.

4.7 **Hazardous Atmosphere**: An atmosphere that may expose employees to the risk of death, incapacitation, interfere with an individual's ability to escape unaided from a space, or cause acute illness from one or more of the following causes:

4.7.1 Flammable gas, vapors, dusts, or mists in excess of ten percent (10%) of its Lower Explosion Limit (LEL).

4.7.2 Atmospheric oxygen concentrations below 19.5% or above 23.5%.

4.7.3 Atmospheric concentrations of any substance that could meet or exceed the permissible exposure limit as prescribed by OSHA standards. Review the MSDS sheets of all known substances contained within a space.

4.7.4 Any other atmospheric condition that is immediately dangerous to life or health (IDLH).

4.8 **Isolation -** the process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout/tagout of all sources of energy; or blocking and disconnecting all mechanical linkage.

4.9 **Non-Permit Confined Space -** a Confined Space which does not contain or have the potential to contain a “Hazardous Atmosphere” or any hazard capable of causing death or serious physical harm.

4.10 **Permit Required Confined Space (PRCS):**

4.10.1 A Confined Space that has one or more of the following characteristics:

4.10.1.1 Contains or has the potential to contain a “Hazardous Atmosphere”

4.10.1.2 Contains a material with the potential for engulfment of an entrant,

4.10.1.3 Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls, or a floor which slopes downward and tapers to a smaller cross-section; or

4.10.1.4 Contains any other recognized serious safety or health hazard.

4.10.2 Any space meeting the above definition will be entered by permit only.

4.11 **Qualified Employee** - an employee that has been trained on confined space entry procedures and the use of confined space equipment, air-monitoring equipment, and ventilation equipment.

4.12 **Stratified Atmosphere -** an atmosphere where the contents have become "layered". Atmospheric testing may indicate different percentages of oxygen, explosive gasses, and hazardous contaminants at different levels.

5.0 CONFINED SPACE PERSONNEL RESPONSIBILITIES:

5.1 Entry Supervisors

5.1.1 Be aware of hazards of the space to be entered, and signs, symptoms, and consequences of exposure, and specific space control procedures.

5.1.2 Execute all requirements of this instruction before work begins within a confined space.

5.1.3 Authorizes entry into a confined space when acceptable entry conditions have been met.

5.1.4 Ensures that all personnel entering and leaving the confined space are accounted for.

5.1.5 Terminate entry and cancel the permit if conditions warrant.

5.1.6 Verify that rescue services have been identified and that means for summoning them are operable.

5.1.7 Remove unauthorized individuals who enter or who attempt to enter the permit space during entry operations.

5.2 Entrants

5.2.1 Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

5.2.2 Use all equipment as required by this instruction and the specific permit space entry procedures.

5.2.3 Communicate with the attendant as necessary to enable the attendant to alert entrants of the need to evacuate the space as required by this instruction and for attendant to be able to monitor status of entrants.

5.2.4 Alert the attendant whenever:

5.2.4.1 The entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or

5.2.4.2 The entrant detects a prohibited condition.

5.2.5 Exit from the confined space as quickly as possible whenever:

5.2.5.1 Order to evacuate is given by the attendant or the entry supervisor.

5.2.5.2 The entrant recognizes any warning sign or system of exposure to a dangerous situation, or the entrant detects a prohibited condition or an evacuation alarm is activated.

5.3 Attendants

5.3.1 Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

5.3.2 Be aware of the possible behavioral effects of hazard exposure in authorized entrants.

5.3.3 Continuously maintain an accurate count of authorized entrants in the permit space and ensure that the means used to identify authorized entrants in the permit under this procedure accurately identifies who is in the permit space.

5.3.4 Remain outside the permit space during entry operations until relieved by another attendant.

5.3.5 Communicate with authorized entrants as necessary to monitor entrant status and to alert entrant of the need to evacuate the space if conditions warrant.

5.3.6 Initiate onsite rescue procedures and if necessary, summon additional rescue and other emergency rescue services when self-rescue is not possible.

5.3.7 Perform no duties that might interfere with his/her ability to monitor and protect the authorized entrants.

5.3.8 Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space.

5.3.9 Warn unauthorized persons to stay away and advise those who may have entered the permit space that they must leave.

5.3.10 Inform authorized entrants and Entry Supervisor of unauthorized persons.

6.0 GENERAL INFORMATION:

6.1 General Rules

6.1.1 To maximize personnel safety and avoid possible confusion regarding the necessity of a permit for entry into a given space, THE KUESEL GROUP, will define any confined space as being a permit required confined space. This practice will be followed unless proven otherwise by a suitable method of testing and/or documentation by the host employer.

6.1.2 When practical, all confined spaces shall be permanently marked. A sign shall be installed at each opening of the Confined Space. Signs should contain the following text or similar language:

DANGER – PERMIT REQUIRED CONFINED SPACE

DO NOT ENTER

6.1.3 Spaces not permanently marked (ex. manholes) shall be posted with a portable sign when access to the spaces is required.

6.1.4 All confined spaces where there is an opening that can easily be walked into (floor openings, manhole openings, etc.) shall have a physical barrier (guardrail, gate, etc).

6.1.5 When required, isolating energy sources to the confined space shall be performed in accordance with THE KUESEL GROUP's Lockout/Tagout Program.

6.1.6 If "hot work" conditions exist, precautions shall be taken in accordance with THE KUESEL GROUP's Hot Work Program. Cylinders of compressed gases are never permitted in a confined space.

6.1.7 The past contents and atmospheric tests will determine what personal protective equipment (PPE) is necessary for entry into a confined space. All personnel entering a confined space that requires PPE must be trained in the use and limitations of the required equipment. All required PPE must be identified on the Confined Space Entry Permit.

6.1.8 No smoking is permitted in a Confined Space or near the entrance/exit area.

6.1.9 Air monitoring is required before entering any PRCS. Continuous monitoring is required whenever any personnel are in the PRCS.

6.1.10 Portable electrical equipment used in Confined Spaces, which have wet surfaces, shall be supplied power through a ground fault circuit interrupter or be battery powered.

6.1.11 Before entering into client owned confined spaces, The Kuesel Group supervision will discuss with the client, the requirements of The Kuesel Group's Confined Space Entry program and the client's entry program. The Kuesel Group may utilize the client's confined space entry program as long as it meets the minimum requirements of 29 CFR 1910.146.

6.1.12 If other Contractors or non-Kuesel Group employees are to be in the space, the Jobsite Supervisor shall coordinate entry operations with other Contractors before entry is permitted into the space. Entry provisions and work activities shall be discussed so that employees do not endanger other employees of a different company.

6.2 Confined Space Personnel - The following authorized individuals are required when entry into a PRCS is necessary. Employees shall receive the appropriate level of training before entry into the Confined Space is permitted. Note: An attendant can also act as an entry supervisor if properly trained.

6.2.1 Entry Supervisor

6.2.2 Attendant (It is The Kuesel Group's policy that an attendant will only monitor one confined space)

6.2.3 Entrant(s)

7.0 PROCEDURE:

7.1 Confined Space Entry Permit

7.1.1 Before entry is authorized, the entry supervisor shall document the safety measures taken in order to enter the Confined Space by preparing a Confined Space Entry Permit. Depending on the jobsite requirements, The Kuesel Group employees may utilize the clients confined space permit (Note: at a minimum the clients permit must meet the requirements of 29 CFR 1910.146).

7.1.2 Before entry begins, the entry supervisor identified on the permit shall complete, review, and sign the entry permit to authorize entry. Acceptable entry conditions must be met in order for entry to be authorized.

7.1.3 The method of communication between the attendant and the entrants must be determined prior to entry into the confined space. Should communications become ineffective, the entrants must exit the confined space and an alternative method of communications must be agreed upon prior to re-entry.

7.1.4 The completed permit shall be made available at the time of entry to all authorized entrants, by posting it at the entry portal or by any other equally effective means, so that the entrants can confirm that pre-entry preparations have been completed.

7.1.5 A Confined Space Entry Permit is valid for a period not to exceed one work shift.

7.1.6 The entry supervisor shall terminate entry and cancel the entry permit when:

7.1.6.1 The entry operations covered by the entry permit have been completed or

7.1.6.2 A condition that is not allowed under the entry permit arises in or near the permit space.

7.1.7 Canceled Kuesel Group entry permits shall be retained for at least three years to facilitate the review of the PRCS program (This does not apply when using a client issued permit that has to be turned back in to the client upon completion of the work). Any problems encountered during an entry operation shall be noted on the pertinent permit so that appropriate revisions to the program can be made.

7.1.8 See Appendix A (Confined Space Entry Permit)

7.2 Ventilation

7.2.1 Continuous forced air ventilation shall be used to prevent the accumulation of a hazardous atmosphere. Periodic testing will be done to insure that this is accomplished.

7.2.2 No employee of The Kuesel Group will enter a confined space until the forced air ventilation has eliminated any hazardous atmosphere.

7.3 Air Testing

7.3.1 The atmosphere within the space will be tested to determine whether dangerous air contamination and/or oxygen deficiencies exist. Direct reading instruments, detector tubes, alarm only gas monitors and explosion meters are examples of monitoring equipment that may be used to test confined space atmospheres. Authorized employees who have successfully completed air-monitoring training for the type of monitor they will use shall perform the air testing (typically qualified entrants or attendants conduct air monitoring). Air testing equipment shall be calibrated (bump tested using span gas) and certified according to the manufacturer's recommendations. Calibration records shall be kept.

7.3.2 The minimum parameters to be monitored are oxygen deficiency, LEL and, if applicable, contaminants that may be present which are over OSHA's PEL's. When testing for atmospheric hazards, first test for oxygen content, then for flammable gases or vapors and lastly for toxic gases or vapors. The initial air readings shall be recorded on the Permit and kept at the work site for the duration of the job. The entrants shall be able to review the testing results before entry.

7.3.3 The following guidelines are the required test results necessary for entry into a confined space (acceptable entry conditions). The site supervisor will determine the required test results for other hazards using MSDS and appropriate reference material.

Oxygen	19.5% minimum, 23.5% maximum
LEL	Less than 10% of the LEL
Hydrogen Sulfide	Less than 10 ppm
CO	Less than 35 ppm

7.3.4 Air Testing Procedures. Prior to atmospheric testing, check air readings outside of the Confined Space to ensure proper operation of the instrument and that air readings are within normal ranges. Record Air test readings on the Permit.

7.3.4.1 Air testing for Confined Spaces having a top entrance (manholes, tanks, etc.):

7.3.4.1.1 From each entrance, drop the sampling probe of the Meter to the bottom of the space. Additionally, use other available openings, which would facilitate air testing for that confined space.

7.3.4.1.2 Slowly raise the sampling probe, stopping at intervals of two feet to ensure that the atmosphere is not stratified. The rate of sampling shall be slowed to accommodate detector response due to the length of the sampling line and probe.

7.3.4.1.3 Record air testing data on the confined space permit.

7.3.4.2 Air testing for Confined Spaces having a side or bottom manways (ducts, tanks, etc.):

7.3.4.2.1 From each entrance, move the sampling probe of the Meter to the opposite side of the space. Use rods, poles or other means to extend the probe to the opposite side of the space.

7.3.4.2.2 Slowly test all areas inside the Confined Space. The rate of sampling shall be slowed to accommodate detector response due to the length of the sampling line and probe.

7.3.4.2.3 Record air testing data on the confined space permit.

7.3.4.3 Upon initial entry, all areas that could not be tested from the manways shall be tested. Slowly test the areas with the sampling probe out in front of you, checking all areas that were missed.

7.3.5 If there are no non-atmospheric hazards present and if the pre-entry tests show there are no dangerous air contamination and/or oxygen deficiency within the space, entry into and work within the space may proceed.

7.3.6 The atmosphere within the space shall be periodically tested as necessary to ensure no accumulation of a hazardous atmosphere. If conditions exist that could change the atmosphere of the Confined Space, it will be necessary to monitor the atmosphere continuously during occupancy. Air monitoring shall be performed at the actual work location in the confined space. The results of this monitoring shall be documented on the confined space permit, at a frequency established by the Entry Supervisor.

7.3.7 The workers will immediately leave the permit space and notify the Entry Supervisor when any of the gas monitor's alarm set points are reached as defined. After a suitable ventilating period, repeat the testing. Entry may not begin until testing has demonstrated that the hazardous atmosphere has been eliminated and the Entry Supervisor approves.

7.3.8 Re-evaluation of the confined space shall occur:

7.3.8.1 If any employee has reason to believe that a change in atmospheric condition has occurred within the confined space,

7.3.8.2 Employees or their representatives request additional monitoring. Employees or their representatives are entitled to request additional monitoring at any time.

7.4 Entry Procedures

7.4.1 Each PRCS to be entered shall have specific procedures developed to ensure the safety of all affected personnel. When at client jobsites, THE KUESEL GROUP personnel shall review the client's confined space hazard evaluation documentation for that specific confined space. Specific confined space procedures should include, but not be limited to, the following:

7.4.1.1 Specifying acceptable entry conditions,

7.4.1.2 Isolating the permit space,

7.4.1.3 Purging, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards,

7.4.1.4 Providing pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards and

7.4.1.5 Verifying that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry.

NOTE: The Kuesel Group Employee's shall not enter any Permit Required Confined Space without verification that a qualified Confined Space Entry Rescue Team is available for a timely response, given the hazards present.

7.4.2 The Entry Supervisor shall review entry operations when there is reason to believe that the measures taken may not protect employees. Entry procedures shall be revised to correct deficiencies found before entry is permitted. Examples requiring review include:

7.4.2.1 Any unauthorized entry

7.4.2.2 Detection of a hazard not covered by the permit

7.4.2.3 Detection of a condition prohibited by the permit

7.4.2.4 Occurrence of an injury or near-miss during entry

7.4.2.5 A change in the use or configuration of the space

7.4.2.6 Employee complaints

7.4.3 Retrieval and rescue equipment is required for entry into permit required confined spaces. The use of a harness is not required if it will create a greater hazard to the wearer.

7.5 Alternative Procedures

7.5.1 Alternative entry procedures may be used in the following circumstances:

7.5.1.1 The only hazard posed by the permit space is an actual or potential hazardous atmosphere.

7.5.1.2 The employer can demonstrate that continuous forced air ventilation alone is sufficient to maintain the permit space safe for entry. Air levels must below 50% of established permissible exposure levels.

7.5.1.3 The employer develops monitoring and inspection data that supports the demonstration that continuous forced air ventilation alone is sufficient to maintain the permit space safe for entry.

7.5.2 The atmosphere within the space shall be continuously monitored to ensure that forced air ventilation is preventing the accumulation of a hazardous atmosphere.

7.5.3 Training shall be provided to the employees who enter permit spaces under the alternative procedures and to the employer's representatives who verify that permit spaces are safe for entry under the alternative procedures.

7.5.4 The Attendant and Entry Supervisor positions are not required by the Alternative Procedures as well as retrieval and rescue equipment. Means of rescue, however, still need to be addressed.

7.5.5 The Entry Supervisor is responsible for documenting the basis for determining that all atmospheric hazards in the permit space have been eliminated or controlled through a certification that contains the date, the location of the space, any air sampling data to support this and the signature of the Entry Supervisor making the determination. This certification shall be made available to all employees involved.

7.6 Reclassifying a Permit Required Confined Space

7.6.1 A space classified as a PRCS may be reclassified as a non-permit confined space under the following procedures.

7.6.2 If the PRCS poses no actual or potential atmospheric hazards or if all hazards within the space are eliminated without entry into the space and without the use of forced ventilation, the permit space may be reclassified as a Non-Permit Confined Space for as long as the non-atmospheric hazards remain eliminated.

7.6.3 If it is necessary to enter a PRCS to eliminate a hazard or to test for atmospheric hazards, such entry shall be completed under a confined space permit.

7.6.4 Once the space is reclassified, it may be treated as a Non-Permit Confined Space for the duration of the work being performed. The permit is no longer required along with the attendant, supervisor, retrieval and rescue equipment. Air monitoring should be conducted each day before entering the non-permitted space. Once a job is complete, the space reverts to a PRCS.

7.6.5 The Entry Supervisor is responsible for documenting the basis for determining that all hazards in the permit space have been eliminated through a certification that contains

the date, the location of the space, any air sampling data to support this and the signature of the Entry Supervisor making the determination (the use of a confined space entry permit will meet this requirement). The Supervisor will sign on the permit that the space has been reclassified, as non-permit required. This certification shall be made available to all employees involved.

7.7 Contractors

7.7.1 At a minimum, The Kuesel Group Contractors must follow the requirements of The Kuesel Group's Confined Space Entry Program.

7.7.2 The Kuesel Group will provide Contractors information on all PRCS ('s) to be entered, hazards associated with the Confined Space(s) and a copy of this Confined Space Program.

7.7.3 Contractor employees must be trained in confined space entry. If requested, Contractors that are required to enter a Confined Space must show certification that their employees have been trained in accordance with 29 CFR 1910.146.

7.7.4 Additionally, the Contractor employees will be trained on THE KUESEL GROUP's Confined Space Program. A KUESEL GROUP Representative will communicate to the Contractor the requirements of this program and potential hazards they may encounter inside the confined space and the surrounding area.

8.0 CONFINED SPACE RESCUE:

8.1 In the event of an emergency of any type in the confined space, entrants in the space shall evacuate as quickly as possible. Injured employees are encouraged to use self-rescue when applicable.

8.2 If rescue from within the confined space is required, the attendant should immediately contact the rescue team, whether it is to call the onsite team, **911**, or the appropriate number for the jobsite if an outside rescue service is used. Inform the Emergency Operator that rescue is needed from a confined space. Give the emergency service the location, the type of confined space, and the hazards associated with the space.

8.3 The Jobsite Supervisor shall ensure that The Kuesel Group's Entry Rescue Team, the client's onsite qualified rescue team, or an outside rescue service is notified before entry into the permit space is allowed. Rescue teams must be able to respond to an emergency within a timely manner, considering the hazards identified.

8.4 At no times shall the attendant or other non-authorized personnel attempt an entry rescue. A qualified attendant may however perform non-entry rescue activities (ex. retrieval device).

8.5 On assignments where The Kuesel Group's Onsite Rescue Team is engaged in Entry Rescue Operations, the Rescue Team Supervisor shall use the **"911"** system as a back-up for emergency support services. The Rescue Team Supervisor or their designee shall provide

responding 911 Emergency Services with the location, the type of confined space, and the hazards associated with the space.

8.6 Outside services must be given an opportunity to examine the entry site, practice rescue, and decline as appropriate.

8.7 If there is reliance on the client Host rescue services for use, this MUST be stated and agreed to in contract language.

8.8 Rescue employees must have PPE at no cost to the employee

8.9 Rescue Employees shall receive training upon initial assignment. Refresher training and practice rescues shall be performed at least every 12 months.

NOTE: The Kuesel Group Employee's shall not enter any Permit Required Confined Space without verification that a qualified Confined Space Entry Rescue Team is available for a timely response, given the hazards present.

9.0 TRAINING:

9.1 All personnel involved with confined space activities shall receive training consistent with their duties. Employees will receive training in order to acquire the understanding, knowledge and skills necessary for the safe performance of the duties assigned under this program.

9.2 Training shall be provided to each affected employee that may be designated as a supervisor, entrant or attendant:

9.2.1 Before the employee is first assigned duties,

9.2.2 Before there is a change in assigned duties,

9.2.3 Whenever there is a change in confined space operations which presents a hazard to an employee who has not been previously trained and

9.2.4 Whenever the employer has reason to believe that there are deviations from the confined space entry procedures or that there are inadequacies in the employee's knowledge or use of these procedures.

9.2.5 The training shall establish employee proficiency in the duties required and shall introduce new or revised procedures, as necessary, for compliance.

9.3 Training content shall include:

9.3.1 Duties of Entry Supervisor, Entrant and Attendants,

9.3.2 The Kuesel Group's Confined Space Program and other procedures relating to Confined Space Entry (Lockout/Tagout, etc.),

9.3.3 Hazards of Confined Spaces,

9.3.4 Use of Air Monitoring Equipment,

9.3.5 Use of ventilation equipment,

9.3.6 Emergency Action & Rescue Procedures,

9.3.7 Confined Space Entry Equipment, including Personal Protective Equipment and

9.3.8 Requirements of 29 CFR 1910.146 Permit Required Confined Spaces.

10.0 PROGRAM REVIEW:

10.1 The Project Manager/Site Supervisor shall perform an annual review of its Confined Space Program and procedures for the purpose of ensuring that the procedures and requirements of 29 CFR 1910.146 are being met. A review of the previous year's closed out confined space permits shall be included as part of this review.

10.2 A written report shall be made documenting inspection findings, results and, as appropriate, any corrective actions taken for program deficiencies. Applicable employees shall be re-trained when deficiencies are found.

11.0 DOCUMENTATION:

11.1 A Kuesel Group Management Representative shall retain canceled Kuesel Group entry permits for at least three years to facilitate the review of the PRCS program.

11.2 Training documentation shall be kept for all affected employees. Training rosters shall indicate the employee's name, date, level of training (supervisor, entrant, and/or attendant) and the instructor who performed the training. A Kuesel Group Management Representative shall maintain all training rosters. The most current training record shall be kept for each affected employee

12.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

Confined Space Entry Permit

Permit valid for one shift only. Permit must be posted near entry point. Keep permit on file for one year.

Date: _____/_____/_____ **Entry Time:** _____ AM PM **Permit Expiration Time:** _____ AM PM

Confined Space Name/ID: _____ **Location:** _____

Reason for Entry: _____

Entry Point: TOP BOTTOM SIDE **Communication used:** VOICE HAND SIGNAL RADIO Other_____

Hazard Identification & Control

Identify potential or known hazards for the confined space. For "OTHER" explain in notes.

Atmospheric Hazards present or potentially present – *(check all that apply).* **YES NO NA**

☐ Oxygen Deficient <19.5% ☐ Flammable Gases, Vapors when ≥ 10% LFL ☐ Airborne combustible dust

☐ Oxygen Enriched ≥ 23.5% ☐ Toxic Gases, Vapors when ≥ PEL ☐ Other_____

Control: ☐ Test before entry ☐ Continual monitoring ☐ Natural ventilation ☐ Forced air ventilation ☐ Other

Engulfment & Entrapment Hazards present or potentially present - *(check all that apply)* **YES NO NA**

☐ Flowing material ☐ Hung up, bridged, crusted material ☐ Inwardly converging walls ☐ Sloping floors ☐ Other

Control: ☐ LOTO fill and/or emptying equipment ☐ Lock gates ☐ Block spouts/pipes ☐ Drain/empty ☐ Lifeline use

Potential/known hazard	YES	NO	Type / Control Used	Potential/known hazard	YES	NO	Type / Control Used
Egress hazards	☐	☐		Respiratory hazards	☐	☐	
Insufficient lighting hazard	☐	☐		Skin hazards	☐	☐	
Chemical hazards	☐	☐		Heat/Cold hazards	☐	☐	
Mechanical hazards (unguarded items)	☐	☐		Snake, Rodent, Animal and Insect Hazards	☐	☐	
Electrical hazards	☐	☐		Vehicle hazards	☐	☐	
Fall hazards	☐	☐		Noise hazards	☐	☐	

Other Hazards & Control:

Safety & Emergency Rescue

RESCUE / FIRE CONTACT #:

	YES	NO	NA		YES	NO	NA
Entry area secure	☐	☐	☐	Safety harness & lifeline or retrieval line	☐	☐	☐
LOTO/de-energization & isolation	☐	☐	☐	PPE inspection completed before use	☐	☐	☐
Lighting (rated for type of space/work)	☐	☐	☐	Mechanical retrieval device	☐	☐	☐
Hot work permit	☐	☐	☐	Respirator	☐	☐	☐
GFCI equipment	☐	☐	☐	Hearing Protection	☐	☐	☐
Non-sparking tools	☐	☐	☐	Other PPE_____	☐	☐	☐

Entrants should always wear hard hats, work books, and eyewear.

Rescue equipment available? **YES NO** Type: _____

Stand by personnel used? **YES NO** Name(s): _____

CPR trained person available? **YES NO** Name(s): _____

Atmospheric Information *Acceptable atmospheric entry conditions must meet the limits stated below.*

Monitor calibrated? **YES** **NO** Date calibrated: ____/____/____ Monitor functioning correctly? **YES** **NO**

Bump test conducted against known concentration of gases, your meter is set up to check? **YES** **NO**

Pre-entry / Initial Air Monitor Readings

Time	O2 19.5 - 23.5%	LFL <10%	CO ≤ 50 ppm	H2S ≤10 ppm	PH3 ≤ 0.3 ppm	NH3 ≤ 25 ppm	Other ____	Signature

Periodic Air Monitor Readings – *Test every ½ hour unless entrant wears meter continuously*

Time	O2	LFL	CO	H2S	PH3	NH3	Other ____	Signature

NOTES:

I have been trained for the confined space job duties assigned and agree with the conditions listed on the entry permit.

Entrant(s): _____ _____ _____ _____

Print Name *Signature* *Print Name* *Signature*

Attendant(s): _____ _____ _____ _____

Print Name *Signature* *Print Name* *Signature*

I certify all conditions and actions necessary for safe entry have been performed and the entry is authorized.

Entry Supervisor: _____ _____

Print Name *Signature*

Permit Cancellation Time: _____ AM PM Structure returned to operating condition? **YES** **NO**

Entry Supervisor Signature: _____ **Date:** _____/_____/_____

Ensure employee has received the appropriate training for the job & tasks and the training is documented.

SP 39 Mobile Equipment

1.0 PURPOSE:

1.1 The purpose of this program is to establish the requirements for the care, inspection and use of mobile equipment.

1.2 This section also contains the information necessary to establish and maintain compliance with OSHA 29 CFR 1926.600 thru 1926.602 for the safe use of mobile equipment in the construction industry.

2.0 SCOPE:

2.1 The information contained in this section applies to all subsidiaries and divisions of The Kuesel Group personnel who operate mobile equipment.

3.0 REFERENCES:

3.1 OSHA 29 CFR 1926.600 thru 1926.602

4.0 RESPONSIBILITIES:

4.1 Management shall be responsible for:

4.1.1 Ensuring uniform implementation and compliance with this program by site employees and subcontractors

4.1.2 Provide support and guidance as needed to ensure that site personnel are instructed in and trained to the requirements of this program and to applicable site specific requirements

4.1.3 Maintain appropriate documentation as evidence of the training program and comprehension level of the personnel

4.1.4 Ensure that only trained employees assume active roles and perform related work in accordance with this program.

4.2 Employees shall be responsible for:

4.2.1 Ensuring they understand and comprehend the information in this program and maintain compliance.

5.0 COVERAGE:

5.1 Mobile equipment covered in the scope of this procedure includes, but is not limited to, the following:

5.1.1 Backhoe with frontend loader

5.1.2 Compaction roller

5.1.3 Dozer

5.1.4 Road grader

5.1.5 Dump truck

5.1.6 Track hoe (excavator)

5.1.7 Ditcher (Ditch Witch)

5.1.8 Vacuum truck, etc.

5.2 Motor equipment as covered by this program may include vehicles/equipment that operate on the highway as well as within an off-highway jobsite, not open to public traffic. All mobile equipment to be operated on a public road or highway shall meet the requirements of applicable Department of Transportation (DOT) regulations.

6.0 GENERAL REQUIREMENTS:

6.1 All vehicles shall have a service brake system as well as an emergency and parking brake system. These systems shall be maintained in operable condition.

6.2 Whenever visibility conditions warrant additional light, all vehicles in use shall be equipped with at least two headlights and two taillights in operable condition.

6.3 All vehicles shall have brake lights in operable condition, regardless of light conditions.

6.4 When applicable, vehicles shall be equipped with an adequate audible warning device at the operator's station and in an operable condition.

6.5 No employee shall use any motor vehicle equipment having an obstructed view to the rear, unless:

6.5.1 The vehicle has a reverse signal alarm audible above the surrounding noise level or

6.5.2 The vehicle is reversed only when an observer signals that it is safe to do so.

6.6 All vehicles with cabs shall be equipped with windshields and powered wipers. Cracked and broken glass shall be replaced. All cab glass shall be safety glass, or equivalent, that introduces no visible distortion affecting the safe operation of any machine. Vehicles operating in areas or under conditions that cause fogging or frosting of the windshield shall be equipped with operable defogging or defrosting devices.

6.7 Employees operating a vehicle that does not have an enclosed cab are required to wear appropriate eye protection.

6.8 All haulage vehicles, whose payload is loaded by means of cranes, power shovels, loaders or similar equipment shall have a cab shield and/or canopy adequate to protect the operator from shifting or falling materials.

6.9 Tools and material shall not exceed the established load limit of the vehicle and shall be secured for safe transport.

6.10 Vehicles used to transport employees shall have seats firmly secured and adequate for the number of employees to be carried.

6.11 Seatbelts and anchorages meeting the requirements of 49 CFR Part 571 (Department of Transportation, Federal Motor Vehicle Safety Standards) shall be installed and worn in all motor vehicles.

6.12 Seatbelts need not be provided for equipment which is designed only for standup operation or for equipment which does not have rollover protective structure (ROPS) or adequate canopy protection.

6.13 Whenever the equipment is parked, the parking brake shall be set. Equipment parked on inclines shall have the wheels chocked and the parking brake set.

6.14 Trucks with dump bodies shall be equipped with positive means of support, permanently attached and capable of being locked in position to prevent accidental lowering of the body, while maintenance or inspection work is being done.

6.15 Operating levers controlling, hoisting or dumping devices on haulage bodies shall be equipped with a latch or other device which will prevent accidental starting or tripping of the mechanism.

6.16 Trip handles for tailgates of dump trucks shall be so arranged that, in dumping, the operators will be in the clear.

6.17 All rubber-tired motor vehicle equipment shall be equipped with fenders. Mud flaps may be used in lieu of fenders whenever motor vehicle equipment is not designed for fenders.

6.18 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.

6.19 A safety tire rack, cage or equivalent protection shall be provided and used when inflating, mounting or dismounting tires installed on split rims or rims equipped with locking rings or similar devices.

6.20 Heavy machinery, equipment or part thereof, which are suspended or held aloft by use of slings, hoists or jacks shall be substantially blocked or cribbed to prevent falling or shifting before employees are permitted to work under or between them. Bulldozer and scraper blades, end-loader buckets, dump bodies and similar equipment shall be either fully lowered or blocked

when being repaired or when not in use. All controls shall be in a neutral position, with the motors stopped and brakes set, unless work being performed requires otherwise.

6.21 All equipment covered by this subpart shall comply with the following requirements when working or being moved in the vicinity of power lines or energized transmitters, except where electrical distribution and transmission lines have been de-energized and visibly grounded at point of work or where insulating barriers, not a part of or an attachment to the equipment or machinery, have been erected to prevent physical contact with the lines.

6.22 Employees shall only use equipment and vehicles for the purpose that they were designed or intended for.

7.0 FUELING:

7.1 When fueling equipment or vehicles the engine shall be turned off.

7.2 The fill nozzle shall be in contact with the container being filled.

7.3 Smoking and open flame shall be prohibited within the immediate area of fueling activities.

8.0 INSPECTIONS:

8.1 All vehicles in use shall be checked at the beginning of each shift to assure that the following parts, equipment and accessories are in safe operating conditions and free of apparent damage that could cause failure while in use:

8.1.1 Service brakes, including trailer brake connections

8.1.2 Parking system (hand brake)

8.1.3 Emergency stopping system (brakes)

8.1.4 Tires

8.1.5 Horn

8.1.6 Steering mechanism

8.1.7 Coupling devices

8.1.8 Seatbelts

8.1.9 Operating controls

8.1.10 Safety devices

8.2 All defects shall be corrected before the vehicle is placed in service

8.3 These requirements also apply to equipment such as lights, reflectors, windshield wipers, defrosters, fire extinguisher, etc., where such equipment is necessary.

9.0 TRAINING:

9.1 Each employee who operates mobile equipment as identified in this program shall receive the appropriate training to ensure they are qualified to operate the specific piece of equipment.

9.2 Each employee who operates mobile equipment as identified in this program shall receive the appropriate training to ensure they are able to identify and avoid unsafe conditions.

9.3 Upon completion of the training and successful demonstration of their ability to operate specific equipment, The Kuesel Group employees will be authorized to operate the piece of equipment.

9.4 Training shall be provided by a qualified trainer or entity on the specific equipment.

9.5 Training records, certification documentation and/or, where applicable, licenses shall be kept in the employees training files.

9.6 Only authorized employees may operate equipment.

10.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 40 Crane and Rigging Safety

1.0 PURPOSE:

1.1 The purpose of this program is to protect the safety of employees involved in the use of cranes or hoists and rigging operations. Additionally, this program outlines the inspection requirements to maintain cranes, hoists and rigging equipment in a safe condition.

2.0 SCOPE:

2.1 This program applies to all Kuesel Group personnel who may operate or work around a crane/hoist and/or perform rigging activities.

3.0 REFERENCES:

3.1 29 CFR 1910.179 Overhead and Gantry Cranes

3.2 29 CFR 1910.180 Crawler, Locomotive, and Truck Cranes

3.3 29 CFR 1926 Subpart CC: Cranes and Derricks in Construction

3.4 29 CFR 1910.184 Slings

4.0 RESPONSIBILITIES:

4.1 **Departmental Managers** ensure that all employees who operate a crane/hoist or perform rigging activities are properly trained and maintain compliance with this program.

4.2 **Competent Person:** is designated by The Kuesel Group and shall inspect all machinery and equipment prior to each use, and during use, to make sure it is in safe operating condition. Any deficiencies shall be repaired, or defective parts replaced, before continued use. The Kuesel Group shall designate employees as ‘Competent Person’

4.3 **Employees** receive the appropriate training and maintain compliance with this program.

5.0 GENERAL INFORMATION:

5.1 Crane and hoist operators shall comply with the following rules:

5.1.1 Operators must meet the physical qualifications, pass a physical, a written examination, understand and be able to use a load chart as well as calculate loads for the crane type.

5.1.2 All manufacturer procedures applicable to the operational functions of equipment, including its use with attachments, must be complied with. The manufacturer's procedures and prohibitions must be complied with when assembling and disassembling equipment. The assembly/disassembly of equipment must be directed by a competent and qualified person.

5.1.3 The Kuesel Group employees shall comply with the manufacturer's specifications and limitations applicable to the operation of any crane/hoist. Modifications to the crane or

hoist shall not be made without the manufacturer's prior written approval. The manufacturer must approve all modifications/additions in writing. A registered professional engineer must be qualified with respect to the equipment involved, and must ensure the original safety factor of the equipment is not reduced.

5.1.4 The operator shall have access to procedures applicable to the operation of the equipment. Rated load capacities (load charts), recommended operating speeds, and special hazard warnings or instructions shall be conspicuously posted on all equipment. Instructions or warnings including the operator's manual shall be visible to the operator while he is at his control station. Crane bridges and hoist monorails shall be labeled on both sides with the maximum capacity.

5.1.5 Any crane that has a power traveling mechanism shall be equipped with a warning signal to include a visual warning light.

5.1.6 Whenever internal combustion engine powered equipment exhausts in enclosed spaces, tests shall be made and recorded to see that employees are not exposed to unsafe concentrations of toxic gases or oxygen deficient atmospheres.

5.1.7 Do not engage in any practice that will divert your attention while operating the crane.

5.1.8 Do not move a load over people. People shall not be placed in jeopardy by being under a suspended load. Also, do not work under a suspended load unless the load is supported by blocks, jacks, or a solid footing that will safely support the entire weight.

5.1.9 Ensure that the rated load capacity of a crane's bridge, individual hoist, or any sling or fitting is not exceeded. Know the weight of the object being lifted or use a dynamometer or load cell to determine the weight.

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

5.1.11 Outriggers must be used at all times and/or when required due to ground conditions or crane stability is needed. Equipment must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction (if necessary) with the use of supporting materials, the equipment manufacturer's specifications for adequate support and degree of level of the equipment are met.

5.1.12 A hazard assessment of the work zone must be completed before setting up or using the crane. The work zone shall be identified by demarcating 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. The hazard assessment must determine if any part of the equipment could get closer than 20 feet to a power line

5.1.13 A fire extinguisher of the appropriate size and type (5BC or higher) shall be on the crane at all times.

5.1.14 If spring-loaded reels are provided to lift pendants clear of the work area, ease the pendant up into the stop to prevent damaging the wire.

5.1.15 Avoid side pulls. These can cause the hoist rope to slip out of the drum groove, damaging the rope or destabilizing the crane or hoist.

5.1.16 To prevent shock loading, avoid sudden stops or starts. Shock loading can occur when a suspended load is accelerated or decelerated, and can overload the crane or hoist. When completing an upward or downward motion, ease the load slowly to a stop.

5.1.17 If it is determined that any part of the equipment, load line or load could get closer than 20 feet to a power line then at least one of the following measures must be taken:

5.1.17.1 Ensure the power lines have been deenergized and visibly grounded.

5.1.17.2 Determine the line's voltage and minimum approach distance permitted in Table A of 1926.1408.

5.1.18 Lockout/tagout procedures shall be used when cranes are not operable.

5.1.19 A pre-lift meeting should be held. This will be attended by the operator, signal person, and all other employees involved with the lift. The appropriate requirements of the lift should be reviewed (ex. review the work permit requirements and any additional documents such as a Pre-Lift Plan).

5.1.20 The crane should not be operated when the wind speed reaches the crane manufactures shutdown recommendations speed (see crane operations manual). Be aware of specific jobsite requirements that may be more stringent.

5.2 Signals to the operator shall be in accordance with standard hand signals unless voice communication equipment (telephone, radio or equivalent) is used. Signals shall be visible or audible at all times.

5.2.1 A signal person must be provided for the following situations:

5.2.1.1 The point of operation is not in full view of the operator

5.2.1.2 The view is obstructed when the equipment is traveling

5.2.1.3 The operator or the person handling the load determines it is necessary due to site-specific concerns

5.2.2 Respond to signals only from the person who is directing the lift or any appointed signal person. However, obey a stop signal at all times, no matter who gives it.

5.2.3 Some special operations may require additional signals or modification of the basic signals. For all such cases, these special signals shall be agreed upon and thoroughly understood by both the person giving the signals and the operator and shall not be in conflict with the standard signals.

5.3 Moving a Load

5.3.1 Center the hook over the load to keep the cables from slipping out of the drum grooves and overlapping and to prevent the load from swinging when it is lifted. Inspect the drum to verify that the cable is in the grooves.

5.3.2 Use a tag line (unless their use creates an unsafe condition) when loads must traverse long distances or must otherwise be controlled. Manila rope may be used for tag lines.

5.3.3 Plan and check the travel path to avoid personnel and obstructions.

5.3.4 Lift the load only high enough to clear the tallest obstruction in the travel path.

5.3.5 Start and stop slowly.

5.3.6 Land the load when the move is finished. Choose a safe landing.

5.3.7 Never leave suspended loads unattended. In an emergency where the crane or hoist has become inoperative and a load must be left suspended, barricade and post signs in the surrounding area, under the load and on all four sides. Lock open and tag the crane or hoist's main electrical disconnect switch.

5.3.8 All employees shall be kept clear of loads about to be lifted and of suspended loads. Additional safety measures will be used when the equipment has the potential to strike and injure an employee or pinch/crush an employee against any other object. Barricades, railings, warning lines, spotters, or similar strategies will be used to keep personnel clear of the load, crane, swing radius, etc.

5.3.9 Whenever there is a safety concern, the operator will have the authority to stop and refuse to handle loads until a qualified person has determined that safety has been assured

6.0 CRANE SAFETY:

Note: *All tests and inspections shall be conducted in accordance with the manufacturer's recommendations.*

6.1 **Daily Inspections (before use)** – A competent person (ex. trained operator) shall inspect the crane or hoist daily or before each use (for cranes or hoists that are not used daily). Components that have a direct bearing on the safety of the crane, and whose status can change from day to day with use, must be inspected daily and when possible, observed during operation for any defects that could affect safe operation. Safety devices are required to be on all equipment and must be in proper working order before operations begin. If any of the devices are not in proper working order the equipment must be taken out of service and operations must not resume until the device is working properly again. Examples of safety devices may include: crane level indicator, boom stops, jib stops, foot pedal brake locks, horns, etc. Daily inspections should include, but are not limited to the following:

6.1.1 MOBILE TRUCK CRANES

6.1.1.1 Check that all exposed moving parts are guarded. A removed guard may indicate that a mechanic is still working on part of the crane.

6.1.1.2 Visually inspect each component of the crane used in lifting, swinging, or lowering the load or boom for any defects that might result in unsafe operation.

6.1.1.3 Inspect all wire rope (including standing ropes), sheaves, drums rigging, hardware, and attachments. Important: Any hook that is deformed or cracked must be removed from service. Hooks with cracks, excessive throat openings of 15%, or hook twists of 10 degrees or more must be removed from service.

6.1.1.4 Check for freedom of rotation of all swivels.

6.1.1.5 Visually inspect the boom for straightness and any evidence of physical damage, such as cracking, bending, or any other deformation of the welds.

6.1.1.6 Inspect tires for cuts, tears, breaks and proper inflation.

6.1.1.7 Visually inspect the crane for fluid leaks, both air and hydraulic.

6.1.1.8 Visually check that the crane is properly lubricated. The fuel, lubricating oil, coolant and hydraulic oil reservoirs should be filled to proper levels.

6.1.1.9 Check that the crane is equipped with a fully charged fire extinguisher of 5BC rating, or higher.

6.1.1.10 Check all functional operating mechanisms such as sheaves, drums, brakes, locking mechanisms, hooks, boom, hook roller brackets, outrigger components, limit switches, safety devices, hydraulic cylinders, instruments, and lights.

6.1.1.11 Check the turntable connections for weld cracks and loose or missing bolts. If they are loose, there is a good chance that they have been stretched.

6.1.1.12 When checking the outriggers be sure that neither the beams nor the cylinders are distorted. Check that the welds are not cracked and that both the beams and cylinders extend and retract smoothly and hold the load. Check the condition of the floats, and check that they are securely attached.

6.1.1.13 Inspect and test all brakes and clutches for proper adjustment and operation.

6.1.1.14 Always inspect boom hoist lockout and other operator aids, such as anti-two-block devices (ATB) and load moment indicators (LMI), for proper operation and calibration.

6.1.1.15 Check all gauges and warning lights for proper readings and operate all controls to see that they are functioning properly.

6.1.1.16 Check for any broken or cracked glass that may affect the view of the operator.

6.1.1.17 Inspect the work environment and ground conditions (looking for potential hazards).

6.2 **Monthly Inspections** - The monthly inspection is intended to determine the need for repair or replacement of components to keep the machine in proper operating condition. This inspection is performed by a competent person and includes those items listed for daily inspections as well as, but not limited to, structural defects, excessive wear and hydraulic or air leaks.

6.2.1 These documented inspections should include the date of inspection, the signature of the person who performed the inspection and the serial number, or other identifier. This inspection record should be kept readily available for review. The manufacturer's maintenance and inspection records, forms/checklist or equivalent should be used.

6.2.2 Note: if the crane is a rental unit, ensure that a current monthly inspection can be found.

6.3 **Annual Inspection and Certification** - The Responsible Safety Representative shall schedule and supervise the annual inspection and certification of all cranes and hoists. A manufacturer representative or an authorized vendor shall inspect each crane or hoist annually. A certificate of the annual inspection, including the dates and results of the inspection for each piece of equipment, shall be retained. Note: if the crane is a rental unit, ensure that a current annual inspection/certification record can be found.

6.4 CRAWLER, TRUCK, OR LOCOMOTIVE CRANES

6.4.1 All crawler, truck, or locomotive cranes in use shall meet the applicable requirements for design, inspection, construction, testing, maintenance and operation as prescribed in the ANSI B30.5-1968, Safety Code for Crawler, Locomotive and Truck Cranes.

6.4.2 Employers shall prepare a certification record which includes the date the crane items were inspected; the signature of the person who inspected the crane items; and a serial number, or other identifier, for the crane inspected.

7.0 RIGGING SAFETY:

7.1 **General Rigging Safety Requirements -** Only select rigging equipment that is in good condition. A competent person shall inspect all rigging equipment for material handling prior to use on each shift and as necessary to ensure it is safe. Additionally, a thorough documented inspection shall be conducted at least annually.

7.1.1 Defective equipment is to be removed from service and destroyed to prevent inadvertent reuse. Slings shall have appropriate test data when purchased. It is the responsibility of the purchaser to ensure that the appropriate test data are obtained and maintained. The load capacity limits shall be stamped or affixed to all rigging components. The following types of slings shall be rejected or destroyed:

7.1.1.1 Nylon slings with abnormal wear, torn stitching, broken or cut fibers, discoloration or deterioration.

7.1.1.2 Wire-rope slings with kinking, crushing, bird caging or other distortions; evidence of heat damage; cracks, deformation, or worn end attachments; six randomly broken wires in a single rope lay; three broken wires in one strand of rope;

hooks opened more than 15% at the throat; or hooks twisted sideways more than 10 deg. from the plane of the unbent hook.

7.1.1.3 Alloy steel chain slings with cracked, bent, or elongated links or components; cracked hooks; shackles, eyebolts, turnbuckles, or other components that are damaged or deformed.

7.1.2 Rigging equipment shall be properly stored and not in areas where they can be damaged or abused. Store nylon slings in cabinets or inside buildings as direct sunlight can weaken nylon.

7.1.2.1 When NOT in use rigging equipment not in use shall be removed from the immediate work area so as not to present a hazard to employees.

7.1.3 Rigging equipment shall not be loaded beyond its recommended safe working load and load identification shall be attached to the rigging.

7.1.4 Rigging a Load - when rigging a load:

7.1.4.1 Determine the weight of the load. Do not guess.

7.1.4.2 Determine the proper size for slings and components.

7.1.4.3 Do not use manila rope for rigging.

7.1.4.4 Make sure that shackle pins and shouldered eyebolts are installed in accordance with the manufacturer's recommendations.

7.1.4.5 Make sure that ordinary (shoulder less) eyebolts are threaded in at least 1.5 times the bolt diameter.

7.1.4.6 Use safety hoist rings (swivel eyes) as a preferred substitute for eye bolts wherever possible.

7.1.4.7 Pad sharp edges to protect slings. Remember that machinery foundations or angle-iron edges may not feel sharp to the touch but could cut into rigging when under several tons of load. Wood, tire rubber, or other pliable materials may be suitable for padding.

7.1.4.8 Do not use slings, eyebolts, shackles, or hooks that have been cut, welded, or brazed.

7.1.4.9 Install wire-rope clips with the base only on the live end and the U-bolt only on the dead end. Follow the manufacturer's recommendations for the spacing for each specific wire size.

7.1.4.10 Determine the center of gravity and balance the load before moving it.

7.1.4.11 Initially lift the load only a few inches to test the rigging and balance. Inspect the rigging for proper positioning.

8.0 TRAINING:

8.1 Crane and hoist operators shall be specifically trained in crane and hoist operations and equipment safety. Only those employees qualified by training or experience shall be allowed to operate equipment and machinery. Additionally, all crane and hoist operators shall be trained on this safety program. Within 4 years of November 8th 2010, employers must ensure operators be qualified/certified by one of the following methods:

8.1.1 Certification by an accredited crane operator testing organization

8.1.2 Qualification by an audited employer program

8.1.3 Qualification by the U.S. military

8.1.4 Licensing by a government entity

8.2 Re-training or additional training shall be provided to the operator when:

8.2.1 The operator has been observed to operate the crane or hoist in an unsafe manner;

8.2.2 The operator has been involved in an accident or near-miss incident;

8.2.3 The operator is assigned to operate a different type of crane or hoist; or

8.2.4 A condition in the workplace changes in a manner that could affect the safe operation of the crane or hoist.

8.3 All employees who work around cranes or hoists and employees who perform rigging shall be trained on this program. A record shall be maintained for each training session.

9.0 RECORDKEEPING:

9.1 Training records shall be maintained at the Kuesel Group main office in O'Fallon, MO, including a copy of the employees training certificate for all employees who will operate a crane or hoist.

9.2 Training records shall be maintained at the Kuesel Group main office in O'Fallon, MO, for employees who work around cranes or hoists and for employees who perform rigging.

9.3 The Departmental Managers shall maintain the following records for cranes and/or hoists under their control:

9.3.1 All monthly inspection records for all cranes and hoists. Records shall be maintained for 1 year.

9.3.2 The annual certification documentation

9.3.3 Annual inspection documentation for rigging

10.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 41 Powered Industrial Trucks

1.0 PURPOSE:

1.1 The purpose of this program is to establish guidelines for selecting and training powered industrial truck operators. This program will ensure that all operators are trained in the proper use and safe operation of the equipment.

2.0 SCOPE:

2.1 This program applies to all employees that are required to operate a powered industrial truck for The Kuesel Group.

3.0 REFERENCES:

3.1 OSHA 29 CFR 1910.178 Powered Industrial Trucks

4.0 REQUIREMENTS:

4.1 Powered industrial truck (PIT) operators will follow all general safety rules set forth by the company. The Safety Representative and/or other qualified and knowledgeable personnel will provide PIT training. The training will follow the guidelines outlined in Operator Training Program (Appendix A)

4.2 Selection of operators:

4.2.1 In order for an employee to be considered, an operator of a powered industrial truck, which includes forklifts, pallet jacks, (defined in ANSI 56.1), the employee must first meet the criteria listed below:

4.2.1.1 The employee cannot have received a disciplinary write-up within the past six months relating to safety.

4.2.1.2 The employee must pass a vision test with a 20/32 rating with or without corrective lenses. If corrective eyewear is required for operation, the license shall indicate the need.

4.2.1.3 If the above are not satisfactorily met, then the employee cannot be considered as a candidate for the PIT training.

4.3 Operator requirements:

4.3.1 Must have successfully completed the PIT training program.

4.3.2 Must have a valid license/certification on file with employer at all times.

4.3.3 Must wear required personal protective equipment at all times.

4.3.4 Must be evaluated (Appendix B) and retrained at least every three years, as outlined in the training section.

4.4 Operator Training:

4.4.1 The operator shall be made familiar with the PIT.

4.4.2 The operator shall be instructed on the fundamental rules and regulation governing the safe operation of the equipment.

4.4.3 The operator shall have successfully passed a written examination (Appendix E) with an overall score of 75%.

4.4.4 The operator shall have successfully passed a hands-on driving test on a planned course.

4.5 Discipline:

4.5.1 If any operator is operating a PIT in a negligent manner, or is violating a policy requirement, the following disciplinary procedures need to be administered. Discipline will be administered by the employee's supervisor. In the absence of the supervisor, the Human Resource Manager will be responsible to see that the discipline is administered in a fair and consistent manner.

4.5.2 If the act is considered to be "Non-Gross Negligence" then the following disciplinary procedure will apply:

4.5.2.1 First occurrence within any consecutive twelve (12) month period: Written Warning.

4.5.2.2 Second occurrence within any twelve (12) month period: One Day Suspension.

4.5.2.3 Third occurrence within any twelve (12) month period: Dismissal.

4.5.3 Examples of acts that are considered to be "Non-Gross Negligence" include, but are not limited to:

4.5.3.1 Operator not completing the pre-shift inspection checklist

4.5.3.2 Operator not wearing proper personal protective equipment

4.5.3.3 Storing items in the battery compartment

4.5.3.4 Traveling with the forks raised, inappropriately.

4.5.3.5 Improperly parking the PIT

4.5.3.6 Not sounding horn in designated areas

4.5.4 Non-Gross Negligence violations are not as serious in nature as “Gross Negligence”; however, if violations are left unattended, they could develop into violations that are more serious and result in possible injuries.

4.6 If the act is considered to be “Gross Negligence”, the violation shall be treated as an extraordinary offense and the following disciplinary procedure will apply:

4.6.1 The first occurrence within a twelve (12) month period: 1-3 day(s) suspension and a review of the PIT program.

4.6.2 The second occurrence within a twelve (12) month period: immediate dismissal.

4.6.3 Examples of acts that are considered to be “Gross Negligence” include, but are not limited to:

4.6.3.1 Stunt driving or horseplay with a PIT

4.6.3.2 Recklessly operating a lift truck near employees

4.6.3.3 Carrying unauthorized passengers

4.6.3.4 Using a PIT for purposes other than its designed use.

4.6.4 “Gross Negligence” violations are more serious in nature than “Non-Gross Negligence” violations due to the seriousness of the act. Gross negligence violations are more likely to cause injury or harm to the operator or another employee. Thus they should be disciplined in a more severe manner.

4.7 Incident Investigation:

4.7.1 In order to determine and eliminate the causes of PIT incidents, each incident involving a PIT shall be investigated by the supervisor at the time of the incident. The safety representative or Human Resources will assist in the investigation, if needed. The following procedures will apply:

4.7.1.1 The operator’s license will be suspended for a period of up to three months pending the investigation of the incident.

4.7.1.2 The investigation of the incident will be classified into three categories. The three categories will determine the severity of the discipline.

4.7.1.2.1 Non-Preventable: the investigation determined the operator was free of fault and no disciplinary action will be taken.

4.7.1.2.2 Contributory: the investigation determined the operator was at fault to some degree. The severity will be determined according to the company disciplinary program.

4.7.1.2.3 Preventable: the investigation determined the operator was completely at fault. The severity of the discipline will be determined by the supervisor and Human Resources.

4.8 Refresher Training:

4.8.1 Any PIT operator shall receive refresher training in relevant topics when any of the following occur:

4.8.1.1 Operator has been observed operating a vehicle in an unsafe manner, or has violated the Powered Industrial Truck General Operating Guidelines (Appendix D).

4.8.1.2 Operator has been involved in an incident or near-miss.

4.8.1.3 The operator has received an evaluation that reveals that the operator is not operating the lift safely.

4.8.1.4 The operator is assigned to drive a different type of truck.

4.8.1.5 A condition in the workplace changes in a manner that could affect the safe operation of the equipment.

4.9 Powered Industrial Truck Requirements:

4.9.1 Approved trucks shall bear a label or some mark indicating the approval of the testing laboratory.

4.9.2 All trucks shall be equipped with the required nameplate and marking in a legible manner.

4.9.3 Modifications and additions which affect the capacity and safe operation of the PIT shall not be performed.

4.9.4 The atmosphere or location shall have been classified as to whether it is hazardous or non-hazardous prior to the consideration of the PIT used therein.

4.9.5 The brakes of highway trucks shall be set and wheel chocks placed under the rear wheels to prevent the truck or trailer from moving while they are being boarded with a PIT. The floor of the trailer will be inspected for cracks or weaknesses prior to being loaded.

4.9.6 Only trained and authorized personnel shall be permitted to make repairs. No repairs will be made in a hazardous atmosphere.

4.9.7 Repairs to fuel and ignition systems shall not be conducted in areas which pose a fire hazard.

4.9.8 All electrical repairs shall be conducted with the battery or power source being disconnected.

4.9.9 All parts requiring replacement shall be replaced by parts equivalent to the safety of those parts used in the original design.

4.10 Changing and Charging Batteries:

4.10.1 It is the responsibility of each operator to ensure that the battery for their PIT has an adequate charge. The following guidelines shall be followed:

4.10.1.1 Battery charging stations shall be located in areas designed for that purpose.

4.10.1.2 Facilities shall be provided for flushing and neutralizing spilled electrolyte, for fire protection, protecting charging apparatus from damage by trucks and for adequate ventilation for dispersal of fumes from gassing batteries.

4.10.1.3 A conveyor, overhead hoist or equivalent material handling equipment shall be provided for handling batteries.

4.10.1.4 Re-installed batteries shall be properly positioned and secured in the truck.

4.10.1.5 A carboy filter or siphon shall be provided for handling electrolyte.

4.10.1.6 When changing batteries, acid shall be poured into water; water shall not be poured into acid.

4.10.1.7 Trucks shall be properly positioned and the brake applied before attempting to change or charge batteries.

4.10.1.8 Care shall be taken to ensure that the vent caps are operating properly.

4.10.1.9 Smoking is prohibited in the battery charging areas.

4.10.1.10 Tools and other metallic objects shall not be stored or put into contact with the top of uncovered batteries.

4.11 LP Gas

4.11.1 It is the responsibility of each operator to follow these guidelines whenever refueling a lift truck with LP gas.

4.11.2 The operator is not allowed to be on the truck during replacement of tank.

4.11.3 Before refilling, inspect for the following defects and remove from service if any of the following are found:

4.11.3.1 Dents, scrapes, and gouges of the vessel

4.11.3.2 Damage to the valves, gauges and hoses

4.11.3.3 Debris in the relief valve

4.11.3.4 Damage to the relief valve cap

4.11.3.5 Leakage at the valves and threaded connections

4.11.3.6 Damage to or loss of flexible seals

4.11.3.7 Wear gloves and goggles when changing tanks to protect against the cold of escaping gas.

5.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials
9/26/19	Remove Drug Testing Requirement – Included w/ Union Consortium	314	KTK
9/26/19	4.3.2 Changed wording – license/certification on file	314	KTK

1.0 OPERATOR TRAINING PROGRAM:

1.1 General Principles

1.1.1 Rear wheel steering

1.1.1.1 Allows for sharp turns

1.1.1.2 Wide clearance is needed during turns because of truck rear end swing

1.1.2 Stability

1.1.2.1 Counterbalance mechanism

1.1.2.1.1 Truck balance is similar to a teeter-totter

1.1.2.1.2 Heavy weight in the back of the truck is designed to balance the truck while loaded at the stated capacity

1.1.2.1.3 Loading the truck beyond its capacity will result in forward tipping.

1.1.2.1.4 Adding to the counterweight (rear) of the truck may stress the machinery beyond its operational limits.

1.1.2.2 Effects of load weight

1.1.2.2.1 Exceeding the capacity of the truck will result in turnover – Do not exceed the truck's stated capacity.

1.1.2.2.2 Turnover may result if the load's weight is not centered on the forks – center the weight of the load on the forks.

1.1.2.3 Effects of load distance from mast

1.1.2.3.1 The effective weight of the load is increased the farther forward it is placed on the forks – place the load against the mast to prevent forward tipping.

1.1.2.4 Effects of stacking at height

1.1.2.4.1 The small wheel base of lift trucks results in instability as loads are raised above the truck – operate the mast within the vertical limits of the model of the truck used.

1.1.2.5 Effects of traveling with a load

1.1.2.5.1 A raised load can tip the truck forward, while a lowered load adds to truck stability – raise loads only when stacking and un-stacking.

1.1.2.5.2 At all other times, lower the load between three and six inches from the floor.

1.1.2.6 Effects of vehicle turning

1.1.2.6.1 The force of the load will shift to the outside of the turning direction

1.1.2.6.2 The force of the load increases with vehicle speed

1.1.2.6.3 The small wheelbase of the truck makes vehicles unstable during turns

1.1.2.6.4 Turn vehicle at slowest possible speed to avoid tipping the vehicle.

1.1.2.7 Effects of vehicle stopping

1.1.2.7.1 Sudden stops can result in the load moving forward on the forks

1.1.2.7.1.1 Load could fall off of the forks and present a hazard to other workers.

1.1.2.7.1.2 Truck could tip forward from forward shift of the load weight.

1.1.2.7.2 Stopping distance is affected by the weight of the load; the heavier the load, the longer distance required to stop the truck.

1.1.2.7.3 Travel slowly so that sudden stops do not result in load movement

1.1.2.8 Effects of empty vehicle movement

1.1.2.8.1 Because it is designed to be stable only when loaded to capacity, the truck is unstable when empty or less than fully loaded

1.1.2.8.2 Turning an empty truck too fast may result in turnover

1.1.2.8.3 Travel slowly with an empty truck, especially on turns

1.1.3 Tip over

1.1.3.1 Causes

1.1.3.1.1 Overloading

1.1.3.1.2 Traveling with load elevated

1.1.3.1.3 Braking too quickly while turning

1.1.3.1.4 Accelerating too quickly while turning

1.1.3.1.5 Off-center loading

1.1.3.1.6 Uneven surface

1.1.3.1.7 Speeding

1.1.3.2 Early symptoms

1.1.3.2.1 Tire skidding

1.1.3.2.2 Truck side sway

1.1.3.2.3 Wheel lift

1.1.3.3 What to do

1.1.3.3.1 Hold on firmly to steering wheel to avoid falling from operator compartment

1.1.3.3.2 Lean away from the direction of the fall

1.1.4 Visibility with load restrictions

1.1.4.1 To avoid contacting other workers and equipment, travel only in the direction in which visibility is unobstructed

1.1.4.2 Use all available mirrors on the vehicle and posted in the workplace to avoid collisions

1.1.4.3 Always look in the direction of travel, even if this means turning backwards

1.1.5 Summary of lift truck differences from an automobile

1.1.5.1 Lift trucks are usually heavier and smaller than an automobile

1.1.5.2 Lift trucks are not designed to absorb the shock of uneven floor surfaces

1.1.5.3 When carrying a load, lift truck driver visibility is restricted more than in an automobile

1.1.5.4 Lift trucks are tipped over more easily than cars because of the narrow wheelbase and higher center of gravity

1.1.5.5 Both ends of a lift truck swing while turning

1.1.5.6 Lift trucks steer more easily with a load whereas automobiles steer more easily unloaded

1.1.5.7 Battery-powered lift trucks are less likely to be heard by pedestrians than automobile engines

1.1.5.8 Lift truck steering control can be reduced by overloading because the rear wheels may not have continuous contact with the driving surface

1.1.5.9 Lift trucks share the “road” with pedestrians, whereas automobiles are separated from pedestrians in most cases

1.1.5.10 Lift truck loads are less secure and may be wider than the vehicle

2.0 General Operating Rules

2.1 Before operating lift truck each shift shall:

2.1.1 Complete vehicle inspection (Documentation in Appendix C)

2.1.1.1 Nameplate on the truck is legible

2.1.1.2 Nameplate lists the weight of truck and any attachments

2.1.1.3 Condition

2.1.1.3.1 Tires (inflated, if pneumatic)

2.1.1.3.2 Battery

2.1.1.3.3 Chains and cables

2.1.1.3.4 Fuel system(s)

2.1.1.4 Functional

2.1.1.4.1 Warning and safety devices

2.1.1.4.2 Lights

2.1.1.4.3 Controls

2.1.1.4.4 Load and tilt systems

2.1.1.4.5 Attachments

2.1.1.4.6 Limit switches

2.1.1.4.7 Brakes

2.1.1.4.8 Steering mechanism

2.1.1.5 Any other item required by the manufacturer

2.1.2 No truck may be operated if it is in need of repair or in any way unsafe

2.1.3 Place directional controls in neutral

2.1.4 Before starting engine / turning truck on

2.1.4.1 Manual transmission - disengage clutch

2.1.4.2 Automatic transmission - apply and hold brake

2.1.4.3 Be in operator's position, only

2.2 While driving

2.2.1 Keep hands, feet, and entire body in operator's compartment

2.2.2 Safeguard pedestrians at all times

2.2.2.1 Do not approach a pedestrian who is against an object

2.2.2.2 Consider vehicle swing clearance when turning

2.2.2.3 Expect pedestrians at intersections, doorways, and other paths of travel

2.2.2.4 Do not allow anyone to pass under the elevated portion of the truck, whether empty or loaded

2.2.2.5 Yield to pedestrians regardless of location

2.2.3 Do not allow riders unless the truck is designed for that use

2.2.4 Travel on the right side

2.2.5 Yield the right of way to emergency vehicles

2.2.6 Allow at least three (3) truck lengths between your vehicle and one that you are following to allow for adequate stopping distance and response time

2.2.7 Remove obstacles that could cause a turnover

2.2.8 At intersections or anywhere side vision is obstructed

2.2.8.1 Slow down

2.2.8.2 Sound the horn

2.2.8.3 Do not pass another truck or other object

2.2.9 On slopes of greater than five (5) percent grade

2.2.9.1 If loaded, travel with the load upgrade

2.2.9.2 Lower forks to lowest feasible level

2.2.9.3 Avoid turning

2.2.10 Lower forks to the lowest feasible distance from the floor to maintain stability

2.2.11 Perform starts, stops, and direction changes smoothly to avoid truck turnover or load upset

2.2.12 No horseplay or stunt driving

2.3 Before leaving the operator's position

2.3.1 Stop the truck

2.3.2 Place directional controls in neutral

2.3.3 Apply the parking brake

2.3.4 Lower the elevated portion of the truck

2.4 Before leaving the truck "unattended" (more than 25 feet away or out of sight)

2.4.1 Follow steps for "leaving the operator's position" above

2.4.2 Stop the engine / turn truck off

2.4.3 Block wheels if truck is on an incline

2.5 Loading securely

2.5.1 Before handling chemicals, learn how to respond to a spill. Refer to the Material Safety Data Sheet and discuss with the supervisor. Do not handle chemicals without knowing what to do in the event of a spill.

2.5.2 Center (side to side) load on forks

2.5.3 Place load as far back as possible on the forks - at least 2/3 of the load must be supported by the forks

2.5.4 Block unstable loads to prevent load movement while stopping

2.5.5 Tilt mast backwards to secure the load, but only enough to secure the load

2.6 Traveling over non-floor surfaces (dock plates, truck trailers, box cars, elevators, etc.)

2.6.1 All driving surfaces must have the capacity to support the weight of the truck and its load

2.6.2 Remove obstacles that could cause a turnover

2.6.3 Follow the rules of the road

2.6.4 Dock plates

2.6.4.1 Check plate capacity before using to assure the weight of the truck and its load are within limits

2.6.4.2 Assure plate is secured before using

2.6.4.3 Slow down when crossing dock plates

2.6.5 Highway truck trailers

2.6.5.1 Before entering with the lift truck

2.6.5.1.1 Chock trailer wheels at one (1) or more places or use other positive mechanical means to prevent trailer movement

2.6.5.1.2 Assure the tractor's brakes are applied, if the tractor is attached to the trailer

2.6.5.1.3 Verify supports are used to hold the trailer in position if the tractor is not connected to the trailer

2.6.5.1.4 Secure the dock plate

2.7 Stacking

2.7.1 Stack loads securely to prevent stack collapse

2.7.2 Do not block emergency exit routes, exit doors, firefighting equipment access, or any other emergency equipment with a load

2.7.3 Do not place drums of hazardous material above floor level, because of the possibility of leakage if the drum is damaged during handling. Leaking drums could harm the lift truck operator and passers-by.

2.7.4 Do not store incompatible chemicals near each other. Check the MSDS to learn if the substance that needs to be stored should be separated from other chemicals.

2.7.5 Do not block marked aisles with a load

2.8 Elevating personnel

2.8.1 No personnel will be lifted utilizing a forklift. A man lift designed for this purpose shall be used.

2.9 Power plant operation and maintenance

2.9.1 No smoking during refueling, recharging, or fluid level checking activities or in any area where such activities ever occur

2.9.2 Park vehicle, turn off ignition, and set parking brake prior to servicing

2.9.3 Refueling (liquid fuel systems)

2.9.3.1 Driver is not allowed to be on the truck during fueling

2.9.3.2 Spilled fuel must be cleaned and the fuel cap must be replaced before restarting engine

2.9.3.3 LP-Gas

2.9.3.3.1 Before refilling, inspect for the following defects, and remove from service if any are found

2.9.3.3.1.1 Dents, scrapes, & gouges of the vessel

2.9.3.3.1.2 Damage to the valves, gauges, & hoses

2.9.3.3.1.3 Debris in the relief valve

2.9.3.3.1.4 Damage to the relieve valve cap

2.9.3.3.1.5 Leakage at the valves and threaded connections

2.9.3.3.1.6 Damage to or loss of flexible seals

2.9.3.3.2 Wear gloves and goggles when changing tanks to protect against the cold of escaping gas

2.9.3.4 Recharging

2.9.3.4.1 No tools or other metal objects are allowed near the tops of uncovered batteries because of the arc that could occur between the battery terminals

2.9.3.4.2 Do not stack batteries

2.9.3.4.3 Know how to use charging area safety equipment

2.9.3.4.3.1 Emergency eyewash

2.9.3.4.3.1.1 Hold eyes open during flushing

2.9.3.4.3.1.2 Flush for at least 15 minutes

2.9.3.4.3.2 Electrolyte flushing equipment

2.9.3.4.3.3 Fire extinguishers

2.9.3.4.3.4 Overhead hoist

2.9.3.4.4 Before installing a battery, assure that its service weight is within the weight limits mentioned on the nameplate to avoid truck instability

2.9.3.4.5 Turn off charger prior to connecting to a battery

2.9.3.4.6 Utilize overhead hoist to move battery into and out of vehicle

2.9.3.4.7 Assure battery compartment cover is left open during charging to allow heat to escape

2.9.3.4.8 Wear goggles, face shield, rubber gloves, and a rubber apron when performing work that involves opening the battery caps

3.0 Truck-Specific Information from the Operator's Manual and Truck Manufacturer

3.1 Operating instructions

3.1.1 Warnings and precautions from operator's manual

3.1.2 Controls and instrumentation

3.2 Power plant operation and maintenance

3.3 Weights

3.3.1 Load capacity of truck / forks / attachments

3.3.2 Total weight of truck with load

4.0 Workplace-Specific Information, as applicable

4.1 Expected surface conditions

4.2 Composition of probable loads and resulting stability

4.3 Load movement, stacking, and un-stacking procedures

4.4 Anticipated pedestrian traffic

4.5 Restricted places of operation

4.6 Hazardous classified location operations (Note: This program does not cover hazardous locations.)

4.7 Sloped surface locations

4.8 Confined areas and carbon monoxide / diesel exhaust

4.9 Other workplace conditions

Complete this form for each lift truck operator after training and at least annually.

Date: _____/_____/_____ Type of Equipment: _____

Name and Signature of Observer:_____

(Printed Name) (Signature)

Name of Lift Truck Operator: _____

Observe the operator until each of the below conditions has been observed and judged to be safe or unsafe.

Condition	Safe	Unsafe	Comment
Operator maintains truck stability			
Loads are secure during handling			
Operator yields to pedestrians at all times			
Forks lowered while driving			
Drives in direction of greatest visibility			
Speed is appropriate for conditions			
Vehicle inspected every shift by operator			
Operator maintains clearance while turning			
Acceleration is gradual			
Loads are stacked securely			
Loads handled are within truck's capacity			
Truck used for intended purposes, only			
Other			
Other			
Other			
Other			
Other			

If operator always operates the lift truck safely, check here: _____

If any unsafe behavior is observed, check here: _____

Unsafe behavior is defined as conduct that does not conform to the Lift Truck Operator Training Program or the recommendations of the lift truck or attachment manufacturer. When unsafe behavior is identified, retraining shall be provided to that operator. This record shall be attached to the training record of that retraining session.

PRE-USE INSPECTION RECORD

Complete this form before operating a lift truck each work shift

Date: _____/_____/_____ Time: _____:_____ am/pm

Operator Name: _____

(Printed Name) (Signature)

Yes	No	
[]	[]	Nameplate on the truck is legible
[]	[]	Nameplate lists the weight of truck (and attachments, if applicable)
[]	[]	Tires in good condition (inflated, if pneumatic)
[]	[]	Battery connections, caps, and case in good condition
[]	[]	Chains and cables not cracked or frayed
[]	[]	Fuel system(s) components in good condition
[]	[]	Warning and safety devices functional (horn)
[]	[]	Lights functional
[]	[]	Controls functional
[]	[]	Load and tilt systems functional *(Test full range of motion)*
[]	[]	Attachments functional *(Test full range of motion)*
[]	[]	Limit switches functional
[]	[]	Brakes functional
[]	[]	Steering mechanism functional *(Test full range of motion)*
[]	[]	_____ functional (required by the manufacturer)

No truck may be operated if it is in need of repair or in any way unsafe

Retain this record for at least three (3) months from the date of completion

Powered Industrial Lift Truck General Operating Guidelines

1 Only trained and authorized employees may operate any powered industrial lift truck

2 Any truck that is not in a safe operating condition shall be removed from service immediately.

3 Only authorized personnel shall make any repair(s) to the equipment.

4 Trucks shall not be driven up to anyone standing in front of a stationary object, such as a bench.

5 No person shall be allowed to pass under the elevated portion of the truck, either loaded or unloaded. If this is necessary for repair purposes then the elevated portion of the truck shall be properly chocked or blocked to prevent movement.

6 Unauthorized personnel shall not be permitted to ride on any powered industrial lift truck. Only the operator is permitted to be on the equipment.

7 Arms and legs shall be kept within the confines of the truck at all times.

8 When a powered industrial lift truck is unattended or the operator has dismounted, the load engaging means shall be fully lowered, the controls neutralized, power shut-off and the brakes set.

a. A lift is considered unattended when:

i. The operator is dismounted and is 25 feet or more away and the equipment is in view.

ii. When the operator leaves the truck and it is not in view.

9 A safe distance shall be maintained from the edge of ramps or platforms while on any elevated portion of a dock. Trucks will not be used to open or close any freight door.

10 There shall be sufficient overhead clearance from sprinklers, ammonia lines, lights, etc. when using high lift powered industrial lift trucks.

11 Fire aisles, access to stairways, eyewash stations and fire equipment shall be kept clear and free of obstructions at all times.

12 All lifts shall be inspected prior to each shift by the operator. Any lift found to be defective shall not be placed into service. The lift must be taken to the forklift repair shop immediately.

13 Lifts will NEVER be used to elevate personnel.

14 All traffic regulations shall be observed at all times.

15 A safe distance of three (3) truck lengths shall be maintained at all times from a lift truck in front.

16 The right of way shall ALWAYS be given to pedestrians and other vehicles.

17 Other lifts traveling in the same direction at intersections, blind spots or other dangerous locations shall not be passed.

18 The operator is required to SLOW DOWN and sound horn at cross aisles and other locations where vision is obstructed.

19 If the load being carried obstructs the forward view, the operator is required to travel with the load trailing.

20 The operator is required to look in the direction of travel at all times.

21 All grades and ramps shall be ascended or descended slowly.

22 When ascending or descending grades or ramps the following is to be followed:

a. When empty, travel reverse up and forward down

b. When loaded, travel forward up and reverse down

c. Never turn on a ramp or grade

23 Under normal conditions the lift shall always be operated at a speed that will allow the lift to be stopped in a safe manner.

24 The operator shall slow down on wet or slippery floor conditions.

25 Stunt driving and horseplay are not permitted.

26 Dock boards and bridge plates shall be securely in place and driven over slowly and carefully. Never exceed the rated capacity. Trailer floors shall be inspected for cracks or weakness prior to be loaded.

27 Running over loose objects on the roadway surface will be avoided.

28 While negotiating turns, speed shall be reduced.

29 Only loads within the rated capacity of the truck will be handled.

30 Loads shall be stable and secure on the truck before being handled.

31 The forks of a lift shall be less than 6 inches from the floor when traveling.

Powered Industrial Lift Truck (Pallet Jack) General Operating Guidelines

1 When walking, keep to the side of the truck while traveling with the unit trailing. Make certain the unit will not strike the back of your leg or foot.

2 If traveling forks first, keep both hands on the control handle and be careful when changing directions of travel. Keep feet clear of the truck.

3 When riding (walker/rider), keep your hands on the controls and feet on the platform. Keep your body within the operator area.

4 Never stick your foot or any body part outside the truck, no matter how slow you are traveling.

5 Stay away from edge of docks and ramps.

6 Keep your truck under control at all times. Drive at a speed that allows you to stop safely. Be even more careful on slippery or uneven surfaces.

7 Do not drive over objects on the floor.

8 Perform all truck movements smoothly and at a speed that will allow you time to react in an emergency.

9 Look where you are driving, you could be pinned or crushed by objects that may intrude into the operator area.

10 Always be alert to the area around you and watch where you are driving at all times.

11 Keep your hands and feet away from all moving parts such as wheels and forks.

12 NEVER, allow a passenger on a truck

13 Before you leave your truck

   a. Come to a complete stop

   b. Lower the forks to the ground

   c. Shut off truck

14 Do not exceed the capacity of your truck

15 Do not handle unstable loads

16 Be careful while traveling forks first. The truck will swing wide in the opposite direction.

17 Slow down for spills or wet floors

POWERED INDUSTRIAL TRUCK OPERATOR WRITTEN TEST

Name of Trainee: _____ Date: _____/_____/_____

1. T F An operator of a lift truck should never drive up to an employee standing in front of a fixed object

2. T F You may give a fellow employee a ride for a short distance.

3. T F A lift is similar to an automobile in that the driver is required to wear a seat belt at all times.

4. T F Trucks and trailers must have at least one (1) wheel blocked or restrained by other mechanical means when being boarded by a rider-type powered industrial truck.

5. T F When following another truck, you should maintain at least three (3) truck lengths following distance.

6. T F You may turn on an incline as long as you go slowly.

7. T F When the load blocks your forward visibility, stand up and drive slowly.

8. T F The engine does not have to be turned off if you leave the truck for less than five minutes.

9. T F When loading, the load should be tilted against the backrest.

10. T F It is acceptable to stack material in an exit aisle if there are other aisles an employee can use.

11. T F To increase the amount of weight your truck can lift, add more weight to the back of the truck.

12. T F Rear wheel steering means the rear of the lift truck swings less than a car while turning.

13. T F Accelerating quickly while turning may result in a turnover.

14. T F Applying the parking brake while lifting personnel is necessary only when parked on an incline.

15. T F A lift truck is most stable while carrying a load.

16. T F If a load blocks forward visibility, raise the load before driving forward.

17. T F The forks of the truck will support a capacity load regardless of how much of the fork length is under the load.

18. T F Because of the weight of the truck, loose items on the driving surface and uneven floor surfaces do not affect truck stability.

19. T F If an unsafe condition is detected during the pre-use inspection of the lift truck, note the condition on the inspection form and contact maintenance after your shift.

20. T F If the rear wheels lift off of the ground that may indicate the truck is overloaded.

Select the answer which is most correct:

21. Regarding the right-of-way, trucks

    a. cannot stop as quickly as pedestrians, and, therefore have the right-of-way

    b. must always yield to pedestrians

    c. have the right-of-way whenever the horn is sounded

22. Before loading or unloading truck trailers

    a. decide how fast to drive the lift truck to jump the gap between the trailer and the dock

    b. see if a dock plate is needed to level the trailer with the dock

    c. assure the dock plate is securely in place

23. Which of the following should be minimized to avoid truck turnover:

    a. the height of the forks while traveling

    b. the length of the fork under the load

    c. the backward tilt of the mast

24. The counterbalanced design of the lift truck means

    a. if the back wheels leave the ground temporarily, but come back down, then the truck is in balance

    b. to increase the vehicle's lifting capacity, more weight should be added to the rear end

    c. the truck is least stable when empty

25. The stability of the lift truck while turning

    a. increases because of the weight of the truck

    b. depends upon the load

c. decreases because the force on the truck pushes to the outside of the turn

26. A lift truck differs from an automobile in that a lift truck

a. steers more easily while unloaded

b. is more difficult to stop

c. is more likely to be noticed by pedestrians

27. The lift truck operator needs to know which of the following when transporting chemicals:

a. nothing; only those who use the chemicals need to read the SDS

b. what to do in case the chemical spills

c. what the chemicals' intended uses are

28. When elevating personnel with an approved personnel platform, the anticipated weight of the platform, personnel, and load should not exceed

a. one-half of the capacity listed on the nameplate

b. the capacity listed on the nameplate

c. it does not matter; if the platform is designed to lift personnel, then the truck can handle the weight

29. Changes in the lift truck's capacity may be made by

a. any operator who knows how

b. the truck manufacturer or anyone with written permission from the truck manufacturer

c. the truck manufacturer, only

30. Lift truck operators should store chemicals

a. away from incompatible substances

b. at height, so they are less likely to be contacted accidentally

c. away from battery charging areas

Written Test Answers and Explanations

1. True. Misjudging distance can result in pinning the employee against the fixed object.

2. False. Unless the truck is designed to carry passengers, riders can interfere with truck stability and driver visibility, and pose danger to the rider.

3. True. Seat belts are required at all times.

4. True. Chocks help avoid the unexpected movement of the trailer away from the dock.

5. True. Following too closely reduces visibility and may not allow adequate stopping distance if the lead truck stops suddenly.

6. False. Lift trucks shall never turn on an incline due to tip over potential

7. False. To avoid collision, travel in the direction of greatest visibility. Travel in reverse, if necessary.

8. False. To prevent unintended startup, unauthorized use, and the unnecessary concentration of carbon monoxide, the truck engine should be turned off whenever the driver is 25 or more feet from the vehicle, or out of sight from the vehicle.

9. True. The closer the load is to the backrest, the more stable the truck and load are.

10. False. Exit aisles, exit doorways, fire extinguishers, and all other emergency equipment must be kept clear at all times.

11. False. Overloading the truck can cause failure of the truck components and risks instability in case the balance of load and counterweight is not maintained.

12. False. Rear wheel steering results in a greater swing of rear end of the lift truck.

13. True. Lift trucks are much less stable than automobiles.

14. False. The parking brake should always be applied while lifting personnel to avoid unexpected truck movement. Employees should never be lifted if the truck is parked on an incline.

15. True. The counterweight of the back of the truck is balanced only when the truck is loaded.

16. False. Driving with the load raised may result in turnover. Always keep the load three to six inches above the driving surface and drive in the direction of greatest visibility.

17. False. At least 2/3 of the fork length must be under the load for the truck to lift the load without lessening truck stability.

18. False. Lift trucks have little shock absorbing capability, so trucks can be tipped over by obstructions and uneven surfaces.

19. False. If any unsafe condition is detected before, during, or after lift truck use, the truck cannot be driven and maintenance should be informed immediately.

20. True. Because of the counterweight mechanism of the truck, too much weight in the front may lift the rear of the truck.

21. B Pedestrians always have the right-of-way. It is the responsibility of the lift truck operator to be aware of pedestrian traffic.

22. C A dock plate is always needed to avoid lift truck turn over during trailer loading or unloading.

23. A The higher the load, the more likely the truck will tip forward. At least 2/3 of the forks (or more) should be placed under the load. The mast should be tilted backward to cradle the load.

24. C The truck is designed to be most stable when loaded. Rear wheels lifting from the ground indicates that the forks are overloaded. Extra weight should not be added to the counterweight because the remainder of the truck could fail under the extra stress.

25. C The momentum of the vehicle pushes away from the turn which makes the truck less stable than when it travels in a straight direction.

26. B Because lift trucks are usually heavier than automobiles, they require more distance to stop than an automobile traveling at the same speed. Lift trucks steer more easily when loaded. Pedestrians are not likely to hear battery-powered lift trucks as easily as automobiles.

27. B Because chemical containers may be damaged during transportation, the lift truck operator must know the proper means of responding, depending upon the chemical.

28. A The weight capacities of the truck assume the load is stationary and centered. Because the personnel may move within the platform, the maximum load is one-half of the stated capacity of the truck.

29. B The manufacturer is the party in the best position to determine if a capacity modification is safe. Therefore, only the truck manufacturer, or someone with written permission from the truck manufacturer, may perform the modification.

30. A In the event chemicals leak from their containers during handling, dispensing, or storing, materials which react with each other should be separated. Hazardous chemicals should be stored at floor level or below to prevent spillage onto the lift truck operator or passersby.

SP 42 Aerial Lifts

1.0 PURPOSE:

1.1 To provide uniform guidelines for the inspection and operation of aerial lifts.

1.2 Successful completion of training and demonstration of the ability to operate specific equipment. Additionally, each employee will receive fall protection/restraint training prior to operating an aerial lift.

1.3 Training shall be provided by a Qualified Trainer on specific equipment.

1.4 Training records shall be kept in the employees training files.

1.5 Sites should ensure vendor contracts include language that addresses vendor responsibilities for training and periodic equipment inspections as required.

1.6 Only authorized persons (Qualified Operator) shall operate aerial lifts.

2.0 SCOPE:

2.1 This procedure applies to all Kuesel Group personnel who operate and inspect aerial lifts.

3.0 REFERENCES AND RELATED DOCUMENTS:

3.1 29 CFR 1910.67 - Vehicle-mounted Elevating and Rotating Work Platforms

3.2 ANSI 92.2, 1990 - Vehicle-mounted Elevating and Rotating Aerial Devices

3.3 ANSI 92.5, 1992 - Boom Supported Elevating Work Platforms

4.0 RESPONSIBILITIES:

4.1 **Project Management/Site Management** shall be responsible for ensuring uniform implementation and compliance with this program by site employees and subcontractors.

4.2 **Safety Representative** shall be responsible for:

4.2.1 Providing support and guidance as needed to ensure that site personnel are instructed in and trained, initially and annually, to the requirements of this program and to applicable site specific requirements.

4.2.2 Maintaining appropriate documentation as evidence of the training program and comprehension level of the personnel.

4.3 Supervisor Responsibilities

4.3.1 Ensuring that personnel under their direction attend and receive appropriate training and that they maintain compliance with this program.

4.3.2 Ensuring that only trained employees assume active roles and perform related work(s) in accordance with this program.

4.4 Employees

4.4.1 Shall be responsible for ensuring they understand and comprehend this program and maintain full compliance with this program and its contents.

5.0 DEFINITIONS:

5.1 Aerial Lift: A vehicle mounted device, telescoping or articulating, or both, which is used to position personnel. These vehicles include the extensible boom platform, the vertical tower and the articulating boom platform.

5.2 Articulating Boom Platform: An aerial device with two or more hinged boom sections.

5.3 Authorized Person: A properly trained and qualified person in charge of the piece of equipment.

5.4 Daily Pre-use Inspection: Visual inspection and manual testing of aerial lift controls prior to each days use, or at the beginning of each shift.

5.5 Extendable Boom Platform: An aerial device (except ladders) with a telescopic or extendable boom. Telescopic derricks with personnel platform attachments shall be considered to be extendable boom platforms when used with a personnel platform.

5.6 Insulated Aerial Devices (bucket truck): An aerial device with dielectric components designed and tested to meet the specific electrical insulating rating consistent with the manufacturer's nameplate**.**

5.7 Qualified Person: Employee with skills and techniques necessary to distinguish exposed live parts from other parts, the nominal voltage, and the minimum approach distance corresponding to the nominal voltage. Employees shall also be familiar with Personal Protective Equipment, insulating material and tools necessary to work on or near such energized parts.

5.8 Qualified Trainer: Instructor knowledgeable in the operation of the piece of equipment to be used, and is experienced as a trainer.

5.9 Tag (Motorized Vehicle): A system used to document and remove an unsafe vehicle from service.

5.10 Vertical Tower (Scissor Lift): An elevated work platform designed to elevate a platform in a substantially vertical axis.

6.0 PROCEDURES:

6.1 Beginning of each shift or prior to first shift use, inspect lift using Appendix A Inspection Form.

6.1.1 Lift controls shall be tested each day prior to use to determine that such controls are in safe working condition. Tests shall be made at the beginning of each shift during which the equipment is to be used to determine that the brakes and operating systems are in proper working condition.

6.1.2 Inspection sheet will be kept at individual aerial lifts and forwarded to appropriate management at the end of the shift.

6.2 If at any time an aerial lift is found to require maintenance or repair which affects the safe operation of the lift:

6.2.1 Remove the equipment from service.

6.2.2 Tag the controls with a “Motorized Vehicle Tag” or ”Do Not Use” Tag.

6.2.3 Tag may only be removed by authorized person or designee.

6.2.4 Forward Daily Pre-use Inspection sheet to appropriate management to initiate repair.

6.2.5 Ensure transportation/vendor is contacted for repairs.

6.2.6 Maintenance and repair records should be maintained by the NRG owner facility.

6.2.7 Rented equipment will come with maintenance and repair history records for review prior to acceptance and delivery.

6.2.8 Perform workplace inspection for possible hazards and assign ground personnel where appropriate.

6.2.9 Only qualified persons using insulated aerial devices may approach closer than the minimum approach distance specified in Appendix B.

6.2.10 Properly insulated aerial devices working near potentially energized parts shall be grounded and barricaded using soft or hard barrier.

6.2.11 Qualified persons may approach no closer than Appendix B, unless the person is insulated (rubber gloves) from energized parts or the circuit is isolated.

6.2.12 Insulated aerial devices used to work within minimum approach distance (Appendix B) shall have the boom dielectrically tested. (15KV test performed a minimum of Quarterly; 100KV test performed a minimum of annually).

6.2.13 While working near energized lines, the minimum clearance distance between the lines and the lift or load shall be 10 feet. Additional clearances shall be maintained according to Appendix B.

6.2.14 When working in the basket of an aerial lift, appropriate fall protection must be worn.

6.2.15 Aerial lifts may be "field modified" for uses other than those intended by the manufacturer provided the modification has been certified in writing by the manufacturer or by equivalent entity.

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

6.2.17 Aerial lifts/Scissor lifts shall have a reverse alarm audible above the surrounding noise level. If an audible alarm is not present, there will be a spotter in place to guide the lift operator when backing up, around blind spots, or moving through tight areas of the site.

7.0 FALL PROTECTION/RESTRAINT:

7.1 An approved fall protection/restraint system shall be attached to the appropriate point in/on the boom or basket when working from an aerial lift (Note: it must be attached before starting the lift). Personnel are not permitted to be attached to adjacent poles or structures. The fall protection/restraint system being used shall be sufficiently short as to not permit the employee from be ejected from the lift basket.

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

8.0 EMERGENCY RESPONSE:

8.1 In case of emergency, follow appropriate site procedures.

8.2 When applicable, the lower controls can be used to safely lower personnel to the ground. Employees shall not climb out of the basket and/or down the boom.

9.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

Type Equipment: Unit No._____

Location: Job No._____

Inspected by: _____ Date _____

Indicate by initialing "Yes" if item checked is adequate, operational, and safe. Initial "No" to indicate repair or other action is required. Use NA to indicate "Not applicable".

Items to be checked:	**Yes**	**No**	**N/A**
a. Fuel level (applicable for engine drive only)			
b. Engine oil level (applicable for engine drive only)			
c. Hydraulic system level, visible leaks			
d. Battery, water level, condition, state of charge			
e. Tires, proper inflation, damage			
f. Platform structure, cleanliness, physical condition			
g. Instruction placards, warning placards in place and legible			
h. Eye wash bottle, fire extinguisher (if applicable)			
i. Test the tilt alarm (if applicable)			

From the ground control station (Do all applicable portions):

a. Raise and lower platform/boom			
b. Raise platform/boom and lower with auxiliary power			
c. Raise platform/boom and lower with manual bleed valves			
d. Telescope out and in			
e. Swing platform right and left			

From the platform control station:

a. Fasten safety harness			
b. Telescope out and in			
c. Raise and lower platform/boom			
d. Swing right and left			
e. Extend and level outriggers (if applicable)			
f. Drive machine forward and reverse, right and left			

g. Raise platform/boom and descend with auxiliary power _____

Note: Defects found must be repaired prior to equipment use. On completion of inspection, retain this form with the equipment till the end of the workday.

Then turn in to immediate supervision for filing.

Signature of Person Completing Inspection _____

Signature of Person Completing Repairs Date Repaired _____

High Voltage Power Lines

Normal Voltage, kV (Phase to Phase)	Minimum Required Clearance, ft. (m)

Operation Near High Voltage Power Lines

0	**to**	**50**	**10 (3.05)**
Over 50	**to**	**200**	**15 (4.06)**
Over 200	**to**	**350**	**20 (6.10)**
Over 350	**to**	**500**	**25 (7.62)**
Over 500	**to**	**750**	**35 (10.67)**
Over 750	**to**	**1000**	**45 (13.72)**

SP 43 Ladder Safety

1.0 PURPOSE:

1.1 The purpose of this document is to provide guidelines for ways to eliminate, prevent, and control fall hazards. It will also provide information regarding safe work practices when working on elevated work surfaces.

2.0 SCOPE:

2.1 This program applies to all Kuesel Group employees who must utilize ladders to perform work tasks.

3.0 RESPONSIBILITIES:

3.1 The **Project Manager** is responsible for evaluating the project requirements and developing a list of required tools and equipment necessary to fulfill the requirements of the project. She/he is responsible for procuring necessary ladder equipment that meet OSHA Standards. This equipment shall be evaluated for safe operability prior to being utilized at the worksite.

3.2 The **Jobsite General Foreman** shall ensure uniform implementation and compliance with this program by all employees. The Jobsite General Foreman shall ensure that all employees are familiar with any additional guidelines that are required of the Client and/or jobsite.

3.3 The **Task Foreman** shall ensure employees receive the appropriate training and develop guidelines that will eliminate or minimize the injury potential due to the unsafe use and falls from ladders.

3.4 Each **Employee** is responsible for complying with the guidelines as outlined in this document and any additional guidelines that are required by the Client and/or jobsite.

4.0 DEFINITIONS:

4.1 Angle -

4.1.1 Non-self-supporting ladders, which must lean against a wall or other support, are to be positioned at such an angle that the horizontal distance from the top support to the foot of the ladder is about 1/4 the working length of the ladder.

4.1.2 In the case of job-made wooden ladders, that angle should equal about 1/8 the working length. This minimizes the strain of the load on ladder joints that may not be as strong as on commercially manufactured ladders.

4.2 Load - Self-supporting (foldout) and non-self-supporting (leaning) portable ladders must be able to support at least four times the maximum intended load, except extra-heavy-duty metal or plastic ladders, which must be able to sustain 3.3 times the maximum intended load.

4.3 Rungs –

4.3.1 Ladder rungs, cleats, or steps must be parallel, level, and uniformly spaced when the ladder is in position for use. Rungs must be spaced between 10 and 14 inches apart.

4.3.2 For extension trestle ladders, the spacing must be 8-18 inches for the base, and 6-12 inches on the extension section.

4.3.3 Rungs must be so shaped that an employee's foot cannot slide off, and must be skid-resistant.

4.4 Slipping Angle –

4.4.1 Ladders are to be kept free of oil, grease, wet paint, and other slipping hazards.

4.4.2 Wood ladders must not be coated with any opaque covering, except identification or warning labels on one face only of a side rail.

5.0 GENERAL INSTRUCTIONS:

5.1 A stairway or ladder shall be provided at all personnel points of access where there is a break in elevation of 19 inches (48 cm) or more, and no ramp, runway, sloped embankment, or personnel hoist is provided.

5.2 Employees shall not use any spiral stairways that will not be a permanent part of the structure on which construction work is being performed.

5.3 A double-cleated ladder or two or more separate ladders shall be provided when ladders are the only means of access or exit from a working area for 25 or more employees, or when a ladder is to serve simultaneous two-way traffic.

5.4 When a building or structure has only one point of access between levels, that point of access shall be kept clear to permit free passage of employees. When work must be performed or equipment must be used such that free passage at that point of access is restricted, a second point of access shall be provided and used.

5.5 When a building or structure has two or more points of access between levels, at least one point of access shall be kept clear to permit free passage of employees.

5.6 The Kuesel Group shall ensure all stairway and ladder fall protection systems required by this subpart are installed and shall comply with all other pertinent requirements of this subpart before employees begin the work that necessitates the installation and use of stairways, ladders, and their respective fall protection systems.

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

6.0 LADDER SPECIFICATIONS: The following requirements apply to all ladders as indicated, including job-made ladders.

6.1 Ladders shall be capable of supporting the following loads without failure:

6.1.1 Each self-supporting portable ladder: At least four times the maximum intended load, except that each extra-heavy-duty type 1A metal or plastic ladder shall sustain at least 3.3 times the maximum intended load. The ability of a ladder to sustain the loads indicated in this paragraph shall be determined by applying or transmitting the requisite load to the ladder in a downward vertical direction.

6.1.2 Each portable ladder that is not self-supporting: At least four times the maximum intended load, except that each extra-heavy-duty type 1A metal or plastic ladders shall sustain at least 3.3 times the maximum intended load. The ability of a ladder to sustain the loads indicated in this paragraph shall be determined by applying or transmitting the requisite load to the ladder in a downward vertical direction when the ladder is placed at an angle of 75 1/2 degrees from the horizontal.

6.1.3 Each Fixed ladder: At least two loads of 250 pounds (114 kg) each, concentrated between any two consecutive attachments (the number and position of additional concentrated loads of 250 pounds (114 kg) each, determined from anticipated usage of the ladder, shall also be included), plus anticipated loads caused by ice buildup, winds, rigging, and impact loads resulting from the use of ladder safety devices. Each step or rung shall be capable of supporting a single concentrated load of a least 250 pounds (114 kg) applied in the middle of the step or rung.

6.1.4 Ladder Rungs, Cleats, and Steps Shall:

6.1.4.1 Ladder rungs, cleats, and steps shall be parallel, level, and uniformly spaced when the ladder is in position for use.

6.1.4.2 Rungs, cleats, and steps of portable ladders (except as provided below) and fixed ladders (including individual-rung/step ladders) shall be spaced not less than 10 inches (25 cm) apart, nor more than 14 inches (36 cm) apart, as measured between center lines of the rungs, cleats and steps.

6.1.4.3 Rungs, cleats, and steps of step stools shall be not less than 8 inches (20 cm) apart, nor more than 12 inches (31 cm) apart, as measured between center lines of the rungs, cleats, and steps.

6.1.4.4 Rungs, cleats, and steps of the base section of extension trestle ladders shall be not less than 8 inches (20 cm) nor more than 18 inches (46 cm) apart, as measured between center lines of the rungs, cleats, and steps. The rung spacing on the extension section of the extension trestle ladder shall be not less than 6 inches (15 cm) nor more than 12 inches (31 cm), as measured between center lines of the rungs, cleats, and steps.

6.1.5 The Minimum Clear Distance:

6.1.5.1 The minimum clear distance between the sides of individual-rung/step ladders and the minimum clear distance between the side rails of other fixed ladders shall be 16 inches (41 cm).

6.1.5.2 The minimum clear distance between side rails for all portable ladders shall be 11 1/2 inches (29 cm).

6.1.6 The Minimum Perpendicular Clear Distance:

6.1.6.1 The minimum perpendicular clearance between fixed ladder rungs, cleats, and steps, and any obstruction behind the ladder shall be 7 inches (18 cm), except in the case of an elevator pit ladder for which a minimum perpendicular clearance of 4 1/2 inches (11 cm) is required.

6.1.6.2 The minimum perpendicular clearance between the center line of fixed ladder rungs, cleats, and steps, and any obstruction on the climbing side of the ladder shall be 30 inches (76 cm), except as provided in paragraph (a)(15) of this section.

6.1.7 The Rungs Shall:

6.1.7.1 The rungs of individual-rung/step ladders shall be shaped such that employees' feet cannot slide off the end of the rungs.

6.1.7.2 The rungs and steps of fixed metal ladders manufactured after March 15, 1991, shall be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping.

6.1.7.3 The rungs and steps of portable metal ladders shall be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping.

6.1.8 Ladders shall not be tied or fastened together to provide longer sections unless they are specifically designed for such use.

6.1.9 A metal spreader or locking device shall be provided on each stepladder to hold the front and back sections in an open position when the ladder is being used.

6.1.10 When splicing is required to obtain a given length of side rail, the resulting side rail must be at least equivalent in strength to a one-piece side rail made of the same material.

6.1.11 Except when portable ladders are used to gain access to fixed ladders (such as those on utility towers, billboards, and other structures where the bottom of the fixed ladder is elevated to limit access), when two or more separate ladders are used to reach an elevated work area, the ladders shall be offset with a platform or landing between the ladders.

6.1.12 Wood ladders shall not be coated with any opaque covering, except for identification or warning labels which may be placed on one face only of a side rail.

6.1.13 When unavoidable obstructions are encountered, the minimum perpendicular clearance between the centerline of fixed ladder rungs, cleats, and steps, and the obstruction on

the climbing side of the ladder may be reduced to 24 inches (61 cm), provided that a deflection device is installed to guide employees around the obstruction.

6.1.14 Fixed Ladders:

6.1.14.1 Through fixed ladders at their point of access/egress shall have a step-across distance of not less than 7 inches (18 cm) nor more than 12 inches (30 cm) as measured from the centerline of the steps or rungs to the nearest edge of the landing area. If the normal step-across distance exceeds 12 inches (30 cm), a landing platform shall be provided to reduce the distance to the specified limit.

6.1.14.1.1 For through-fixed-ladder extensions, the steps or rungs shall be omitted from the extension and the extension of the side rails shall be flared to provide not less than 24 inches (61 cm) nor more than 30 inches (76 cm) clearance between side rails. Where ladder safety devices are provided, the maximum clearance between side rails of the extensions shall not exceed 36 inches (91 cm).

6.1.14.2 Fixed ladders shall be provided with cages, wells, ladder safety devices, or self-retracting lifelines where the length of climb is less than 24 feet (7.3 m) but the top of the ladder is at a distance greater than 24 feet (7.3 m) above lower levels.

6.1.14.3 Fixed ladders without cages or wells shall have a clear width to the nearest permanent object of at least 15 inches (30 cm) on each side of the centerline of the ladder.

6.1.14.4 The side rails of through or side-step fixed ladders shall extend 42 inches (1.1 m) above the top of the access level or landing platform served by the ladder. For a parapet ladder, the access level shall be the roof if the parapet is cut to permit passage through the parapet; if the parapet is continuous, the access level shall be the top of the parapet.

6.1.14.5 For side-step fixed ladders, the side rails and the steps or rungs shall be continuous in the extension.

6.1.14.6 Individual-rung/step ladders, except those used where their access openings are covered with manhole covers or hatches, shall extend at least 42 inches (1.1 m) above an access level or landing platform either by the continuation of the rung spacing's as horizontal grab bars or by providing vertical grab bars that shall have the same lateral spacing as the vertical legs of the rungs.

6.1.15 Where the total length of a climb equals or exceeds 24 feet (7.3 m), fixed ladders shall be equipped with one of the following:

6.1.15.1 Ladder safety devices; or

6.1.15.2 Self-retracting lifelines, and rest platforms at intervals not to exceed 150 feet (45.7 m); or

6.1.15.3 A cage or well, and multiple ladder sections, each ladder section not to exceed 50 feet (15.2 m) in length. Ladder sections shall be offset from adjacent sections, and landing platforms shall be provided at maximum intervals of 50 feet (15.2 m).

7.0 CAGES OR FIXED LADDERS: Cages or Fixed Ladders shall conform to all of the following:

7.1 Horizontal bands shall be fastened to the side rails of rail ladders, or directly to the structure, building, or equipment for individual-rung ladders;

7.2 Vertical bars shall be on the inside of the horizontal bands and shall be fastened to them;

7.3 Cages shall extend not less than 27 inches (66 cm), or more than 30 inches (76 cm) from the centerline of the step or rung (excluding the flare at the bottom of the cage), and shall not be less than 27 inches (68 cm) in width;

7.4 The inside of the cage shall be clear of projections;

7.5 Horizontal bands shall be spaced not more than 4 feet (1.2 m) on center vertically;

7.6 Vertical bars shall be spaced at intervals not more than 9 1/2 inches (24 cm) on center horizontally;

7.7 The bottom of the cage shall be at a level not less than 7 feet (2.1 m) nor more than 8 feet (2.4 m) above the point of access to the bottom of the ladder. The bottom of the cage shall be flared not less than 4 inches (10 cm) all around within the distance between the bottom horizontal band and the next higher band;

7.8 The top of the cage shall be a minimum of 42 inches (1.1 m) above the top of the platform, or the point of access at the top of the ladder, with provision for access to the platform or other point of access.

8.0 WELLS FOR FIXED LADDERS: Wells For Fixed Ladders shall conform to all of the following:

8.1 They shall completely encircle the ladder;

8.2 They shall be free of projections;

8.3 Their inside face on the climbing side of the ladder shall extend not less than 27 inches (68 cm) nor more than 30 inches (76 cm) from the centerline of the step or rung;

8.4 The inside clear width shall be at least 30 inches (76 cm);

8.5 The bottom of the wall on the access side shall start at a level not less than 7 feet (2.1 m) nor more than 8 feet (2.4 m) above the point of access to the bottom of the ladder.

9.0 LADDER SAFETY DEVICES: Ladder safety devices, and related support systems, for fixed ladders shall conform to all of the following:

9.1 They shall be capable of withstanding without failure a drop test consisting of an 18-inch (41 cm) drop of a 500-pound (226 kg) weight;

9.2 They shall permit the employee using the device to ascend or descend without continually having to hold, push, or pull any part of the device, leaving both hands free for climbing;

9.3 They shall be activated within 2 feet (.61 m) after a fall occurs, and limit the descending velocity of an employee to 7 feet/sec. (2.1 m/sec.) or less;

9.4 The connection between the carrier or lifeline and the point of attachment to the body belt or harness shall not exceed 9 inches (23 cm) in length.

10.0 THE MOUNTING OF LADDER SAFETY DEVICES. The mounting of ladder safety devices for fixed ladders shall conform to the following:

10.1 Mountings for rigid carriers shall be attached at each end of the carrier, with intermediate mountings, as necessary, spaced along the entire length of the carrier, to provide the strength necessary to stop employees' falls;

10.2 Mountings for flexible carriers shall be attached at each end of the carrier. When the system is exposed to wind, cable guides for flexible carriers shall be installed at a minimum spacing of 25 feet (7.6 m) and maximum spacing of 40 feet (12.2 m) along the entire length of the carrier, to prevent wind damage to the system.

10.3 The design and installation of mountings and cable guides shall not reduce the design strength of the ladder.

11.0 LADDER USE: The following requirements apply to the use of all ladders, including job-made ladders, except as otherwise indicated:

11.1 When portable ladders are used for access to an upper landing surface, the ladder side rails shall extend at least 3 feet (.9 m) above the upper landing surface to which the ladder is used to gain access; or, when such an extension is not possible because of the ladder's length, then the ladder shall be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grab rail, shall be provided to assist employees in mounting and dismounting the ladder. In no case shall the extension be such that ladder deflection under a load would, by itself, cause the ladder to slip off its support.

11.2 Ladders shall be maintained free of oil, grease, and other slipping hazards.

11.3 Ladders shall not be loaded beyond the maximum intended load for which they were built, nor beyond their manufacturer's rated capacity.

11.4 Ladders shall be used only for the purpose for which they were designed.

11.5 Non-self-supporting ladders shall be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder (the distance along the ladder between the foot and the top support).

11.6 Wood job-made ladders with spliced side rails shall be used at an angle such that the horizontal distance is one-eighth the working length of the ladder.

11.7 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.

11.8 Ladders shall be used only on stable and level surfaces unless secured to prevent accidental displacement.

11.9 Ladders shall not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement. Slip-resistant feet shall not be used as a substitute for care in placing, lashing, or holding a ladder that is used upon slippery surfaces including, but not limited to, flat metal or concrete surfaces that are constructed so they cannot be prevented from becoming slippery.

11.10 Ladders placed in any location where they can be displaced by workplace activities or traffic, such as in passageways, doorways, or drive ways, shall be secured to prevent accidental displacement, or a barricade shall be used to keep the activities or traffic away from the ladder.

11.11 The area around the top and bottom of ladders shall be kept clear.

11.12 The top of a non-self-supporting ladder shall be placed with the two rails supported equally unless it is equipped with a single support attachment.

11.13 Ladders shall not be moved, shifted, or extended while occupied.

11.14 Ladders shall have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized electrical equipment.

11.15 The top or top step of a stepladder shall not be used as a step.

11.16 Cross-bracing on the rear section of stepladders shall not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.

11.17 Ladders shall be inspected by a competent person for visible defects on a periodic basis and after any occurrence that could affect their safe use.

11.18 Portable ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, corroded components, or other faulty or defective

components, shall either be immediately marked in a manner that readily identifies them as defective, or be tagged with "Do Not Use" or similar language, and shall be withdrawn from service until repaired.

11.19 Fixed ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, or corroded components, shall be withdrawn from service until repaired. The requirement to withdraw a defective ladder from service is satisfied if the ladder is either:

11.19.1 Immediately tagged with "Do Not Use" or similar language;

11.19.2 Marked in a manner that readily identifies it as defective;

11.19.3 Or blocked (such as with a plywood attachment that spans several rungs).

11.20 Ladder repairs shall restore the ladder to a condition meeting its original design criteria, before the ladder is returned to use.

11.21 Single-rail ladders shall not be used.

11.22 When ascending or descending a ladder, the user shall face the ladder.

11.23 Each employee shall use at least one hand to grasp the ladder when progressing up and/or down the ladder.

11.24 An employee shall not carry any object or load that could cause the employee to lose balance and fall.

11.25 Foldout or stepladders must have a metal spreader or locking device to hold the front and back sections in an open position when in use.

11.26 When two or more ladders are used to reach a work area, they must be offset with a landing or platform between the ladders.

11.27 Ladders must not be tied or fastened together to provide longer sections, unless they are specifically designed for such use.

11.28 Never use a ladder for any purpose other than the one for which it was designed.

12.0 TRAINING:

12.1 Training shall be provided, by a competent person, for all Kuesel Group employees who may be required to utilize ladder equipment.

12.2 Training shall include:

12.2.1 The procedures for selecting proper ladders for the job task and proper set up.

12.2.2 The procedures for maintaining, inspecting and storing ladder equipment.

12.2.3 Awareness of improper usage of ladders.

12.2.4 Review of OSHA Standards pertaining to fall protection.

12.3 Retraining shall be conducted when:

12.3.1 Changes in the workplace render previous training obsolete.

12.3.2 Changes in the type of ladder equipment changes and renders previous training obsolete.

12.3.3 Inadequacies in employee's knowledge or use of ladder equipment indicate that the employee has not retained the required understanding or skill.

12.4 Training attendance records shall contain the name or other identity of the employee, the date of the training, and the signature of the person who conducted the training.

12.5 Training records shall be maintained at the Kuesel Group office in O'Fallon, Missouri for the duration of the worker's employment.

13.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 44 Excavation and Trenching

1.0 PURPOSE:

1.1 This program outlines procedures and guidelines for the protection of employees working in and around excavations and trenches. This program requires compliance with OSHA Standards described in Subpart P (CFR 1926.650) for the construction industry.

1.2 Compliance is mandatory to ensure employee protection when working in or around excavations. The programs in this manual on confined space, hazard communication, lock-out/tag-out, respiratory protection, and any other safety programs or procedures deemed essential for employee protection, are to be used in conjunction with this program.

2.0 SCOPE:

2.1 This program pertains to all Kuesel Group projects in which Kuesel Group personnel would be required to enter a client's excavations or trenches.

3.0 RESPONSIBILITIES:

3.1 It is the responsibility of each **Project Manager/Site Supervisor** to implement and maintain the procedures and steps set forth in this program.

3.2 Each **employee** involved with excavation and trenching work is responsible to comply with all applicable safety procedures and requirements of this program.

4.0 DEFINITIONS:

4.1 BENCHING - A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near vertical surfaces between levels.

4.2 CAVE-IN - The separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

4.3 COMPETENT PERSON - One who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

4.4 DURATION OF EXPOSURE - The longer an excavation is open, the longer the other factors have to work on causing it to collapse.

4.5 EXCAVATION - Any man-made cut, trench, or depression in an earth surface, formed by earth removal.

4.6 HAZARDOUS ATMOSPHERE - An atmosphere which by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic, or otherwise harmful, may cause death, illness, or injury.

4.7 PROTECTIVE SYSTEM - A method of protecting employees from cave-ins, from material that could fall or roll from an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide necessary protection.

4.8 SHIELD - A structure that is capable of withstanding the forces imposed on it by a cave-in and thereby protects employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. All shields must be in accordance with 29 CFR 1926.652(c) 3 or (c) 4.

4.9 SLOPING - A method of protecting workers from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences such as soil type, length of exposure, and application of surcharge loads.

4.10 SURCHARGE LOADS - Generated by the weight of anything in proximity to the excavation, push starts for a cave-in (anything up top pushing down). Common surcharge loads:

4.10.1 Weight of spoil pile

4.10.2 Weight of nearby buildings, poles, pavement, or other structural objects

4.10.3 Weight of material and equipment

4.11 TRENCH - A narrow excavation below the surface of the ground, less than 15 feet wide, with a depth no greater than the width.

4.12 UNDERMINING - Undermining can be caused by such things as leaking, leaching, caving or over-digging. Undermined walls can be very dangerous.

4.13 VIBRATION - A force that is present on construction sites and must be considered. The vibrations caused by backhoes, dump trucks, compactors and traffic on job sites can be substantial.

5.0 HAZARDS:

5.1 One of the reasons The Kuesel Group requires a competent person on-site during excavation & trenching are the numerous potential hazardous that may be encountered or created.

5.2 Hazards include:

5.2.1 Electrocution

5.2.2 Gas Explosion

5.2.3 Entrapment

5.2.4 Struck by equipment

5.2.5 Suffocation

6.0 HAZARD CONTROLS:

6.1 Before any work is performed and before any employees enter the excavation, a number of items must be checked and insured:

6.1.1 Before any excavation, underground installations must be determined. This can be accomplished by either contacting the local utility companies or the local "one-call' center for the area. All underground utility locations must be documented on the proper forms.

All overhead hazards (surface encumbrances) that create a hazard to employees must be removed or supported to eliminate the hazard.

6.1.2 When utility companies or owners cannot respond to a request to locate underground utility installations within 24 hours, or cannot establish exact location of these installations, the employer may proceed, provided the employer does so with caution and provided detection equipment or other acceptable means to locate utility installations are used.

6.1.3 If the excavation is to be over 20 feet deep, it must be designed by a registered professional engineer who is registered in the state where work will be performed.

6.1.4 Adequate protective systems will be utilized to protect employees. This can be accomplished through sloping, shoring, or shielding.

6.1.5 The worksite must be analyzed in order to design adequate protection systems and prevent cave-ins. There must also be an excavation safety plan developed to protect employees.

6.1.6 Workers must be supplied with and wear any personal protective equipment deemed necessary to assure their protection.

6.1.7 All spoil piles will be stored a minimum of two (2) feet from the sides of the excavation. The spoil pile must not block the safe means of egress.

6.1.8 If a trench or excavation is 4 feet or deeper, stairways, ramps, or ladders will be used as a safe means of access and egress. For trenches, the employee must not have to travel any more than 25 feet of lateral travel to reach the stairway, ramp, or ladder.

6.1.9 No employee will work in an excavation where water is accumulating unless adequate measures are used to protect the employees.

6.1.10 Employees should not work under loads of digging equipment where loads may fall.

6.1.11 Workers should be provided with a crossing and/or walkway when traveling in the vicinity of open trenches to prevent falls.

6.2 A competent person will inspect all excavations and trenches daily, prior to employee exposure or entry, and after any rainfall, soil change, or any other time needed during the shift. The competent person must take prompt measures to eliminate all hazards.

6.3 Excavations and trenches 4 feet or deeper that have the potential for toxic substances or hazardous atmospheres will be tested at least daily. If the atmosphere is inadequate, protective systems will be utilized.

6.4 If work is in or around traffic, employees must be supplied with and wear orange reflective vests. Signs and barricades must be utilized to ensure the safety of employees, vehicular traffic, and pedestrians.

7.0 COMPETENT PERSON RESPONSIBILITIES:

7.1 The OSHA Standards require that the competent person must be capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and have authorization to take prompt corrective measures to eliminate them and, if necessary, to stop the work.

7.2 The competent people for the Kuesel Group's grading and sewer operations are the supervisors / project managers; currently Craig Wells, Joe Pendergrass, Dave Koch, Mike Vomund and Eric Scott (as of November 2018).

7.3 A competent person is required to:

7.3.1 Have a complete understanding of the applicable safety standards and any other data provided.

7.3.2 Assure the proper locations of underground installations or utilities, and that the proper utility companies have been contacted.

7.3.3 Conduct soil classification tests and reclassify soil after any condition changes.

7.3.4 Determine adequate protective systems (sloping, shoring, or shielding systems) for employee protection.

7.3.5 Conduct all air monitoring for potential hazardous atmospheres.

7.3.6 Conduct daily and periodic inspections of excavations and trenches.

7.3.7 Approve design of structural ramps, if used.

8.0 EXCAVATION SAFETY PLAN:

8.1 An excavation safety plan is required in written form. This plan is to be developed to the level necessary to insure complete compliance with the OSHA Excavation Safety Standard and state and local safety standards.

8.2 Excavation safety plan factors:

8.2.1 Utilization of the local one-call system

8.2.2 Determination of locations of all underground utilities

8.2.3 Consideration of confined space atmosphere potential

8.2.4 Proper soil protection systems and personal protective equipment and clothing

8.2.5 Determination of soil composition and classification

8.2.6 Determination of surface and subsurface water

8.2.7 Depth of excavation and length of time it will remain open

8.2.8 Proper adherence to all OSHA Standards, this excavation and trenching safety program, and any other coinciding safety programs.

9.0 SOIL CLASSIFICATION AND IDENTIFICATION:

9.1 The OSHA Standards define soil classifications within the Simplified Soil Classification Systems, which consist of four categories: Stable rock, Type A, Type B, and Type C. Stability is greatest in stable rock and decreases through Type A and B to Type C, which is the least stable. Appendix

A of the OSHA Standard provides soil mechanics terms and types of field tests used to determine soil classifications.

9.2 Stable rock is defined as natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

9.3 Type A soil is defined as:

9.3.1 Cohesive soils with an unconfined compressive strength of 1.5 tons per square foot (TSF) or greater.

9.3.2 Cemented soils like caliche and hardpan are considered Type A.

9.4 Soil is NOT Type A if:

9.4.1 It is fissured.

9.4.2 The soil is subject to vibration from heavy traffic, pile driving or similar effects.

9.4.3 The soil has been previously disturbed.

9.4.4 The material is subject to other factors that would require it to be classified as a less stable material.

9.4.5 The exclusions for Type A most generally eliminate it from most construction situations.

9.5 Type B soil is defined as:

9.5.1 Cohesive soil with an unconfined compressive strength greater than .5 TSF, but less than 1.5 TSF.

9.5.2 Granular cohesion less soil including angular gravel, silt, silt loam, and sandy loam.

9.5.3 The soil has been previously disturbed except that soil classified as Type C soil.

9.5.4 Soil that meets the unconfined compressive strength requirements of Type A soil, but is fissured or subject to vibration.

9.5.5 Dry rock that is unstable.

9.6 Type C soil is defined as:

9.6.1 Cohesive soil with an unconfined compressive strength of .5 TSF or less.

9.6.2 Granular soils including gravel, sand and loamy sand.

9.6.3 Submerged soil or soil from which water is freely seeping.

9.6.4 Submerged rock that is not stable.

9.7 Soil Test & Identification

9.7.1 The competent person will classify the soil type in accordance with the definitions in Appendix A of the OSHA Standard based on at least one visual and one manual analysis. These tests should be run on freshly excavated samples from the excavation and are designed to determine stability based on a number of criteria: the cohesiveness, the presence of fissures, the presence and amount of water, the unconfined compressive strength, the duration of exposure, undermining, and the presence of layering, prior excavation and vibration.

9.7.2 The cohesion tests are based on methods to determine the presence of clay. Clay, silt, and sand are size classifications, with clay being the smallest sized particles, silt intermediate and sand the largest. Clay minerals exhibit good cohesion and plasticity (can be molded). Sand exhibits no elasticity and virtually no cohesion unless surface wetting is present. The degree of cohesiveness and plasticity depend on the amounts of all three types and water.

9.7.3 When examining the soil, three questions must be asked: Is the sample granular or cohesive? Fissured or non-fissured? What is the unconfined compressive strength measured in TSF?

9.8 Methods of testing soils:

9.8.1 Visual test: If the excavated soil is in clumps, it is cohesive. If it breaks up easily, not staying in clumps, it is granular.

9.8.2 Wet manual test: Wet your fingers and work the soil between them. Clay is a slick paste when wet, meaning it is cohesive. If the clump falls apart in grains, it is granular.

9.8.3 Dry strength test: Try to crumble the sample in your hands with your fingers. If it crumbles into grains, it is granular. Clay will not crumble into grains, only into smaller chunks.

9.8.4 Pocket penetrometer test: This instrument is most accurate when soil is nearly saturated. This instrument will give unconfined compressive strength in tons per square foot. The spring-operated device uses a piston that is pushed into a coil up to a calibration groove. An indicator sleeve marks and retains the reading until it is read. The reading is calibrated in tons per square foot (TSF) or kilograms per cubic centimeter.

9.8.5 Thumb penetration teal: The competent person attempts to penetrate a fresh sample with thumb pressure. If the sample can be dented, but penetrated only with great effort, it is Type A. If it can be penetrated several inches and molded by light pressure, it is Type C. Type B can be penetrated with effort and molded.

9.8.6 Shear vane: Measures the approximate shear strength of saturated cohesive soils. The blades of the vane are pressed into a flat section of undisturbed soil, and the knob is turned slowly until soil failure. The dial is read directly when using the standard vane. The results will be in tons per square foot or kilograms per cubic centimeter.

9.9 The competent person will perform several tests of the excavation to obtain consistent, supporting data along its depth and length. The soil is subject to change several times within the scope of an excavation and the moisture content will vary with weather and job conditions. The competent person must also determine the level of protection based on what conditions exist at the time of the test, and allow for changing conditions.

10.0 EXCAVATION PROTECTION SYSTEMS:

10.1 The three basic protective systems for excavations and trenches are sloping and benching systems, shoring, and shields.

10.2 The protective systems shall have the capacity to resist without failure all loads that are intended or could reasonably be expected to be applied to or transmitted to the system. Every employee in an excavation shall be protected from cave-ins by an adequate protective system.

10.3 Exceptions to using protective system:

10.3.1 Excavations are made entirely in stable rock

10.3.2 Excavations are less than 5 feet deep and declared safe by a competent person

10.4 Sloping and Benching Systems

10.4.1 There are four options for sloping:

10.4.1.1 Slope to the angle required by the OSHA Standard for Type C, which is the most unstable soil type.

10.4.1.2 The table provided in Appendix B of the OSHA Standard may be used to determine the maximum allowable angle (after determining the soil type).

10.4.1.3 Tabulated data prepared by a registered professional engineer can be utilized.

10.4.1.4 A registered professional engineer can design a sloping plan for a specific job.

10.4.2 Sloping and benching systems for excavations five (5) to twenty (20) feet in depth must be constructed under the instruction of a designated competent person.

10.4.3 Sloping and benching systems for excavations greater than twenty (20) feet must be designed and stamped by a registered professional engineer.

10.4.4 Sloping and benching specifications can be found in Appendix B of the OSHA Standard (Subpart P).

10.5 Shoring Systems

10.5.1 Shoring is another protective system or support system. Shoring utilizes a framework of vertical members (uprights), horizontal members (whales), and cross braces to support the sides of the excavation to prevent a cave-in. Metal hydraulic, mechanical or timber shoring are common examples.

10.5.2 The different examples of shoring are found in the OSHA Standard under Appendices A-F of Subpart P:

10.6 Shield Systems (Trench Boxes)

10.6.1 Shielding is the third method of providing a safe workplace. Unlike sloping and shoring, shielding does not prevent a cave-in. Shields are designed to withstand the soil forces caused by a cave-in and protect the employees inside the structure. Most shields consist of two flat, parallel metal walls that are held apart by metal cross braces.

10.6.2 Shielding design and construction is not covered in the OSHA Standards. Shields must be certified in design by a registered professional engineer and must have either a registration plate on the shield or registration papers from the manufacturer on file at the jobsite office. **ANY REPAIRS OR MODIFICATIONS MUST BE APPROVED BY THE MANUFACTURER.**

10.6.3 Safety Precautions for Shield Systems

10.6.3.1 Shields must not have any lateral movement when installed.

10.6.3.2 Employees will be protected from cave-ins when entering and exiting the shield (examples - ladder within the shield or a properly sloped ramp at the end).

10.6.3.3 Employees are not allowed in the shield during installation, removal, or during any vertical movement.

10.6.3.4 Shields can be 2 ft. above the bottom of an excavation if they are designed to resist loads at the full depth and if there are no indications of caving under or behind the shield.

10.6.3.5 The shield must extend at least 18 inches above the point where proper sloping begins (the height of the shield must be greater than the depth of the excavation).

10.6.3.6 The open end of the shield must be protected from the exposed excavation wall. The wall must be sloped, shored, or shielded. Engineer designed end plates can be mounted on the ends of the shield to prevent cave-ins.

11.0 PERSONAL PROTECTIVE EQUIPMENT:

11.1 It is The Kuesel Group policy to wear, at a minimum, a hard hat, safety glasses, and work boots on the jobsite.

11.2 Because of the hazards involved with excavations, other personal protective equipment may be necessary, depending on the potential hazards present (examples: goggles, gloves, and respiratory equipment).

12.0 INSPECTIONS:

12.1 Daily inspection of excavations, the adjacent areas and protective systems shall be made by the competent person for evidence of a situation that could result in a cave-in, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions.

12.2 All inspections shall be conducted by the competent person prior to the start of work and as needed throughout the shift.

12.3 Inspections will be made after every rainstorm or any other increasing hazard.

12.4 All documented inspections will be kept on file in the jobsite safety files and forwarded to the Project Manager weekly.

13.0 TRAINING:

13.1 The competent person(s) must be trained in accordance with the OSHA Excavation Standard, and all other programs that may apply (examples Hazard Communication, Confined Space, and Respiratory Protection), and must demonstrate a thorough understanding and knowledge of the programs and the hazards associated.

13.2 All other employees working in and around the excavation must be trained in the recognition of hazards associated with trenching and excavating.

13.3 Training Records - The Project Manager shall maintain all training records.

14.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 45 Fall Protection

1.0 PURPOSE:

1.1 The purpose of this document is to provide guidelines for ways to eliminate, prevent, and control fall hazards. It will also provide information regarding safe work practices when working on elevated work surfaces.

2.0 SCOPE:

2.1 This program applies to all Kuesel Group employees who must perform work tasks from an elevated surface.

3.0 RESPONSIBILITIES:

3.1 The **Project Manager/Site Supervisor** shall ensure uniform implementation and compliance with this program by all employees. The Site Supervisor shall ensure that all employees are familiar with any additional guidelines that are required by the Client and/or Jobsite.

3.2 The **Competent Person/Qualified Person** (ex. Jobsite Supervisor) shall ensure employees receive the appropriate training and develop guidelines that will eliminate or minimize the injury potential due to falls. The Jobsite Supervisor shall determine what Fall Protection strategies will be utilized at the jobsite.

3.3 Each **Employee** is responsible for complying with the guidelines as outlined in this document and any additional guidelines that are required by the Client and/or Jobsite.

4.0 DEFINITIONS:

4.1 Walking & Working Surfaces - Surfaces such as stairs, floors, scaffolding and any other surfaces designed, engineered or designated for walking and working.

4.2 Climbing - When used in the context of this procedure, climbing shall be defined as accessing structures by means other than walking and working surfaces. This includes ascending, descending, or scaling of structures, such as steel structures, steel poles, towers, wood poles, piping, girders, columns, beams, equipment or any other structure not specifically designed for or designated as a walking or working surface.

4.3 Competent Person - One who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate such hazards. The Competent Person shall receive the appropriate training to be deemed a qualified Competent Person.

4.4 Personal Fall Arrest System - An assembly used to arrest a person in a fall, consisting of a harness and various equipment that provides a secure connection to an anchorage. The connection to the anchorage may employ a variety of equipment including lanyards with a shock-absorbing device, lifelines, self-retracting lanyards, or rope grabs.

4.5 Anchorage - A fixed structural member that provides a secure means of attachment for a Personal Fall Arrest System. The following are examples of anchorages: beams, girders, columns, angle iron, and steel cables capable of withstanding a 5,000 lb. load for each person.

4.6 Engineered Anchorage's - Anchorage's, designed by a registered Professional Engineer, may be used with a Personal Fall Arrest System that meets or exceeds American National standards Institute (ANSI) Z359.1-1992 and OSHA regulations.

4.7 Anchorage Connector - A component or subsystem with means specifically intended for coupling the Personal Fall Arrest System to an anchorage. The following are examples of anchorage connectors: carabineers, eyebolts, and rings.

4.8 Free Fall Distance - The vertical fall distance before the fall arrest system takes effect.

4.9 Horizontal Life Line - A line or cable secured to an anchorage used to allow horizontal movement with a Personal Fall Arrest System.

4.10 Vertical Life Line - A line or cable secured to an anchorage used to allow vertical movement with a Personal Fall Arrest System.

4.11 Positioning Device System - Means a body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface (such as a wall) and work with both hands free while leaning. Body belts shall not be used for fall arrest.

4.12 Hazard Identification - The Competent person will evaluate each situation or work procedure where employees may be exposed to a fall of 6 feet or more for Construction and 4 feet for General Industry. The Competent person will be responsible for developing a plan to eliminate the exposures, if possible, or to select the appropriate fall protection systems and/or equipment.

4.13 Self-retracting Lifeline - A deceleration device that contains a line that can be slowly extracted from or retracted onto a drum during normal employee movement, which after onset of a fall, automatically locks to arrest the fall.

4.14 Body Harness - Straps secured about the employee in a manner that will distribute the fall arrest forces over the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.

4.15 Lanyard - A flexible line used to secure a body harness to a lifeline, deceleration device, or anchorage, with a maximum length that limits a fall to no greater than 6 feet.

4.16 Shock Absorbers - A component of a fall arrest system, which allows dissipation of energy by extending the deceleration distance.

4.17 Sliding Beam Clamps - An anchorage connector designed to move along a horizontal beam with an attached fall arrest system.

5.0 GENERAL INSTRUCTIONS:

5.1 The Fall Protection Program's intent is to approach a fall hazard in a logical sequence that will best protect the employee from the fall hazard and enable the employee to safely perform the

task at hand. There are three fundamental principles to consider when addressing a fall hazard. The first and most desirable approach to consider is elimination. The second is prevention, and the last is controlling the falls.

5.1.1 Elimination - This is the first and best line of defense against falls from heights. Elimination requires careful assessment of the workplace and the work itself. Pre-planning of the work and site often not only leads to eliminating the hazard altogether, but also identifies alternative approaches to the work that can measurably enhance productivity. The idea is to design safety into the work process and not simply to try to add safety as an afterthought.

5.1.2 Prevention - Prevention of falls is the second line of defense when fall hazards cannot be eliminated. This also requires assessment of the workplace and work process. It involves making changes to the workplace to preclude the need to rely on the worker's behavior and personal protective equipment to prevent falls. Examples include use of stairs, guardrails, barriers, restraints, and travel restriction systems to prevent the worker from direct and unprotected exposure to the fall hazard. Prevention techniques deal with preventing the fall before onset.

5.1.3 Control - Control of falls is the last line of defense. It should be considered only after determining "within reason" that the fall hazard cannot be eliminated or the possibility of falling prevented. This is the domain of fall protection and calls for equipment such as harnesses, lanyards, shock absorbers, fall arrests, self-retracting lifelines, and anchorage connectors. It deals with reducing the risk of injury after the onset of a fall. Fall protection also necessitates assessment and planning of the workplace and work process in order to select the proper equipment, install it, and use it correctly.

5.2 Construction Industry Regulations require that fall protection must be in use/place whenever an employee is or would otherwise be exposed to a fall of 6 feet or more, less than 6 feet if over dangerous equipment. General Industry Regulations (29 CFR 1910 Subpart D, F and R) require that fall protection must be in use/place whenever an employee is or would otherwise be exposed to a fall of 4 feet or more, less than 4 feet if over dangerous equipment. A competent person shall assess the workplace for fall hazards and develop fall prevention/protection strategies to eliminate or reduce employee exposure to falls.

5.3 Walking/Working Surfaces - The Company shall determine if the walking/working surfaces on which employees are to work have the strength and structural integrity to support employees safely.

5.3.1 Unprotected Sides and Edges - Each employee on a walking/working surface (horizontal or vertical) with an unprotected side or edge which is six or more feet above a lower level shall be protected from falling by guardrail systems, safety net systems, or personal fall arrest systems. Work performed beyond the protection of a guardrail system requires the use of a personal fall arrest system.

5.3.2 Holes - A hole is any opening in/or through the walking/working surface which is 2 inches or greater in its least dimension. Glazed skylights are considered to fall under this definition.

5.3.2.1 Employees exposed to holes in the walking/working surface shall be protected by guardrail systems, safety net systems, personal fall arrest systems, or hole covers.

5.3.3 Ramps. Runways and Other Walkways - Each employee on ramps, runways, or other walkways shall be protected from falling by guardrail systems.

5.3.4 Dangerous Equipment -

5.3.4.1 Each employee less than 6 feet above dangerous equipment shall be protected from falling onto or into the dangerous equipment by guardrail systems or equipment guards.

5.3.4.2 Each employee 6 feet or more above dangerous equipment shall be protected from fall hazards by guardrail systems, safety net systems, or personal fall arrest systems.

5.4 To the extent possible, personnel shall be connected to a suitable anchorage point during the entire work activity, so that fall arrest is continuously provided (100% tie-off).

5.5 A personal fall arrest system shall be utilized and attached to an appropriate anchorage for any of the following conditions.

5.5.1 When climbing or working on a surface where there is a potential fall hazard of greater than four (4) feet for General Industry or six (6) feet for Construction related activities.

5.5.2 When working within six (6) feet of an exposed edge, floor or wall opening, and there are no means to prevent a fall over the edge, such as a restraining device or a handrail.

5.6 Only ANSI approved full body harnesses shall be used in the Personal Fall Arrest System. Body belts shall not be used at any time. All fall protection equipment shall be inspected daily before use. See Section 7.0.

5.7 Personal fall arrest equipment, such as harnesses, lanyards and retractable web lifelines shall be taken out of service any time they are subjected to a fall. Report all falls to the Project Manager/Site Supervisor.

5.8 Fall protection must be immediately available (worn or “at the elevation”) when working on scaffolding or elevated equipment without Fall Prevention Barriers. It is not intended that people be tied-off while working within the confines of the handrails of a properly erected scaffold, unless this is required by the Client and/or Jobsite rules.

5.9 A personal fall arrest system is not required when traversing from a properly positioned ladder onto a flat surface such as a roof, unless the ladder is permanently equipped with a fall protection device, such as a ladder climb.

5.10 Aerial Boom Lifts - A harness shall be worn and a lanyard attached to the appropriate tie-off point in the basket when working from an aerial lift. Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.

6.0 PERSONAL FALL PROTECTION SYSTEMS:

6.1 When there is a potential fall of 6 feet or more, one or more of the following means of providing protection must be utilized:

6.1.1 Guardrail Systems - Guardrail systems must meet the following criteria.

6.1.1.1 The top edge height of top rails, or (equivalent) guardrails, must be 42 inches plus or minus 3 inches, above the walking/working level for General Industry and 42 inches flush for Construction.

6.1.1.2 Mid rails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members must be installed between the top edge of the guardrail system and the walking/working surface when there are no walls at least 21 inches high.

6.1.1.3 A standard toe board shall be 4 inches in vertical height from its top edge to the level of the floor, platform, runway, or ramp.

6.1.1.4 The guardrail system must be capable of withstanding a force of at least 200 pounds applied within 2 inches of the top edge in any outward or downward direction.

6.1.2 Safety Net Systems -

6.1.2.1 Safety net systems are a passive form of fall protection, in that safety nets do nothing to prevent falls. Rather, the system becomes active only once a fall has occurred, and functions by reducing the fall distance and arresting forces associated with the fall.

6.1.2.2 Safety nets shall be installed and inspected only under the supervision of a competent person.

6.1.2.3 Prior to installation, the nets and attachment hardware shall be inspected for defects by a competent person or approved by an engineer or approved manufacturing system. Defective nets and hardware shall not be used.

6.1.2.4 After installation and prior to employee exposure, the nets shall be drop-tested using a 400-pound sand bag which is dropped from the highest possible height an employee may fall, but not less than 42" above the net. If it is determined to be unreasonable to drop-test the nets, a competent person may certify the installation in accordance with OSHA standard 29 CFR 1926.502(c)(4)(ii).

6.1.2.5 Safety nets shall be inspected at least once each week and following any incident which could affect the integrity of the safety net system. All inspections shall be conducted by a competent person and documented.

6.1.2.6 Safety nets shall be installed as close as possible under the fall exposure, but in no case more than 30 feet below such level.

6.1.2.7 Nets shall be installed under the supervision of a competent person ensuring sufficient clearance under them to prevent contact with the lower surface, structures, or equipment when subjected to the impact forces equal to the drop-test forces.

6.1.2.8 Safety nets shall extend outward past the edge of the fall exposure. The minimum distances are outlined in the following table:

Vertical distance from the working level to the horizontal plane of the net	Minimum required horizontal distance of the outer edge of the net from the edge of the working surface
Up to 5 feet	8 feet
More than 5 feet up to ten feet	10 feet
More than 10 feet	13 feet

6.1.3 Personal Fall Arrest Systems - These consist of a lanyard, anchorage, connectors, body harness and may include a deceleration device, self-retracting lifeline, or suitable combinations. All personal fall arrest equipment shall meet the requirements of applicable ANSI and/or ASTM standards. If a personal fall arrest system is used for fall protection, it must do the following:

6.1.3.1 Limit maximum arresting force on an employee to 1,800 pounds when used with a body harness.

6.1.3.2 Be rigged so that an employee cannot free fall more than 6 feet or contact any lower level.

6.1.3.3 The use of body belts for fall arrest is prohibited and a full body harness is required.

6.1.4 Lanyards -

6.1.4.1 Lanyards used for “fall arrest” shall be:

6.1.4.1.1 Attached to the back “D” ring on the safety harness.

6.1.4.1.2 Equipped with an approved shock absorber.

6.1.4.1.3 Adjusted to limit the free fall distance to six (6) feet or less.

6.1.4.1.4 Attached to an approved engineered anchorage.

6.1.4.1.5 Attached preferably to an anchorage above the waist or above you.

6.1.4.1.6 Selected in the length, which will allow the shortest free fall distance that will allow for unencumbered work.

6.1.4.1.7 Attached directly overhead where possible.

6.1.4.2 Do not tie knots in lanyards used for fall arrest; this could reduce the lanyard's strength as much as fifty percent.

6.1.4.3 If approved engineered anchorages are not available, then lanyards used for fall arrest shall be attached to a structural support within the immediate vicinity capable of supporting a load of 5,000 lbs, for each individual attached.

6.1.5 Anchorages -

6.1.5.1 Anchorage Points used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached.

6.1.5.2 Engineered fall protection anchorage's shall be clearly identified and designed to meet or exceed the requirements of ANSI standards and OSHA regulations.

6.1.5.3 Engineered anchorage's specifically designed for fall arrest shall not be used to lift materials or equipment.

6.1.5.4 Material rigging equipment, such as slings and cables are not approved anchorage connectors. The following anchorage connectors may be used:

6.1.5.4.1 Approved beam strap or pass thru tie-off adapter

6.1.5.4.2 Approved eyebolt

6.1.5.4.3 D-ring anchorage plate

6.1.5.4.4 Fixed beam anchor

6.1.5.4.5 Sliding beam anchor

6.1.5.5 The following criteria should be addressed when evaluating a non-engineered anchorage:

6.1.5.5.1 The structure supporting the anchorage, such as hangers, angle iron, connecting bolts, etc.

6.1.5.5.2 The type of material that the anchorage is constructed of.

6.1.5.6 The following list is an example of structures/equipment, which are <u>unacceptable</u> as anchorages for “fall arrest.”

6.1.5.6.1 Electrical conduit, cable trays

6.1.5.6.2 Instrument lines

6.1.5.6.3 PVC piping

6.1.5.6.4 Equipment that could move, such as a mobile crane.

6.1.5.6.5 Piping or ducts

6.1.6 <u>Self-Retracting Lifeline</u> -

6.1.6.1 Self-Retracting Lifelines shall be:

6.1.6.1.1 Attached to the back “D” ring of a body harness

6.1.6.1.2 Attached by a anchorage connector to an appropriate anchorage point

6.1.6.1.3 Used by personnel who have a combined weight (clothes, tools, individual) of at least 75 pounds and a maximum of 310 pounds.

6.1.6.2 Self-Retracting Lifelines shall **not** be lengthened by attaching lanyards or other components.

6.1.6.3 The Self-Retracting Lifeline shall not be allowed to pass underneath arms or between legs. This action could lead to serious injury.

6.1.6.4 Avoid exposure of SRL to:

6.1.6.4.1 Corrosive materials

6.1.6.4.2 Acids

6.1.6.4.3 Caustics

6.1.6.4.4 Excessive heat

6.2 <u>Covers</u> - Covers located in roadways and vehicular aisles must be able to support at least twice the maximum axle load of the largest vehicle to which the cover might be subjected.

6.2.1 All other covers must be able to support at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time.

6.2.2 To prevent accidental displacement resulting from wind, equipment, or workers activities, all covers must be secured.

6.2.3 All covers shall be color-coded or bear the markings "HOLE" or "COVER."

6.3 Protection From Falling Objects - Toe boards, when used as falling object protection, shall be erected along the edge of the overhead walking / working surface for a distance sufficient to protect employees below. Toe boards shall be a minimum of 4 inches in vertical height from their top edge to the level of the walking/working surface.

6.4 Safety Monitoring Systems - The Kuesel Group shall utilize Safety Monitoring Systems and their use shall comply with the following provisions:

6.4.1 The Kuesel Group shall designate a competent person to monitor the safety of other employees and the employer shall ensure that the safety monitor complies with the following requirements:

6.4.1.1 The safety monitor shall be competent to recognize fall hazards;

6.4.1.2 The safety monitor shall warn the employee when it appears that the employee is unaware of a fall hazard or is acting in an unsafe manner;

6.4.1.3 The safety monitor shall be on the same walking/working surface and within visual sighting distance of the employee being monitored;

6.4.1.4 The safety monitor shall be close enough to communicate orally with the employee; and

6.4.1.5 The safety monitor shall not have other assignments or responsibilities which could take the monitor's attention from the monitoring function.

6.4.2 Mechanical equipment shall not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations on low-slope roofs.

6.4.3 No employee, other than an employee engaged in roofing work [on low-sloped roofs] or an employee covered by a fall protection plan, shall be allowed in an area where an employee is being protected by a safety monitoring system.

6.4.4 When conventional fall protection is not used these locations must be identified and classified as controlled access zones. Each employee working in a controlled access zone shall be directed to comply promptly with fall hazard warnings from safety monitors.

6.4.5 In the event, an employee falls, or some other related, serious incident or accident occurs, (e.g., a near miss) the Jobsite Supervisor shall investigate the circumstances of the fall or other incident to determine if the fall protection program needs to be changed (e.g. new practices, procedures, or training). Corrective measures shall be implemented to prevent similar types of falls or incidents.

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

6.6 RESCUE PLAN

6.6.1 A rescue plan must be communicated when fall arrest systems are in use and when personnel may not be able to self-rescue if a fall should occur. The following should be considered prior to communicating the rescue plan:

6.6.1.1 The direct contact number for the local emergency responders, fire department or another professional rescue service, that would be contacted immediately if a fall were to occur.

6.6.1.2 Is there equipment immediately available to facilitate a rescue within 15 minutes of a fall?

6.6.1.3 If equipment is available, what equipment will be used for the rescue that can ensure the safety of the rescuers and the suspended worker? Regardless of whether equipment will be used to perform the rescue, emergency responders should still be contacted immediately if a fall were to occur in conjunction with the site rescue plan.

6.6.1.4 What communication systems will be used between the suspended worker and the rescue team?

6.6.2 The rescue plan should be communicated to the project personnel and addressed periodically in site safety meetings.

7.0 MAINTENANCE AND INSPECTIONS:

7.1 Personal Fall Arrest Systems shall be inspected prior to each use for mildew, wear, damage or any other form of deterioration. Defective components shall be removed from service and tagged **"DO NOT USE."**

7.2 Inspect all equipment before each day's use:

7.2.1 Grasp the harness or lanyard in your hands and bend the equipment toward you. The tension makes the damaged fibers and cuts easier to see. Follow this procedure for the entire length of the harness or lanyard.

7.2.2 Check the D-rings for metal wear, cracks, or breaks.

7.2.3 Check the buckle, locking snaps, and thimbles.

7.2.4 Check the shock absorber for burn holes and damage.

7.3 Any fall protection equipment that has been subjected to a fall shall be immediately removed from service and not used again for employee fall protection.

7.4 Care must be taken to store all fall protection equipment in a dry area since it will deteriorate when wet. When equipment is wet and/or freezes, the strength of the material may be weakened.

7.5 Any equipment that has been damaged by welding, cutting, weather, chemical exposure, age, etc., must be destroyed.

8.0 TRAINING:

8.1 Training shall be provided, by a competent person, for employees who might be exposed to fall hazards.

8.2 Training shall include:

8.2.1 The nature of fall hazards in the workplace.

8.2.2 The procedures for using, maintaining, and inspecting the fall protection systems to be used.

8.2.3 The procedures for handling and storing fall protection equipment.

8.2.4 OSHA Standards pertaining to fall protection.

8.3 Retraining shall be conducted when the following conditions are noticed:

8.3.1 Changes in the workplace render previous training obsolete.

8.3.2 Changes in the type of fall protection systems used renders previous training obsolete.

8.3.3 Inadequacies or deficiency in employee's knowledge or use of fall protections systems indicate that the employee has not retained the required understanding or skill.

8.3.4 Deficiencies in training are observed.

8.4 Training attendance records shall contain the name or other identity of the employee, the date of the training, the signature of the person who conducted the training and the date that the training was determined to be adequate.

8.5 Training records shall be maintained for the duration of employment.

9.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials
6/5/25	Added Section 6.6 – Rescue Plan	376	KTK

SP 46 Hand and Power Tools

1.0 PURPOSE:

1.1 The purpose of this document is to provide guidelines for the safe work practices regarding the use of hand tools and power equipment. It will also provide information regarding ways to prevent, control and/or eliminate hazards related to using this equipment.

2.0 SCOPE:

2.1 This program applies to all Kuesel Group employees who must utilize hand tools and power tools to perform work tasks.

3.0 RESPONSIBILITIES:

3.1 The **Project Manager** is responsible for evaluating the project requirements and developing a list of required tools and equipment necessary to fulfill the requirements of the project. She/he is responsible for procuring necessary hand and portable power tool equipment that meet OSHA Standards and UL Safety requirements. This equipment will be evaluated for safe operability prior to arriving at the worksite.

3.2 The **Jobsite General Foreman/Site Supervisor** shall ensure uniform implementation and compliance with this program by all employees. (S)He shall ensure that all employees are familiar with any additional guidelines required by the Client and/or Jobsite. (S)He shall ensure employees receive the appropriate training and are familiar with the safe use of hand and power tools. (S)He shall develop guidelines that will eliminate or minimize the injury potential due to the unsafe use of hand and power tools and associated equipment.

3.3 Each **Employee** is responsible for complying with the guidelines in this document and any additional guidelines that are required of the Client and/or Jobsite.

4.0 DEFINITIONS:

4.1 EXPLOSIVE POWER LOAD OR “load”. Any substance in any form capable of producing a propellant force.

4.2 HAMMER-OPERATED PISTON TOOL (low-velocity type). A tool which, by means of a heavy mass hammer supplemented by a load, moves a piston designed to be captive to drive a stud, pin, or fastener into a work surface, always starting the fastener at rest and in contact with the work surface. It shall be so designed that when used with any load that accurately chambers in it and that is commercially available at the time the tool is submitted for approval, it will not cause such stud, pin, or fastener to have a mean velocity in excess of 300 feet per second when measured 6.5 feet from the muzzle end of the barrel.

4.3 HIGH-VELOCITY TOOL. A tool or machine which, when used with a load, propels or discharges a stud, pin, or fastener, at velocities in excess of 300 feet per second when measured 6.5 feet from the muzzle end of the barrel, for the purpose of impinging it upon, affixing it to, or penetrating another object or material.

4.4 LOW-VELOCITY PISTON TOOL. A tool that utilizes a piston designed to be captive to drive a stud, pin, or fastener into a work surface. It shall be so designed that when used with any load that accurately chambers in it and that is commercially available at the time the tool is submitted for approval, it will not cause such stud, pin, or fastener to have a mean velocity in excess of 300 feet per second when measured 6.5 feet from the muzzle end of the barrel.

4.5 NOMINAL means + or - 0.05 inch (1/20 inch).

4.6 PORTABLE GRINDING. A grinding operation where the grinding machine is designed to be hand held and may be easily moved from one location to another.

4.7 PROTECTIVE SHIELD OR GUARD. A device or guard attached to the muzzle end of the tool, which is designed to confine flying particles.

4.8 SAFETY GUARD. A safety guard is an enclosure designed to restrain the pieces of the grinding wheel and furnish all possible protection in the event that the wheel is broken in operation.

4.9 STUD, PIN, OR FASTENER. A fastening device specifically designed and manufactured for use in explosive-actuated fastening tools.

4.10 TO CHAMBER. To fit properly without the use of excess force, the case being duly supported.

4.11 TUCK POINTING. Removal, by grinding, of cement, mortar, or other nonmetallic jointing material.

4.12 ABRASIVE WHEEL TERMS **–**

4.12.1 MOUNTED WHEELS. Mounted wheels, usually 2-inch diameter or smaller, and of various shapes, may be either organic or inorganic bonded abrasive wheels. They are secured to plain or threaded steel mandrels.

4.12.2 TUCK POINTING WHEELS. Tuck pointing wheels, usually Type 1, reinforced organic bonded wheels have diameter, thickness and hole size dimension. They are subject to the same limitations of use and mounting as Type 1 wheels defined in 4.12.7 of this paragraph. Limitation: Wheels used for tuck pointing should be reinforced, organic bonded.

4.12.3 ORGANIC BONDED WHEELS. Organic wheels are wheels which are bonded by means of an organic material such as resin, rubber, shellac, or other similar bonding agent.

4.12.4 SIDE GRINDING WHEEL HAVING A WALL FLARED OR TAPERED OUTWARD FROM THE BACK. Wall thickness at the back is normally greater than at the grinding face (W). Limitation: Minimum back thickness, (E dimension), should not be less than one-fourth (T dimension). In addition when unthreaded hole wheels are specified the inside flat, (K dimension), shall be large enough to accommodate a suitable flange.

4.12.5 SIDE GRINDING WHEEL HAVING A DIAMETER, THICKNESS AND HOLE WITH ONE SIDE STRAIGHT OR FLAT AND THE OPPOSITE SIDE RECESSED. This type, however, differs from Type 5 in that the grinding is performed on the wall of the abrasive created by the difference between the diameter of the recess and the outside diameter of the wheel. Therefore, the wall dimension "W" takes precedence over the diameter of the recess as an essential intermediate dimension to describe this shape type.

4.12.6 REINFORCED WHEELS. The term "reinforced" as applied to grinding wheels shall define a class of organic wheels which contain strengthening fabric or filament. The term "reinforced" does not cover wheels using such mechanical additions as steel rings, steel cup backs or wire or tape winding.

4.12.7 TYPE 1 STRAIGHT WHEELS. Type 1 straight wheels have diameter, thickness, and hole size dimensions and should be used only on the periphery. Type 1 wheels shall be mounted between flanges. Limitation: Hole dimension (H) should not be greater than two-thirds of wheel diameter dimension (D) for precision, cylindrical, centerless, or surface grinding applications. Maximum hole size for all other applications should not exceed one-half wheel diameter.

4.12.8 TYPE 6 STRAIGHT CUP WHEELS. Type 6 cup wheels have diameter, thickness, hole size, rim thickness, and back thickness dimensions. Grinding is always performed on rim face, (W dimension). Limitation: Minimum back thickness, (E dimension), should not be less than one-fourth (T dimension). In addition, when unthreaded hole wheels are specified, the inside flat, (K dimension), must be large enough to accommodate a suitable flange.

4.12.9 TYPE 11 FLARING CUP WHEELS. Type 11 flaring cup wheels have double diameter dimensions D and J, and in addition have thickness, hole size, rim and back thickness dimensions. Grinding is always performed on rim face, (W. Dimension).

4.13 JACK TERMS –

4.13.1 JACK. A jack is an appliance for lifting and lowering or moving horizontally a load by application of a pushing force. NOTE: Jacks may be of the following types: Lever and ratchet, screw and hydraulic.

4.13.2 RATING. The rating of a jack is the maximum working load for which it is designed to lift safely that load throughout its specified amount of travel. NOTE: To raise the rated load of a jack, the point of application of the load, the applied force, and the length of lever arm should be those designated by the manufacturer for the particular jack considered.

5.0 GENERAL INSTRUCTIONS:

5.1 Each Jobsite General Foreman/Site Supervisor shall be responsible for the safe condition of tools and equipment used by employees, including tools and equipment which may be furnished

by employees. Whether furnished by the employer or the employee, the tools shall be maintained in a safe condition.

5.2 Employees using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects, or exposed to harmful dust, fumes, mists vapors, or gases shall be provided with particular PPE necessary to protect them from the hazard.

5.3 Compressed air used for cleaning. Compressed air shall not be used for cleaning purposes except where reduced to less than 30 p.s.i. and then only with effective chip guarding and personal protective equipment.

5.4 Basic Rules for Hand tool Safety

5.4.1 Safety is a state of mind. Always think when using a tool:

5.4.1.1 Is it in good condition?

5.4.1.2 Is it sized right for the job?

5.4.1.3 Is it in the proper working condition?

5.4.2 Every tool was designed to do a certain job. Use it for its intended purpose.

5.4.3 Keep your tools in good condition: sharp, clean, oiled, dressed and not abused.

5.4.4 Worn tools are dangerous. For example the teeth in a pipe wrench can slip if worn smooth, an adjustable wrench will slip if its jaws are sprung and hammer heads can fly off loose handles.

5.4.5 Any tool which is not in compliance with any applicable requirement of this procedure is prohibited from being used. Such tool(s) shall either be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from its place of operation.

5.4.6 Tools subject to impact (chisels, star drill, punches, etc.) tend to "mushroom". Keep them dressed (sharpened) to avoid flying spalls. Use tool holders.

5.4.7 Do not force tools beyond their capacity or use "cheaters" to increase their capacity.

5.4.8 Secure your work in a vise whenever possible. Never hold small work in your hand when using a screwdriver.

5.4.9 Chisels, screwdrivers or other pointed tools should never be carried in clothing pockets. Use tool belts designed for carrying tools.

5.4.10 Hammers should have heads ground properly. Should not have broken claws or handles. Check for loose handles. Always use proper size and weight for the job.

5.4.11 Cutting tools should be kept sharp to ensure good smooth cutting. Always use proper handles.

5.4.12 Drill Bits should be kept sharp, not dull, chipped, rounded, or tapered.

5.4.13 Screwdriver points should not be badly worn and handles should be in good condition. Use the proper size and type of screwdriver for the job.

5.4.14 Wrenches, if adjustable, must work freely and adjust properly. Gripping teeth or smooth jaws should not be worn. Always use the proper size for the job.

5.4.15 Always wear the PPE required for the job. Protect your eyes, hands, ears and other body parts. Keep clothing out of your work.

5.5 Portable circular saws.

5.5.1 All portable, power-driven circular saws having a blade diameter greater than 2 in. shall be equipped with guards above and below the base plate or shoe. The upper guard shall cover the saw to the depth of the teeth, except for the minimum arc required to permit the base to be tilted for bevel cuts. The lower guard shall cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work. When the tool is withdrawn from the work, the lower guard shall automatically and instantly return to covering position

5.5.1.1 **Guards** shall be in place and operable at all times while the tool is in use. The guard may not be manipulated in such way that will comprise its integrity or compromise the protection in which intended. Guarding shall meet the requirements set forth in ANSI B15.1.

5.5.2 All hand-held powered circular saws having a blade diameter greater than 2 inches, electric, hydraulic or pneumatic chain saws, and percussion tools without positive accessory holding means shall be equipped with a constant pressure switch or control that will shut off the power when the pressure is released. All hand-held gasoline powered chain saws shall be equipped with a constant pressure throttle control that will shut off the power to the saw chain when the pressure is released.

5.6 Power drill tools. All hand-held powered drills, tappers, fastener drivers, horizontal, vertical, and angle grinders with wheels greater than 2 inches in diameter, disc sanders with discs greater than 2 inches in diameter, belt sanders, reciprocating saws, saber, scroll, and jig saws with blade shanks greater than a nominal one-fourth inch, and other similarly operating powered tools shall be equipped with a constant pressure switch or control, and may have a lock-on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

5.7 Portable belt sanding machines. Belt sanding machines shall be provided with guards at each nip point where the sanding belt runs onto a pulley. These guards shall effectively prevent the hands or fingers of the operator from coming in contact with the nip points. The unused run of the sanding belt shall be guarded against accidental contact.

5.8 **Saber, scroll, and jig saws** with nonstandard blade holders may use blades with shanks which are non-uniform in width, provided the narrowest portion of the blade shank is an integral part in mounting the blade.

5.8.1 Blade shank width shall be measured at the narrowest portion of the blade shank when saber, scroll, and jig saws have nonstandard blade holders.

5.9 **All other powered tools.** All other hand-held powered tools, such as, but not limited to, platen sanders, grinders with wheels 2 inches in diameter or less, disc sanders with discs 2 inches in diameter or less, routers, planers, laminate trimmers, nibblers, shears, saber, scroll, and jig saws with blade shanks a nominal one-fourth of an inch wide or less, may be equipped with either a positive "on-off" control, or other controls.

5.9.1 The operating control on hand-held power tools shall be so located as to minimize the possibility of its accidental operation, if such accidental operation would constitute a hazard to employees.

5.9.2 **Cracked saws**. All cracked saws shall be removed from service.

5.9.3 **Grounding**. Portable electric powered tools shall utilize GFCI and meet the manufacturer's electrical requirements.

5.10 **Pneumatic powered tools and hose** –

5.10.1 Tool retainer. A tool retainer shall be installed on each piece of utilization equipment which, without such a retainer may eject the tool.

5.10.2 Air hose. Hose and hose connections used for conducting compressed air to utilization equipment shall be designed for the pressure and service to which they are subjected.

5.11 **Portable abrasive wheels** – shall be used only on machine provided with safety guards.

5.12 **Safety guard rail –**

5.12.1 A safety guard shall cover the spindle end, nut and flange projections. The safety guard shall be mounted so as to maintain proper alignment with the wheel, and the strength of the fastenings shall exceed the strength of the guard.

5.12.2 Exception. Safety guards on all operations where the work provides a suitable measure of protection to the operator may be so constructed that the spindle end, nut and outer flange are exposed. Where the nature of the work is such as to entirely cover the side of the wheel, the side covers of the guard may be omitted.

5.12.3 Exception. The spindle end, nut, and outer flange may be exposed on portable machines designed for, and used with, type 6, 11, 27, and 28 abrasive wheels, cutting off wheels, and tuck pointing wheels.

5.13 **Cup wheels –** (Types 6 and 11) shall be protected by Special "revolving cup guards" which mount behind the wheel and turn with it. They shall be made of steel or other material with adequate strength and shall enclose the wheel sides upward from the back for one-third of the wheel thickness. The mounting features shall conform to all regulations. It is necessary to maintain clearance between the wheel side and the guard. The clearance shall not exceed one-sixteenth inch.

5.14 **Vertical portable grinders**. Safety guards used on machines known as right angle head or vertical portable grinders shall have a maximum exposure angle of 180 deg., and the guard shall be so located so as to be between the operator and the wheel during use. Adjustment of guard shall be such that pieces of an accidentally broken wheel will be deflected away from the operator.

5.15 **Other portable grinders**. The maximum angular exposure of the grinding wheel periphery and sides for safety guards used on other portable grinding machines shall not exceed 180 deg. and the top half of the wheel shall be enclosed at all times.

5.16 **Mounting and inspection of abrasive wheels**.

5.16.1 Immediately before mounting, all wheels shall be closely inspected and sounded by the user to make sure they have not been damaged in transit, storage, or otherwise. The spindle speed of the machine shall be checked before mounting of the wheel to be certain that it does not exceed the maximum operating speed marked on the wheel.

5.16.2 Grinding wheels shall fit freely on the spindle and remain free under all grinding conditions. A controlled clearance between the wheel hole and the machine spindle (or wheel sleeves or adaptors) is essential to avoid excessive pressure from mounting and spindle expansion. To accomplish this, the machine spindle shall be made to nominal (standard) size plus zero minus .002 inch, and the wheel hole shall be made suitably oversize to assure safety clearance under the conditions of operating heat and pressure.

5.16.3 All contact surfaces of wheels, blotters, and flanges shall be flat and free of foreign matter.

5.16.4 When a bushing is used in the wheel hole it shall not exceed the width of the wheel and shall not contact the flanges.

5.17 **Explosive actuated fastening tools** –

5.17.1 GENERAL REQUIREMENTS

5.17.1.1 Explosive-actuated fastening tools which are actuated by explosives or any similar means and propel a stud, pin, fastener, or other object for the purpose of affixing it by penetration to any other object shall meet the design requirements in "American National Standard Safety Requirements for Explosive-Actuated Fastening Tools," ANSI A10.3-1970. This requirement does not apply to devices designed for attaching objects to soft construction materials, such as wood, plaster, tar, dry wallboard, and the like, or to stud welding equipment.

5.17.1.2 Operators and assistants using tools shall be safeguarded by means of eye protection. Head and face protection shall be used, as required by working conditions.

5.17.1.3 Employees must be adequately trained and be considered qualified and/or certified to operate powder actuated tools.

5.17.2 High-velocity tools - Inspection, Maintenance & Handling Tools of this type shall have the following characteristics;

5.17.2.1 The muzzle end of the tool shall have a protective shield or guard at least 3 1/2 inches in diameter, mounted perpendicular to and concentric with the barrel, and designed to confine any flying fragments or particles that might otherwise create a hazard at the time of firing.

5.17.2.2 Where a standard shield or guard cannot be used, or where it does not cover all apparent avenues through which flying particles might escape, a special shield, guard, fixture, or jig designed and built by the manufacturer of the tool being used, which provides this degree of protection, shall be used as a substitute.

5.17.2.3 The tool shall be so designed that it cannot be fired unless it is equipped with a standard protective shield or guard, or a special shield, guard, fixture, or jig.

5.17.2.4 The firing mechanism shall be so designed that the tool cannot fire during loading or preparation to fire, or if the tool should be dropped while loaded.

5.17.2.5 Firing of the tool shall be dependent upon at least two separate and distinct operations of the operator, with the final firing movement being separate from the operation of bringing the tool into the firing position.

5.17.2.6 The tool shall be so designed as not to be operable other than against a work surface, and unless the operator is holding the tool against the work surface with a force at least 5 pounds greater than the total weight of the tool.

5.17.2.7 The tool shall be so designed that it will not operate when equipped with the standard guard indexed to the center position if any bearing surface of the guard is tilted more than 8 deg. from contact with the work surface.

5.17.2.8 The tool shall be so designed that positive means of varying the power are available or can be made available to the operator as part of the tool, or as an auxiliary, in order to make it possible for the operator to select a power level adequate to perform the desired work without excessive force.

5.17.2.9 The tool shall be so designed that all breeching parts will be reasonably visible to allow a check for any foreign matter that may be present.

5.17.3 Low-velocity-piston type tools – Tools of this type shall have the characteristics outlined as follows;

5.17.3.1 The muzzle end of the tool shall be designed so that suitable protective shields, guards, jigs, or fixtures, designed and built by the manufacturer of the tool being used, can be mounted perpendicular to the barrel. A standard spall shield shall be supplied with each tool.

5.17.3.2 The tool shall be designed so that it shall not in ordinary usage propel or discharge a stud, pin, or fastener while loading or during preparation to fire, or if the tool should be dropped while loaded.

5.17.3.3 Firing of the tool shall be dependent upon at least two separate and distinct operations of the operator, with the final firing movement being separate from the operation of bringing the tool into the firing position.

5.17.3.4 The tool shall be so designed as not to be operable other than against a work surface, and unless the operator is holding the tool against the work surface with a force at least 5 pounds greater than the total weight of the tool.

5.17.3.5 The tool shall be so designed that positive means of varying the power are available or can be made available to the operator as part of the tool, or as an auxiliary, in order to make it possible for the operator to select a power level adequate to perform the desired work without excessive force.

5.17.3.6 The tool shall be so designed that all breeching parts will be reasonably visible to allow a check for any foreign matter that may be present.

5.17.4 Tools of the hammer-operated piston tools – These low-velocity type of tools shall have the characteristics outlined as follows;

5.17.4.1 The muzzle end of the tool shall be so designed that suitable protective shields, guards, jigs, or fixtures, designed and built by the manufacturer of the tool being used, can be mounted perpendicular to the barrel. A standard spall shield shall be supplied with each tool.

5.17.4.2 The tool shall be so designed that it shall not in ordinary usage propel or discharge a stud, pin, or fastener while loading, or during preparation to fire, or if the tool should be dropped while loaded.

5.17.4.3 Firing of the tool shall be dependent upon at least two separate and distinct operations of the operator, with the final firing movement being separate from the operation of bringing the tool into the firing position.

5.17.4.4 The tool shall be so designed that positive means of varying the power are available or can be made available to the operator as part of the tool, or as an auxiliary, in order to make it possible for the operator to select a power level adequate to perform the desired work without excessive force.

5.17.4.5 The tool shall be so designed that all breeching parts will be reasonably visible to allow a check for any foreign matter that may be present.

5.17.5 Requirements for loads and fasteners.

5.17.5.1 There shall be a standard means of identifying the power levels of loads used in tools.

5.17.5.2 No load (cased or caseless) shall be used if it will accurately chamber in any existing approved commercially available low-velocity piston tool or hammer operated piston tool - low-velocity type and will cause a fastener to have a mean velocity in excess of 300 feet per second when measured 6.5 feet from the muzzle end of the barrel. No individual test firing of a series shall exceed 300 feet per second by more than 8 percent.

5.17.5.3 Fasteners used in tools shall be only those specifically manufactured for use in such tools.

5.17.6 Operating Requirements.

5.17.6.1 Before using a tool, the operator shall inspect it to determine to his satisfaction that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions.

5.17.6.2 When a tool develops a defect during use, the operator shall immediately cease to use it, until it is properly repaired.

5.17.6.3 Tools shall not be loaded until just prior to the intended firing time. Neither loaded nor empty tools are to be pointed at any workmen.

5.17.6.4 No tools shall be loaded unless being prepared for immediate use, nor shall an unattended tool be left loaded.

5.17.6.5 In case of a misfire, the operator shall hold the tool in the operating position for at least 30 seconds. She/he shall then try to operate the tool a second time. He shall wait another 30 seconds, holding the tool in the operating position; then he shall proceed to remove the explosive load in strict accordance with the manufacturer's instructions.

5.17.6.6 A tool shall never be left unattended in a place where it would be available to unauthorized persons.

5.17.6.7 Fasteners shall not be driven into very hard or brittle materials including, but not limited to, cast iron, glazed tile, surface-hardened steel, glass block, live rock, face brick, or hollow tile.

5.17.6.8 Driving into materials easily penetrated shall be avoided unless such materials are backed by a substance that will prevent the pin or fastener from passing completely through and creating a flying-missile hazard on the other side.

5.17.6.9 Fasteners shall not be driven directly into materials such as brick or concrete closer than 3 inches from the unsupported edge or corner, or into steel surfaces closer than one-half inch from the unsupported edge or corner, unless a special guard, fixture, or jig is used. (Exception: Low-velocity tools may drive no closer than 2 inches from an edge in concrete or one-fourth inch in steel.)

5.17.6.10 When fastening other materials, such as a 2- by 4-inch wood section to a concrete surface, it is permissible to drive a fastener of no greater than 7/32-inch shank diameter not closer than 2 inches from the unsupported edge or corner of the work surface.

5.17.6.11 Fasteners shall not be driven through existing holes unless a positive guide is used to secure accurate alignment.

5.17.6.12 No fastener shall be driven into a spalled area caused by an unsatisfactory fastening.

5.17.6.13 All tools shall be used with the correct shield, guard, or attachment recommended by the manufacturer. Tools shall not be used in an explosive or flammable atmosphere.

5.17.6.14 Any tool found not in proper working order shall be immediately removed from service. The tool shall be inspected at regular intervals and shall be repaired in accordance with the manufacturer's specifications.

5.18 Jacks –

5.18.1 Loading and marking.

5.18.1.1 The operator shall make sure that the jack used has a rating sufficient to lift and sustain the load.

5.18.1.2 The rated load shall be legibly and permanently marked in a prominent location on the jack by casting, stamping, or other suitable means.

5.18.2 Operation and maintenance.

5.18.2.1 In the absence of a firm foundation, the base of the jack shall be blocked. If there is a possibility of slippage, a block shall be placed in between the cap and the load.

5.18.2.2 The operator shall watch the stop indicator, which shall be kept clean, in order to determine the limit of travel. The indicated limit shall not be overrun.

5.18.2.3 After the load has been raised, it shall be cribbed, blocked, or otherwise secured.

5.18.2.4 Hydraulic jacks exposed to freezing temperatures shall be supplied with an adequate antifreeze liquid.

5.18.2.5 All jacks shall be properly lubricated at regular intervals.

5.18.2.6 Each jack shall be thoroughly inspected at times which depend upon the service conditions. Inspections shall not be less frequent than the following:

5.18.2.6.1 For constant or intermittent use at one locality, once every 6 months,

5.18.2.6.2 For jacks sent out of shop for special work, when sent out and when returned,

5.18.2.6.3 For a jack subjected to abnormal load or shock, immediately before and immediately thereafter.

5.18.2.7 Repair or replacement parts shall be examined for possible defects.

5.18.2.8 Jacks which are out of order shall be tagged accordingly, and shall not be used until repairs are made.

6.0 TRAINING:

6.1 Training shall be provided, by a competent person, for all Kuesel Group employees who may be required to utilize hand tools, power tools and associated equipment.

6.2 Training shall include:

6.2.1 Procedures for using, maintaining, and inspecting hand tools, power tools and associated equipment.

6.2.2 The procedures for handling and storing hand tools, power tools and associated equipment.

6.2.3 Awareness of improper usage and storage of hand and power tools.

6.2.4 OSHA Standards pertaining to utilizing hand and power tools.

6.3 Retraining shall be conducted when:

6.3.1 Changes in the workplace render previous training obsolete.

6.3.2 Changes in the type of hand tools, power tools and associated equipment changes and renders previous training obsolete.

6.3.3 Inadequacies in employee's knowledge or use of tools and equipment indicate that the employee has not retained the required understanding or skill.

6.4 Training attendance records shall contain the name or other identity of the employee, the date of the training, and the signature of the person who conducted the training.

6.5 Training records shall be maintained at current jobsite and the Kuesel Group main office in O'Fallon, Missouri for the duration of the worker's employment

7.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 47 Preventative Maintenance

1.0 PURPOSE:

1.1 The purpose of this program is to regularly monitor and maintain The Kuesel Group equipment in order to keep it functioning properly.

2.0 SCOPE:

2.1 Preventative maintenance is a maintenance program performed on equipment in order to keep it functioning properly. A good preventative maintenance program can reduce down time, thereby increasing productivity. It can also help to prevent costly repairs to equipment by reducing the possibility that equipment will experience a major breakdown.

2.2 The information contained in this procedure applies to all subsidiaries and divisions of The Kuesel Group.

3.0 RESPONSIBILITIES:

3.1 Management

3.1.1 Shall be responsible for ensuring uniform implementation and compliance with this program by employees and subcontractors.

3.1.2 Shall maintain an inventory of all equipment in his/her facility that requires preventative maintenance based on either manufacturer's guide, site preventative maintenance policy, or legislated requirements.

3.1.3 Coordinate preventative maintenance activities with responsible parties.

3.1.4 Inform the Safety Supervisor or Department when new equipment is purchased that requires periodic preventative maintenance.

3.1.5 Ensure all employees performing preventative maintenance receive appropriate item specific preventative maintenance training.

3.2 Safety Representative

3.2.1 Shall be responsible for providing support and guidance as needed to ensure that personnel are instructed in and trained to the requirements of this program and to applicable site specific requirements.

3.2.2 Shall maintain appropriate documentation as evidence of the training program and comprehension level of the personnel.

3.2.3 Verify that all industrial equipment goes through an initial pre-use analysis/machine check to ensure all safety features are operating properly.

3.2.4 Verify that preventative maintenance inspections include the evaluation of equipment components designed to protect workers' safety and health.

3.2.5 Provide technical oversight concerning the occupational safety and health aspects of the preventative maintenance program.

3.2.6 Review and approve systems used by all departments for preventative maintenance planning and recordkeeping.

3.2.7 Receive training in preventative maintenance topics as appropriate to their assigned duties.

3.3 Supervisor Responsibilities

3.3.1 Shall ensure that personnel under their direction attend and receive appropriate training and that they maintain compliance with this program.

3.3.2 Shall ensure that only trained employees assume active roles and perform related work in accordance with this program.

3.4 Employee Responsibilities

3.4.1 Shall be responsible for ensuring they understand and comprehend this program and maintain full compliance with this program and its contents.

3.4.2 It is the responsibility of the employee to do the following:

3.4.2.1 Not perform maintenance on equipment without authorization

3.4.2.2 Conduct a visual inspection of equipment prior to use to ensure safety-related features are functioning properly.

3.4.2.3 Immediately notify supervisors of facility/equipment failures and/or problems noted in visual inspections.

3.4.2.4 Never bypass safety features or remove guards

4.0 GENERAL INFORMATION:

4.1 Preventative maintenance programs are based on employee involvement and rely on knowledge, ideas, and contributions from all maintenance personnel. The program must tap into the ideas and expertise of every member of the project or facility staff.

4.2 When people become involved in change, they accept ownership for their project or facility. Employees need to be encouraged to participate in improvements.

4.3 Important aspects of managing a program include:

4.3.1 Building trust.

4.3.2 Providing recognition for improvements made.

4.3.3 Providing the opportunity to be creative.

4.3.4 Being willing to listen and act on employee suggestions.

4.4 Everyone involved must believe in the program and the program must relate to the project or facility.

4.5 The following objectives will ensure a successful program:

4.5.1 Perform maintenance at a level that will keep the facility and/or project equipment safe and in an acceptable condition without over maintaining or under maintaining.

4.5.2 Inspect and detect items which require continuing attention or which may impact adversely on the operation of the facility.

4.5.3 Promote the most effective and efficient use of staffing and resources.

4.5.4 Provide a more accurate means of estimating the number of operations and maintenance personnel needed.

4.5.5 Establish a basis for determining budgetary requirements and long-range planning projections.

4.5.6 Provide a means of evaluating the maintenance effort and control of the standard of operation at each facility.

4.5.7 Provide a method for instruction and training in proper maintenance procedures by operators and users of equipment.

4.5.8 Establish the workload and schedule for an effective preventative maintenance program.

4.5.9 Establish the components that require contractor performed maintenance due to lack of in-house expertise or staffing.

4.5.10 Prolong longer equipment life.

4.5.11 Reduce the number of repairs.

4.5.12 Require less standby equipment.

4.5.13 Reduce equipment downtime.

4.6 Do not lose sight of some requirements of laws, regulations, codes, and accreditation which are not preventative maintenance requirements. For the purposes of this procedure, the preventative maintenance program can be broken down into two categories:

4.6.1 Preventative Maintenance - Traditional (Lubricate, visual inspection, adjust, check parameters (temperature, pressure, vibration, tension).

4.6.2 Tests and Inspections - Tests and/or inspections verify the performance of the equipment (e.g., testing of emergency generator under load, internal boiler inspection, crane inspections, eyewash inspection). Their purpose is to assure that the equipment is capable of functioning in its design parameters.

5.0 INSPECTIONS:

5.1 In deciding what to inspect take into consideration:

5.1.1 How critical is the equipment?

5.1.2 Does the normal size of the equipment without preventative maintenance exceed operating needs?

5.1.3 Is standby equipment available in case of failure?

5.1.4 Does the cost of preventative maintenance exceed the cost of repair or replacement?

5.1.5 Will failure to maintain equipment harm employees, contractors or visitors?

5.2 Inspectors

5.2.1 A PM inspector is someone who has been trained to test, replace some components, and make small repairs and adjustments as he/she inspects.

5.2.2 Inspections and tests may be separate from the preventative maintenance tasks or they

may be accomplished simultaneously.

5.2.3 Maintenance duties could be assigned and rotated among the workers.

6.0 CHECKLISTS:

6.1 Preventative maintenance should be conducted through means of checklists. Documentation needs to be kept of any recommendations or corrections made by the inspector. Any repairs required as a result of the inspection should be initiated by a work order or other applicable written document. If too many repairs on the same piece of equipment are occurring, then the inspection process needs to be reviewed.

6.1.1 Is the problem encountered covered by the preventative maintenance tasks?

6.1.2 Are inspection intervals adequate?

6.1.3 Is the inspector being thorough in his duties?

6.1.4 Does the inspector need training?

6.2 Repetitive equipment failures are a clue to material failure problems which may require design changes. Repetitive failures can also indicate operational overloading or misapplication.

6.3 Inspections should neither be overdone nor underdone. It is extremely important that a follow up on the preventative maintenance program be conducted to ensure that it is enough to eliminate breakdowns but not often enough to make the inspection formidable and too costly. A good rule of thumb is that inspections should be often enough to produce repairs every third or fourth inspection on average; they should not be so infrequent that breakdowns are occurring. Cost needs to be monitored for repairs to each piece of equipment.

6.4 To ensure complete and uniform maintenance, all points to be checked should be itemized on a preventative maintenance guideline form. Criteria must be specific enough that variables to check such as operating pressures, temperatures, belt slack, and type of lubricant to use are clearly spelled out in the inspection form. Inspection tasks and variables for each piece of equipment are found in guide books, manufacturer's catalogues, maintenance manuals and trade magazines. Checklists must reflect the complexity and location of preventative maintenance points for each piece of equipment as well as its condition, load and the environment within which it operates.

7.0 INVENTORY AND PM SCHEDULE:

7.1 An inventory of the company's machinery/equipment should be established and kept current by each region. When new machinery or equipment is acquired, it must be added to the inventory.

7.2 Preventative maintenance schedules will be developed for each piece of equipment found in the PM Inventory. Schedules will be based on manufacturer requirements and industry standards. Note: Maintenance manuals received with equipment shall be located with the equipment and/or at the project or an area designated by the company Equipment & Materials Manager.

7.3 Preventative maintenance performed on machinery or equipment must be documented and retained for the life of the machinery or equipment.

7.4 Defects observed in machinery or equipment shall be reported to a supervisor and must be repaired or replaced before being used again.

8.0 DOCUMENTATION AND RECORDS:

8.1 The preventative maintenance program applies to all Kuesel Group facilities and departments and includes any equipment that could cause serious physical harm to employees if equipment safety-related components fail.

8.2 Where items are subject to preventative maintenance requirements under multiple programs, the more stringent program/requirement shall apply.

8.3 All supervisors/managers must maintain documentation or have access to records that verify preventative maintenance schedules and the records of last maintenance inspections of equipment have been completed.

9.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 48 Compressed Gas Cylinder Safety

1.0 PURPOSE:

1.1 The purpose of this program is to provide basic guidelines that will protect the health and safety of employees involved in operations related to the transporting, handling, storage, and usage of compressed gas cylinders.

2.0 SCOPE:

2.1 This program applies to all personnel who may handle, store, or work around compressed gas cylinders.

3.0 REFERENCES:

3.1 29 CFR 1910.253 Oxygen-fuel Gas Welding and Cutting

3.2 29 CFR 1910.101Compressed Gases (CGA Pamphlet P-1-1965)

3.3 29 CFR 1910.110 Storage and Handling of Liquefied Petroleum Gases (NFPA 58)

4.0 RESPONSIBILITIES:

4.1 Department Managers shall ensure that personnel under their direction receive training and that they maintain compliance with this program.

4.2 Safety Representative shall ensure that team leaders and employees are trained on this program and shall provide advice and counsel for the program.

4.3 Supervisors shall ensure that all employees who handle, use, or work around compressed gas cylinders are properly trained on these program guidelines.

4.4 Employees shall maintain compliance with the guidelines contained within this program.

5.0 PROCEDURE:

5.1 Compressed Gas Cylinder Storage

5.1.1 Propane/LP/fuel gases shall be limited to no more than 300 lbs. in any indoor storage locations (where the public does not have access to the location).

5.1.2 Cylinders shall be stored where they will not be exposed to physical damage or tampering by unauthorized persons. Cylinders shall be kept away from radiators and other sources of heat.

5.1.3 Cylinders shall be stored in assigned places where cylinders will not be knocked over or damaged by passing or falling objects (away from elevators, stairs, or gangways).

Cylinders must not be stored where they can make unexpected contact with electrical equipment or conductors if they should roll or fall.

5.1.4 Oxygen cylinders in storage shall be separated from fuel gas cylinders by 20 ft. or by a noncombustible barrier at least 5 ft. high and having a fire resistance of one-half hour.

5.1.5 Additionally, all cylinders in storage shall be separated from flammable and combustible liquids and from easily ignited materials such as wood, paper, packaging materials, oil, and grease by at least 20 ft. or by a noncombustible barrier at least 5 ft. high having a fire resistance of one-half hour.

5.1.6 Cylinder storage areas shall be prominently posted with the name of the gases to be stored.

5.1.7 Regulators from empty cylinders shall be removed and the protective caps put in place. Empty cylinders shall be marked "MT", or other equally effective notation. Never bleed a cylinder completely empty. Leave a slight pressure to keep contaminants out. Full and empty cylinders shall be separated.

5.1.8 While in storage, compressed gas cylinders' valve protection caps shall be in place and secure. Note: some compressed gas cylinders may have a permanent valve collar affixed and a cap is not required.

5.1.9 Compressed gas cylinders must be stored in racks or secured in an upright position (chained or strapped). No cylinder shall be left free-standing.

5.1.10 Compressed gas cylinders must be stored in approved storage areas and not in areas with poor ventilation or subsurface areas. Ensure that all indoor storage locations are properly ventilated.

5.1.11 Avoid areas that are damp or subject to other corrosive materials. Protect cylinders stored outside from standing water by providing proper drainage. Where outdoors storage is necessary, an overhead cover is necessary to avoid sunlight and rain.

5.1.12 All storage areas must be marked with signs, such as “*No Smoking*” or *"No Open Flames*". Oxygen cylinders must be stored with non-flammable gases or by themselves.

5.1.13 Never use oil or grease to lubricate any part of a cylinder (e.g., the threads on the cap or the cylinder, or the regulator).

5.1.14 Portable fire extinguishers (of carbon dioxide or dry chemical types) must be available for fire emergencies at cylinder storage locations. Extinguisher(s) will be readily identifiable and be properly mounted in the storage room.

5.2 Compressed Gas Cylinder Transport and Handling

5.2.1 Compressed gas cylinders must never be transported in closed-bodied vehicles or automobiles not equipped with an approved cylinder transport rack.

5.2.2 A suitable cylinder truck and steadying device (ex. chain, strap) shall be used to keep cylinders from being knocked over while being moved or in use. Compressed gas cylinders must not be rolled or dragged.

5.2.3 When transporting or moving compressed gas cylinders, valve protection caps shall be in place and secure (unless a permanent collar is in place). Compressed gas cylinders must never be lifted by the valve cap, collar, or by the use of magnets.

5.2.4 Unless cylinders are secured on a cylinder truck, regulators shall be removed and valve-protection caps shall be put in place before cylinders are moved. When cylinders stored on a cylinder truck are to be moved to a nearby area with the regulators attached, the cylinder valves shall be closed with no pressure in the regulators.

5.2.5 While a cylinder is in use, nothing shall be placed on top of the cylinder which may damage the safety device or interfere with the quick closing of the shutoff valve.

NOTE: NEVER WRAP HOSES AROUND THE NECK OF COMPRESSED GAS CYLINDERS. THIS MAY INTERFERE WITH THE QUICK CLOSING OF THE SHUTOFF VALVE IN AN EMERGENCY.

5.2.6 Oxygen and fuel cylinders shall be kept far enough away from the actual welding or cutting operation so that sparks, hot slag, or flame will not reach them. If this is not possible, the cylinders shall be protected.

5.2.7 A hammer or wrench shall not be used to open cylinder valves. If valves cannot be opened by hand, the supplier shall be notified.

5.2.8 Only use the appropriate regulator for the type of gas. Never mix fuel gas and oxygen regulators.

5.2.9 Before connecting a regulator to a cylinder valve, the valve shall be opened slightly and closed immediately. The valve shall be opened while standing to one side of the outlet, never in front of it. Employees must be wearing the appropriate eyewear (ex. safety glasses with side shields).

5.2.10 When work is finished, the cylinder valve shall be closed and the valve protection cap put on (Note: Valves of empty cylinders shall be closed).

5.2.11 Compressed gas cylinders shall not be taken into confined spaces.

5.2.12 No damaged, leaking or defective cylinder shall be used. If cylinders are found to have leaky valves or fittings, which cannot be stopped by closing of the valve, the cylinders shall be taken outdoors away from sources of ignition and slowly emptied. Leaking cylinders shall be tagged as such.

5.2.13 No one except the owner of the cylinder or persons authorized by the owner shall fill a cylinder.

5.3 Marking and Labeling

5.3.1 All compressed gas cylinders shall be legibly marked with either the chemical or trade name of the gas as required by DOT. Do not use cylinders in which the labeling is

missing or illegible. If unable to identify contents, the cylinder shall be returned to the supplier.

5.3.2 Compressed gas cylinders shall be marked by stenciling, stamping, or labeling. The numbers and markings on cylinders shall not be tampered with and not be easily removed.

5.3.3 Marking shall be located on the slanted area (shoulder) directly below the cap.

5.3.4 Numbers and symbols shall consist of the following:

5.3.4.1 DOT number

5.3.4.2 Serial number and identifying symbol (the serial number and symbol are located immediately after or below the DOT number.)

5.3.5 The hydrostatic test date shall be marked on the cylinder as required by DOT. Hydrostatic testing of compressed gas cylinders shall be done in accordance with DOT requirements for the type of cylinder.

5.4 Inspection

5.4.1 Each employee shall determine that compressed gas cylinders are in a safe condition by means of a visual inspection. A visual inspection shall be conducted before transporting, moving or using a compressed gas cylinder. A periodic inspection should be made of compressed gas cylinder storage areas.

5.4.2 If evidence of any unsafe condition is discovered, the cylinder(s) shall be immediately removed from service and appropriately tagged. The owner/supplier shall be notified.

6.0 TRAINING:

6.1 All employees handling or using compressed gas cylinders must have basic safety training on transporting, storing, handling, and using compressed gas cylinders. This training is to be covered in the employee's orientation and at periodic interval.

6.2 Gas users must be thoroughly familiar with the properties of each gas they are using. A review of the Safety Data Sheet (SDS) for the gas may be necessary.

7.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

SP 49 Respirable Crystalline Silica Program

1.0 PURPOSE:

1.1 This Respirable Crystalline Silica Program was developed to prevent employee exposure to hazardous levels of respirable crystalline silica that could result through construction activities or nearby work activities occurring on a site. Respirable Crystalline Silica exposure at hazardous levels can lead to lung cancer, silicosis, chronic obstructive pulmonary disease, and kidney disease. It is intended to meet the requirements of the Respirable Crystalline Silica Construction Standards (29 CFR 1926.1153 and 29 CFR 1910.1053) established by the Occupational Safety and Health Administration (OSHA).

2.0 SCOPE:

2.1 This procedure applies to all Kuesel Group employees who are potentially exposed to airborne concentrations of respirable crystalline silica due to their work activities or proximity to locations where airborne silica is occurring.

3.0 REFERENCES:

3.1 OSHA 29 CFR 1926.1153: Respirable Crystalline Silica

3.2 OSHA 29 CFR 1910.1053: Respirable Crystalline Silica

3.3 OSHA 29 CFR 1910.1200: Hazard Communication

3.4 OSHA 29 CFR 1910.134: Respiratory Protection Standard

3.5 OSHA 29 CFR 1910.1020: Access to Employee Exposure and Medical Records

4.0 RESPONSIBILITIES:

4.1 Safety Director:

4.1.1 Implement and maintain the Respirable Crystalline Silica Exposure Control Plan (ECP).

4.1.2 Conduct job site assessments for Silica containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an employee's exposure will be above 25 µg/m^3 as an 8-hour TWA under any foreseeable conditions.

4.1.3 Select and implement into the project's ECP the appropriate control measures in accordance with the Construction Tasks identified in OSHA's Construction Standard Table 1; and potentially including, but not limited to, a written Exposure Control Plan (ECP), exposure monitoring, Hazard Communication training, medical surveillance, housekeeping and others.

4.1.4 Ensure that the materials, tools, equipment, personal protective equipment (PPE), and other resources (such as worker training) required to fully implement and maintain this Respirable Crystalline Silica Program are in place and readily available, if needed.

4.1.5 Ensure that Project Managers, Team Leaders/Field Crew Leaders, Competent Persons and employees are educated in the hazards of Silica exposure and trained to work safely with Silica in accordance with OSHA's Respirable Crystalline Silica Construction Standard and OSHA's Hazard Communication Standard. Managers and Competent Persons may receive more advanced training than other employees.

4.1.6 Maintain written records of training (for example, proper use of respirators), ECPs, inspections (for equipment, PPE, and work methods/practices), medical surveillance (under lock and key), respirator medical clearances (under lock and key) and fit-test results.

4.1.7 Ensure an annual review is conducted (or more often if conditions change) of the effectiveness of this program and any active project ECP's that extend beyond a year. This includes a review of available dust control technologies to ensure these are selected and used when practical.

4.2 Project Manager/Field Crew Leader:

4.2.1 Ensure all applicable elements of this Respirable Crystalline Silica Program are implemented on the project including the selection of a Competent Person.

4.2.2 Assist the Safety Director in conducting job site assessments for Silica containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an ECP, exposure monitoring, and medical surveillance is necessary.

4.2.3 Assist in the selection and implementation of the appropriate control measures in accordance with the Construction Tasks identified in OSHA's Construction Standard Table 1; and potentially including, but not limited to, a written Exposure Control Plan (ECP), exposure monitoring, Hazard Communication training, medical surveillance, housekeeping and others.

4.2.4 Ensure that employees using respirators have been properly trained, medically cleared, and fit-tested in accordance with the company's Respiratory Protection Program. This process will be documented.

4.2.5 Ensure that work is conducted in a manner that minimizes and adequately controls the risk to workers and others. This includes ensuring that workers use appropriate engineering controls, work practices, and wear the necessary PPE.

4.2.6 Where there is risk of exposure to Silica dust, verify employees are properly trained on the applicable contents of this program, the project-specific ECP, and the applicable OSHA Standards (such as Hazard Communication). Ensure employees are provided appropriate PPE when conducting such work.

4.3 Competent Person(s):

4.3.1 Make frequent and regular inspections of job sites, materials, and equipment to implement the written ECP.

4.3.2 Identify existing and foreseeable Respirable Crystalline Silica hazards in the workplace and take prompt corrective measures to eliminate or minimize them.

4.3.3 Notify the Project Manager and/or Safety Director of any deficiencies identified during inspections in order to coordinate and ensure prompt corrective action.

4.3.4 Assist the Project Manager and Safety Director in conducting job site assessments for Silica containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an ECP, exposure monitoring, and medical surveillance is necessary.

4.4 Employees:

4.4.1 Each Kuesel Group employee is responsible for complying with the guidelines as outlined in this document and any additional guidelines specific to their work area.

5.0 DEFINITIONS:

5.1 Action Level - a concentration of airborne Respirable Crystalline Silica of 25 µg/m3, calculated as an 8-hour TWA.

5.2 Competent Person - an individual who is capable of identifying existing and foreseeable Respirable Crystalline Silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them.

5.3 Employee Exposure - the exposure to airborne Respirable Crystalline Silica that would occur if the employee were not using a respirator.

5.4 High-Efficiency Particulate Air (HEPA) Filter - a filter that is at least 99.97 percent efficient in removing monodispersed particles of 0.3 micrometers in diameter.

5.5 Objective Data - information, such as air monitoring data from industry- wide surveys or calculations based on the composition of a substance, demonstrating employee exposure to Respirable Crystalline Silica associated with a particular product or material or a specific process, task, or activity. The data must reflect workplace conditions closely resembling or with a higher exposure potential than the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.

5.6 Permissible Exposure Limit (PEL) - the employer shall ensure that no employee is exposed to an airborne concentration of Respirable Crystalline Silica in excess of 50 µg/m3, calculated as an 8-hour TWA.

5.7 **Physician or Other Licensed Health Care Professional (PLHCP) -** an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide or be delegated the responsibility to provide some or all of the particular health care services required by the Medical Surveillance Section of the OSHA Respirable Crystalline Silica Standard.

5.8 **Respirable Crystalline Silica -** Quartz, Cristobalite, and/or Tridymite contained in airborne particles that are determined to be respirable by a sampling device designed to meet the characteristics for respirable-particle size - selective samplers specified in the International Organization for Standardization (ISO) 7708:1995: Air Quality-Particle Size Fraction Definitions for Health - Related Sampling.

5.9 **Specialist -** an American Board Certified Specialist in Pulmonary Disease or an American Board Certified Specialist in Occupational Medicine.

6.0 DOCUMENT REVIEW:

6.1 The Safety Committee will annually evaluate this procedure for its effectiveness.

7.0 COMPETENT PERSON:

7.1 A competent person will be identified for each work location to inspect and oversee all activities with potential airborne silica exposure.

7.2 This person shall have a working knowledge of the regulations, shall be able to identify airborne silica hazards, shall determine the need for initial and additional exposure monitoring, shall recommend and implement engineering/work practice controls, shall establish appropriate levels of PPE, and has the authority to take action to eliminate hazards and correct noncompliant situations.

8.0 WRITTEN EXPOSURE CONTROL PLAN:

8.1 When employee exposure on a construction project is expected to be at or above the Action Level, a Written Exposure Control Plan (ECP), see Appendix A, will be established and implemented. This ECP will contain at least the following elements:

8.1.1 A description of the tasks in the workplace that involve exposure to Respirable Crystalline Silica;

8.1.2 A description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to Respirable Crystalline Silica for each task;

8.1.3 A description of the housekeeping measures used to limit employee exposure to Respirable Crystalline Silica; and

8.1.4 A description of the procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to Respirable Crystalline Silica and their level of exposure, including exposures generated by other employers or sole proprietors.

8.2 The written ECP will designate a Competent Person to make frequent and regular inspections of job sites, materials, and equipment to ensure the ECP is implemented.

8.3 The written ECP will be reviewed at least annually to evaluate the effectiveness of it and update it as necessary. Having said this, ECP's are project specific and most project durations do not exceed a year. The written ECP will be readily available for examination and copying, upon request, to each employee covered by this program and/or ECP, their designated representatives, and OSHA.

9.0 HAZARD COMMUNICATION:

9.1 The Kuesel Group will include Respirable Crystalline Silica in the company's Hazard Communication Program established to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200). The site will ensure that each employee has access to labels on containers of Crystalline Silica and those containers respective Safety Data Sheets (SDS's).

9.2 All employees will be trained in accordance with the provisions of the OSHA Hazard Communication Standard and the Training Section of this program. This training will cover concerns relating to cancer, lung effects, immune system effects, and kidney effects.

10.0 SPECIFIC EXPOSURE CONTROL METHODS:

10.1 When possible and applicable, The Kuesel Group will conduct activities with potential Silica exposure to be consistent with OSHA's Construction Standard Table 1 listed below. Supervisors will ensure each employee under their supervision and engaged in a task identified on OSHA's Construction Standard Table 1 have fully and properly implemented the engineering controls, work practices, and respiratory protection specified for the task on Table 1 (unless the task has assessed and limited the exposure of the employee to Respirable Crystalline Silica in accordance with the Alternative Exposure Control Methods Section of this program).

10.2 The task(s) typically being performed by The Kuesel Group that are identified on OSHA's Construction Standard Table 1 are as follows:

10.2.1 Select any/all of the following that apply:

10.2.1.1 Saw cutting concrete

10.2.1.2 Breaking rock/concrete with attachment on excavator

10.2.1.3 Drilling holes in concrete

10.2.1.4 Pulverize concrete with grapple attachment on excavator

10.2.1.5 Soil Stabilization

10.2.1.6 Concrete Crushing

10.2.1.7 Grading & Excavation

10.3 When implementing the control measures specified in Table 1, The Kuesel Group shall:

10.3.1 For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust;

10.3.2 For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust;

10.3.3 For measures implemented that include an enclosed cab or booth, ensure that the enclosed cab or booth:

10.3.3.1 Is maintained as free as practicable from settled dust;

10.3.3.2 Has door seals and closing mechanisms that work properly;

10.3.3.3 Has gaskets and seals that are in good condition and working properly;

10.3.3.4 Is under positive pressure maintained through continuous delivery of fresh air;

10.3.3.5 Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10.0 µm range (e.g., MERV-16 or better); and has heating and cooling capabilities.

10.3.4 Where an employee performs more than one task included on OSHA's Construction Standard Table 1 during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.

Table 1:

Specified Exposure Control Methods When

Working With Materials Containing Crystalline Silica

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤4 hours/shift	>4 hours/shift
2a	Handheld power saws (any blade diameter) when used outdoors	• 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	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤4 hours/shift	>4 hours/shift
2b	Handheld power saws (any blade diameter) when used indoors or in an enclosed area	● 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.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
3	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
4a	Walk-behind saws when used outdoors	● 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
4b	Walk-behind saws when used indoors or in an enclosed area	● 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.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
7	Handheld and stand-mounted drills (including impact and rotary hammer drills)	● Use drill equipped with commercially available shroud or cowling 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
10 a	Jackhammers and handheld powered chipping tools when used outdoors	● Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact **OR** ● Use tool equipped with commercially available shroud and dust collection system.	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤4 hours/shift	>4 hours/shift
		● 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.		
10 b	Jackhammers and handheld powered chipping tools when used indoors or in an enclosed area	● Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact. **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.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
12 a	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
12 b	Handheld grinders for uses other than mortar removal when used indoors or in an enclosed area	● 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	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
16	Crushing machines	● Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is	None	None

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤4 hours/shift	>4 hours/shift
		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.		
17	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
18	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

11.0 ALTERNATIVE EXPOSURE CONTROL METHODS:

11.1 Alternative Exposure Control Methods apply for tasks not listed in OSHA's Construction Standard Table 1, or where The Kuesel Group cannot fully and properly implement the engineering controls, work practices, and respiratory protection described in Table 1.

11.2 The Kuesel Group will 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.

11.2.1 Performance Option – assess the 8-hour TWA exposure for each employee on the basis of any combination of air monitoring data or objective data sufficient to accurately characterize employee exposures to Respirable Crystalline Silica.

11.2.2 Scheduled Monitoring Option:

11.2.2.1 Perform initial monitoring to assess the 8-hour TWA exposure for each employee on the basis of one or more personal breathing zone air samples that reflect the exposures of employees on each shift, for each job classification, and in each work area. Where several employees perform the same tasks on the same shift and in the same work area, The Kuesel Group will plan to monitor a representative fraction of these employees. When using representative monitoring, sampling will be performed on the employee(s) who are expected to have the highest exposure to Respirable Crystalline Silica.

11.2.2.2 If initial monitoring indicates that employee exposures are below the Action Level, The Kuesel Group will discontinue monitoring for those employees whose exposures are represented by such monitoring.

11.2.2.3 Where the most recent exposure monitoring indicates that employee exposures are at or above the Action Level but at or below the PEL, monitoring will be repeated within six months of the most recent monitoring.

11.2.2.4 Where the most recent exposure monitoring indicates that employee exposures are above the PEL, the monitoring will be repeated within three months of the most recent monitoring.

11.2.2.5 Where the most recent (non-initial) exposure monitoring indicates that employee exposures are below the Action Level, The Kuesel Group will 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 they discontinue monitoring for those employees whose exposures are represented by such monitoring, except when a reassessment is required. The Kuesel Group will reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the Action Level, or when there is any reason to believe that new or additional exposures at or above the Action Level have occurred.

11.3 The Kuesel Group will ensure that all Respirable Crystalline Silica samples taken to satisfy the monitoring requirements of this program and OSHA are collected by a qualified individual and the samples are evaluated by a qualified laboratory.

11.4 Within five working days after completing an exposure assessment, the Safety Manager will ensure that each affected employee is individually notified in writing of the results of that assessment or post the results in an appropriate location accessible to all affected employees.

11.5 Whenever an exposure assessment indicates that employee exposure is above the PEL, a written notification of the corrective action being taken to reduce employee exposure to or below the PEL will be developed.

11.6 Where air monitoring is performed, affected employees or their designated representatives will have an opportunity to observe any monitoring of employee exposure to Respirable Crystalline Silica. When observation of monitoring requires entry into an area where the use of protective clothing or equipment is required for any workplace hazard, the observer will be provided with protective clothing and equipment at no cost and shall ensure that the observer uses such clothing and equipment.

11.7 Once air monitoring has been performed, The Safety Director or Competent Person will determine its method of compliance based on the monitoring data and the hierarchy of controls. The Kuesel Group will use engineering and work practice controls to reduce and maintain employee exposure to Respirable Crystalline Silica to or below the PEL, unless they can demonstrate that such controls are not feasible. Wherever such feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, the company will use these controls to reduce employee exposure to the lowest feasible level and shall supplement them with the use of respiratory protection.

12.0 CONTROL METHODS:

12.1 Control methods that are either consistent with Table 1 or otherwise minimize worker exposures to Silica will be implemented. These exposure control methods can include engineering controls, work practices, and respiratory protection. Listed below are control methods to be used when Table 1 is not followed:

12.1.1 Engineering and work practice controls, including administrative controls, shall be implemented to reduce and maintain employee exposure to silica at or below the PEL, to the extent that such controls are feasible.

12.1.2 Where all feasible engineering and work practice controls that can be instituted are not sufficient to reduce employee exposure to or below the PEL, such controls shall be used, nonetheless, to reduce employee exposure to the lowest feasible level (and in conjunction with respiratory protection).

12.1.3 Respiratory protection shall be selected based on guidance in 1926.1153 Table 1 or based on a Certified Industrial Hygienist's or competent person's assessment of the potential airborne exposure that may be created by the means and methods of work (high energy operations with high airborne dust generation or low energy operations with low dust generation).

12.1.4 When using mechanical ventilation to control exposure, regularly evaluate the system's ability to effectively control exposure.

12.1.5 If administrative controls are used to limit exposure, establish and implement a job rotation schedule that includes employee identification as well as the duration and exposure levels at each job or work station where each affected employee is located.

12.1.6 A written compliance program shall be established and implemented prior to the start of operations within the scope of this Written Compliance Plan. The written program shall outline the plans for maintaining employee exposure below the PEL.

12.1.7 Maintain all surfaces as free as possible from accumulations of silica. Select methods for cleaning surfaces and floors that minimize the likelihood of silica becoming airborne (such as using a HEPA vacuum).

12.1.8 If vacuuming is the method selected, specialized vacuums with HEPA filtration are required. Methods to use and empty vacuums in a manner that minimizes the reentry of silica into the workplace shall be described and used. Use of household vacuums with HEPA filters are not allowed at any time for the collection of dust or debris that contains silica.

12.1.9 Never use compressed air to remove silica from any surface unless it is used in conjunction with a ventilation system designed to capture the airborne dust created while using the compressed air.

12.1.10 Employees shall not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in any areas where exposure to silica is above the PEL (in other words, regulated areas).

12.1.11 Do not allow employees to leave the workplace wearing any protective clothing or equipment that is required to be worn during their work shift without HEPA vacuum removal of dust.

12.1.12 Where feasible, install shower facilities and require employees who work in regulated areas to shower at the end of their work shift. Also provide an adequate supply of cleaning agents and clean towels.

12.1.13 Provide hand washing facilities for use by employees working in regulated areas. Furthermore, require employees to wash their hands and face at the end of the work shift and prior to eating or entering eating facilities, drinking, smoking, or applying cosmetics.

12.1.14 Eating facilities or areas shall be provided for employees working in regulated areas. These facilities shall be maintained free of silica contamination and shall be readily accessible to those employees.

13.0 RESPIRATORY PROTECTION:

13.1 Where respiratory protection is required by this program, The Kuesel Group will provide each employee an appropriate respirator that complies with the requirements of the company's Respiratory Protection Program and the OSHA Respiratory Protection Standard (29 CFR 1910.134).

13.2 Respiratory protection is required where specified by the OSHA Construction Standard Table 1, for tasks not listed in Table 1, or where the company has not fully and properly implemented the engineering controls, work practices, and respiratory protection described in Table 1. Situations requiring respiratory protection include:

13.2.1 Where exposures exceed the PEL during periods necessary to install or implement feasible engineering and work practice controls;

13.2.2 Where exposures exceed the PEL during tasks, such as certain maintenance and repair tasks, for which engineering and work practice controls are not feasible; and

13.2.3 During tasks for which an employer has implemented all feasible engineering and work practice controls and such controls are not sufficient to reduce exposures to or below the PEL.

14.0 MEDICAL SURVEILLANCE:

14.1 Medical surveillance will be made available for each employee who will be required to use a respirator for 30 or more days per year due to their Respirable Crystalline Silica exposure. Medical surveillance (i.e. medical examinations and procedures) will be performed by a PLHCP and provided at no cost to the employee at a reasonable time and place.

14.2 An initial (baseline) medical examination will be made available within 30 days after initial assignment, unless the employee has received a medical examination that meets the requirements of the OSHA Respirable Crystalline Silica Construction Standard within the last three years. The examination shall consist of:

14.2.1 A medical and work history, with emphasis on past, present, and anticipated exposure to Respirable Crystalline Silica, dust, and other agents affecting the respiratory system in addition to any history of respiratory system dysfunction, including signs and symptoms of respiratory disease (e.g., shortness of breath, cough, wheezing), history of tuberculosis, and smoking status and history;

14.2.2 A physical examination with special emphasis on the respiratory system;

14.2.3 A chest X-ray (a single posteroanterior radiographic projection or radiograph of the chest at full inspiration recorded on either film [no less than 14 x 17 inches and no more than 16 x 17 inches] or digital radiography systems) interpreted and classified according to the International Labour Office (ILO) International Classification of Radiographs of Pneumoconiosis by a NIOSH-certified B Reader;

14.2.4 A pulmonary function test to include forced vital capacity (FVC) and forced expiratory volume in one second (FEV1) and FEV1/FVC ratio, administered by a spirometry technician with a current certificate from a NIOSH-approved spirometry course;

14.2.5 Testing for latent tuberculosis infection; and

14.2.6 Any other tests deemed appropriate by the PLHCP.

14.3 Medical examinations that include the aforementioned procedures (except testing for latent tuberculosis infection) will be made available at least every three years. If recommended by the PLHCP, periodic examinations can be more frequent than every three years.

14.4 The Kuesel Group will ensure that the examining PLHCP has a copy of the OSHA Respirable Crystalline Silica Construction Standard, this program, and the following information:

14.4.1 A description of the employee's former, current, and anticipated duties as they relate to the employee's occupational exposure to Respirable Crystalline Silica;

14.4.2 The employee's former, current, and anticipated levels of occupational exposure to Respirable Crystalline Silica;

14.4.3 A description of any personal protective equipment (PPE) used or to be used by the employee, including when and for how long the employee has used or will use that equipment; and

14.4.4 Information from records of employment-related medical examinations previously provided to the employee.

14.5 The Kuesel Group will ensure that the PLHCP explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of each medical examination performed. The written report shall contain:

14.5.1 A statement indicating the results of the medical examination, including any medical condition(s) that would place the employee at increased risk of material impairment to

health from exposure to Respirable Crystalline Silica and any medical conditions that require further evaluation or treatment;

14.5.2 Any recommended limitations on the employee's use of respirators;

14.5.3 Any recommended limitations on the employee's exposure to Respirable Crystalline Silica; and;

14.5.4 A statement that the employee should be examined by a Specialist if the chest X-ray is classified as 1/0 or higher by the B Reader, or if referral to a Specialist is otherwise deemed appropriate by the PLHCP.

14.6 A written medical opinion from the PLHCP will be obtained within 30 days of the medical examination. The written opinion shall contain only the following in order to protect the employee's privacy:

14.6.1 The date of the examination;

14.6.2 A statement that the examination has met the requirements of the OSHA Respirable Crystalline Silica Construction Standard; and

14.6.3 Any recommended limitations on the employee's use of respirators.

14.7 If the PLHCP's written medical opinion indicates that an employee should be examined by a Specialist, The Kuesel Group will make available a medical examination by a Specialist within 30 days after receiving the PLHCP's written opinion. All of the information that the employer is obligated to provide to the PLHCP will be provided to the Specialist.

14.8 The Kuesel Group will ensure that the Specialist explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of the examination. The written report will contain:

14.8.1 A statement indicating the results of the medical examination, including any medical condition(s) that would place the employee at increased risk of material impairment to

health from exposure to Respirable Crystalline Silica and any medical conditions that require further evaluation or treatment;

14.8.2 Any recommended limitations on the employee's use of respirators; and

14.8.3 Any recommended limitations on the employee's exposure to respirable crystalline Silica.

14.9 In addition, the company will obtain a written opinion from the Specialist within 30 days of the medical examination. The written opinion shall contain the following:

14.9.1 The date of the examination;

14.9.2 Any recommended limitations on the employee's use of respirators; and

14.9.3 Limitations on the employee's exposure to Respirable Crystalline Silica

15.0 HOUSEKEEPING:

15.1 The Kuesel Group does not allow dry sweeping or dry brushing where such activity could contribute to employee exposure to Respirable Crystalline Silica unless wet sweeping, HEPA-filtered vacuuming, or other methods that minimize the likelihood of exposure are not feasible.

15.2 Compressed air will not be used to clean clothing or surfaces where such activity could contribute to employee exposure to Respirable Crystalline Silica unless:

15.2.1 The compressed air is used in conjunction with a ventilation system that effectively captures the dust cloud created by the compressed air; or

15.2.2 No alternative method is feasible.

16.0 TRAINING:

16.1 The Kuesel Group will ensure that each employee with the potential to be exposed at or above the Action Level for Respirable Crystalline Silica can demonstrate knowledge and understanding of at least the following:

16.1.1 The health hazards associated with exposure to Respirable Crystalline Silica;

16.1.2 Specific tasks in the workplace that could result in exposure to Respirable Crystalline Silica;

16.1.3 Specific measures that have been implemented to protect employees from exposure to Respirable Crystalline Silica, including engineering controls, work practices, and respirators to be used;

16.1.4 The contents of the OSHA Respirable Crystalline Silica Construction Standard; and

16.1.5 The identity of the designated Competent Person

17.0 RECORDKEEPING:

17.1 The Kuesel Group will make and maintain an accurate record of all exposure measurements taken to assess employee exposure to Respirable Crystalline Silica. Exposure records will be kept for at least 30 years. This record will include at least the following information:

17.1.1 The date of measurement for each sample taken;

17.1.2 The task monitored;

17.1.3 Sampling and analytical methods used;

17.1.4 Number, duration, and results of samples taken;

17.1.5 Identity of the laboratory that performed the analysis;

17.1.6 Type of personal protective equipment (PPE), such as respirators, worn by the employees monitored; and

17.1.7 Name and job classification of all employees represented by the monitoring, indicating which employees were actually monitored.

17.2 The employer shall make and maintain an accurate record of all objective data relied upon to comply with the requirements of the OSHA Respirable Crystalline Silica Construction Standard. Objective data records will be kept for at least 30 years. This record shall include at least the following information:

17.2.1 The Crystalline Silica-containing material in question;

17.2.2 The source of the objective data;

17.2.3 The testing protocol and results of testing;

17.2.4 A description of the process, task, or activity on which the objective data were based; and

17.2.5 Other data relevant to the process, task, activity, material, or exposures on which the objective data were based.

17.3 The Kuesel Group will ensure that medical records are maintained and made available in accordance with 29 CFR 1910.1020. Medical records will be kept under lock and key for at least the duration of employment plus 30 years. It is necessary to keep these records for extended periods because Silica-related diseases such as cancer often cannot be detected until several decades after exposure. However, if an employee works for an employer for less than one year, the employer does not have to keep the medical records after employment ends, as long as the employer gives those records to the employee. Accurate records for each employee enrolled in the Medical Surveillance portion of this program will be maintained. The record shall include the following information about the employee:

17.3.1 Name and social security number;

17.3.2 A copy of the PLHCPs' and/or Specialists' written medical opinions; and

17.3.3 A copy of the information provided to the PLHCPs and Specialists.

18.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

Date: _____ Job Site/Location: _____

Person Completing Plan (Name/Title): _____

Competent Person: _____

Task Description: _____

_____

(Routine task, new task, Indoors/outdoors, task found on Table 1?)

☐ **Part 590, 1910.1053 General Industry (References Table 1)**

– review necessary? **Y** or **N**

☐ **Part 690, 1926.1153 Construction (Includes Table 1)**

- review necessary? **Y** or **N**

Engineering Controls: _____

_____

_____

Any deviation from Table 1 = air monitoring is required. Engineering controls must be used at all times!

(Wet methods, continuous water feed, local exhaust ventilation w/ HEPA filters, commercially available shrouds, commercial dust collection system, cyclone pre-separator/filter cleaning system, surfactant used, and ventilation ≥ 25 cfm/inch of wheel diameter, enclosed cab w/ fresh climate controlled air to operator, employees outside of cabs applying water/dust suppressants, equipment maintained to minimize dust emissions.)

Work Practices: _____

_____

_____

(Maintain equipment functionality – cleaned/spare filters, hoses to start; good connections; hoses with no holes, kinks, permanent bends, crushed; power source available; water source available, ensure ventilation is ≥ 25 cfm/inch of wheel diameter; water/exhaust ventilation lines safe from damage; shrouds/cowls fit correctly and not damaged; follow Manufacturer's instruction for filter cleaning/change out.)

Respiratory protection: _____

_____

(e.g. Use respirator with APF = 10 the entire time the task is being performed – See Table 1)

See Part 451 – Respiratory Protection rule (1910.134) for information on selection, training and fit testing requirements, and proper use instruction for respirators (i.e., no facial hair interfering with the respirator sealing surface).

Housekeeping: _____

_____

_____

_____

(Dust containing silica on work surfaces/equipment must be cleaned up using wet methods or HEPA equipped vacuum**, No use of compressed air or dry sweeping** for removing dust and debris containing silica, dispose of used vacuum bags in a closed sealed container).

Procedures Used to Restrict Access to Work Area (Construction = required, GI = optional)**:**_____

_____

(Signage, barricades, enclosures, spotters, work when area is cleared of other contractors to reduce risk of exposure.)

Objective data use (Optional) – **Yes** ☐ **No** ☐

Data Source: _____

Data conditions from the source exactly match the work conditions? **Yes** ☐ **No** ☐

(Same conditions, equipment, process, controls, material silica %, environmental.)

Notes: _____

_____

_____

_____

_____

Review this plan with all employees on site

Keep a copy at the job site and return to the Safety Director upon job completion

Review and update as needed at least annually

_____

SP 50 Substance Abuse Policy

1.0 PURPOSE:

1.1 The Kuesel Group is strongly committed to providing a safe, healthy, secure, and efficient workplace. The Kuesel Group is also strongly committed to promoting high standards for individual performance to secure the reputation of the company and its personnel within the community and the industry. As part of this commitment, the Kuesel Group strives to maintain a work environment free from the effects of drug and alcohol abuse and has enacted this policy to help achieve its objectives.

1.2 Specifically, this policy:

1.2.1 Provides guidelines for all employees regarding the use, abuse, possession or distribution of alcohol, illegal drugs and unauthorized substances

1.2.2 Makes all employees aware of the consequences of non-compliance with this policy

1.2.3 Makes all employees aware of the risks of drug and alcohol abuse

1.2.4 Assures the Kuesel Group complies with drug testing requirements set forth in local, state, and federal laws

2.0 DEFINITIONS:

2.1 **Company Premises or Property** – means all property owned, rented, or leased by the Kuesel Group, including, but not limited to, buildings, offices, grounds, lockers, parking lots and vehicles; or any site on which the company is conducting business.

2.2 **Illegal Drug –** means any drug or controlled substance which is not legally obtainable under both state and federal law, including but not limited to (recreational and medicinal) marijuana, opiates, PCP (phencyclidine), cocaine, heroin, amphetamines, barbiturates, benzodiazepines, narcotics, hallucinogens, inhalants, designer drugs, and/or any substances and/or materials that are prohibited by federal or state regulations. (NOTE: it is the intention of the Kuesel Group to comply with state and federal laws. Where state and federal law differ, however, the company will typically comply with federal law. Example: medical marijuana is not permitted by federal law; thus the company considers marijuana an illegal drug for purposes of this policy.)

2.3 **Unauthorized Substance –** means over-the-counter or prescription drugs that: (a) are not prescribed to the employee and/or prescribed on an invalid or non-current prescription; (b) prescription drugs that are prescribed to the employee at non-therapeutic levels or used in a manner or quantity other than as set forth in the prescription; (c) over-the-counter drugs used in a manner or quantity other than set forth in the directions; or (d) over-the-counter or prescription drugs used in an unsafe manner

2.4 **Under the Influence of Alcohol -** means an alcohol concentration equal to or greater than 0.04, or actions, appearance, speech or bodily odors that reasonably cause a supervisor to conclude that an employee is impaired because of alcohol use

2.5 **Under the Influence of Drugs –** means a confirmed positive test result for illegal drug use per this policy. In addition, it means the misuse of legal drugs (prescription or possibly OTC) when there is not a valid prescription from a physician for the lawful use of a drug in the course of medical treatment (containers must include the patient's name, the name of the substance, quantity/amount to be taken and the period of authorization.)

Legalization of marijuana for medicinal purposes in the state of Missouri will be viewed the same as other prescription medication. U.S. licensed physician must prescribe and provide specific restrictions per job function and term of prescription. Employee must report the use to management. Employee may be assigned to non-safety sensitive position if available, otherwise employee will be placed on leave until the prescription is no longer needed.

Failing to inform management of the prescribed use prior to a drug test being initiated will waive the employee's right to accommodation and leave alternatives. A positive test result will result in the employee's termination.

Positive Test Result for Cannabinoids (marijuana – THC)

- The testing limits/cutoff for marijuana (analyte; THCA) are:
    - 50 ng/mL Initial Test (Enzyme Multiplied Immunoassy Screening)
    - 15 ng/mL Confirmatory Test (Gas Chromatography/Mass Spectrometry GC/MS)

    The same sample is used for both tests. If the initial test is positive, then the confirmation test is performed.
- Presence of Marijuana Metabolites
    - 50 ng/mL – infrequent user **3-4 days**; heavy user **10 days**
    - 15 ng/mL – (6) high dose smoking samples, **5 days +**

2.6 **Safety Sensitive Positions –** means a position that requires tasks involving a potential risk of injury to self or others. Generally employees who operate or perform maintenance on moving equipment such as overhead cranes, forklifts, bulldozers, backhoes, excavators, loaders, surface mining equipment, coldmilling machines, water trucks, commercial trucks and other company owned or leased motor vehicles, as well as employees who operate non-moving heavy industrial equipment such as shears, punches, presses, drills, lathes, welders and grinders are considered to work in safety sensitive positions. Employees, regardless of

classification, who work in “confined spaces”, require “fall protection” or handle explosives or “hazardous chemicals” as defined in OSHA regulation are generally considered to occupy safety sensitive positions

2.7 **Reasonable Suspicion –** means a belief based on observed, specific, objective facts indicating the person is under the influence of drugs. The following factors, although not an exclusive list, should be considered: (a) observable phenomena, such as direct observation of drug use and/or the physical symptoms of being under the influence; (b) abnormal conduct, incoherent mental state or erratic behavior that is otherwise unexplained; (c) a workplace incident in which there was actual or potential harm or injury to any person or property; (d) information either provided by reliable and credible sources or independently corroborated; (e) newly discovered evidence that the employee has tampered with a previously administered drug test; (f) other action, conduct or misfeasance that provides reasonable suspicion that the employee may be under the influence; (g) coming forward to seek assistance and rehabilitation for a drug problem and/or successfully completing rehabilitation; and (h) a previous positive drug screen

2.8 **Refuse to Cooperate –** means to obstruct the collection or testing process; to submit an altered, adulterated or substitute sample; to fail to show up for a scheduled test; to refuse to complete the requested drug testing forms; or to fail to promptly provide specimen(s) for testing when directed to do so, without a valid medical basis for the failure. Employees who leave the scene of an accident without justifiable explanation prior to submission to drug and alcohol testing will also be considered to have refused to cooperate and will automatically be subject to discharge.

2.9 **Adulterated Test Result –** The donor has tainted the specimen with a foreign contaminate, such as bleach, to prevent the detection by the laboratory of an illegal or controlled substance. An adulterated sample is considered an administrative positive and has the same consequences as a confirmed positive test result.

2.10 **Diluted Test Result –** A diluted test result means that the specific gravity of the specimen is 1.003 or less and the creatinine level is less than 20 mg/dl. The following are some of the causes for a diluted sample and the related procedures:

Causes:

A. Dialysis or chemotherapy

B. A kidney or pancreas disorder requiring medical attention

C. The individual is attempting to flush out their system of illegal substances. This requires an enormous amount of water to be consumed over approximately twenty-for (24) hours prior to providing a sample. The normal consumption of liquids or consuming liquids prior to testing will not cause a sample to be diluted.

Procedures:

A. A diluted specimen with a creatinine level of less than 20 mg/dl but greater than 5 mg/dl will require the employee to provide another sample

B. A diluted specimen with a creatinine level greater than or equal to 2 mg/dl, but less than or equal to 5 mg/dl will require the employee to provide another specimen under direct observation

C. A diluted specimen with a creatinine level of less than 2 mg/dl will be ruled as a substituted specimen and will have the same consequences as a positive test result

2.11 Substituted or Not Consistent With Human Urine Test Result – This test result is self-explanatory and is determined by the laboratory. A substituted or not consistent with human urine test result has the same consequences as a confirmed positive test result

2.12 Substance Abuse Professional (SAP) – A Substance Abuse Professional is a licensed physician or certified counselor who has received appropriate training in substance abuse disorders to provide rehabilitation, assistance and recommendations to individuals who have a drug and/or alcohol problem.

3.0 DRUG AND ALCOHOL POLICY:

3.1 The problem of drug use and alcohol abuse is pervasive throughout society and business. As a responsible business we must address this issue in order to have a safe and productive work environment for all our employees and to perform the best possible work. As a condition of employment (appendix A), all employees agree to comply with this policy and to consent to drug and/or alcohol testing as specified below. We have adopted the following policy and procedures with respect to drugs and alcohol:

3.2 Employee Assistance – Union employees are covered under the Collective Bargaining Agreement. The following pertains to direct employees, not covered under a Collective Bargaining Agreement. The Kuesel Group will assist and support employees who voluntarily seek help for drug or alcohol problems before becoming subject to discipline or termination under this or other Kuesel Group policies. Such employees will be allowed to use accrued paid time off, placed on leaves or absence, referred to treatment providers and otherwise accommodated as required by law. Employees may be required to document that they are successfully following prescribed treatment and to take and pass follow-up tests if they hold jobs that are safety-sensitive or require driving, or if they have violated this policy previously. Once a drug test has been initiated under this policy, unless otherwise required by the Family and Medical Leave Act or the Americans with Disabilities Act, the employee will have forfeited the opportunity to be granted a leave of absence for treatment, and will face possible discipline, up to and including discharge.

Employees should report to work fit for duty and free of any adverse effects of illegal drugs or alcohol. This policy does not prohibit employees from the lawful use and possession of

prescribed medications. Employees must, however, consult with their doctors about the medications' effect on their fitness for duty and ability to work safely, and they must promptly disclose any work restrictions to their supervisor.

3.3 **Impairment Prohibited -** Employees are prohibited from reporting to work, being on company premises or property or operating/occupying a company vehicle or equipment under the influence of alcohol~~, illegal~~ drugs and /or unauthorized substances. Employees who engage in this conduct or otherwise violate the terms of this Policy are subject to discipline up to and including termination of employment.

3.3.1 **Safety Sensitive Positions** – Employees in Safety Sensitive Positions who are taking a drug or medication which adversely affects, or which may reasonably be expected to adversely affect, the employee's ability to perform work in a safe and productive manner, are required to report the use of such drug and/or medication to management. This includes employees that are prescribed medical marijuana cards. Failure to disclose such use, particularly where it may affect work performance or safety, is grounds for disciplinary action, up to and including termination.

3.3.1.1 U.S. Licensed Physician must prescribe medication and provide specific restrictions per job function and term of prescription

3.3.1.2 Safety Director (Jill) or appointed member of Safety Team to receive note and make determination on availability of reasonable accommodation option into non-safety-sensitive position

3.3.1.3 Accommodation: Based on availability of non-safety sensitive position and individual's skills and/or ability to perform it

3.3.1.3.1 If not available, the employee is to be placed on leave until the prescription is no longer needed.

3.3.1.3.2 Sick leave, short-term disability, and/or vacation time may be used if available. All other leave will be unpaid.

3.3.1.4 Regarding medical marijuana. Missouri has legalized marijuana for medical use. Missouri is a "No Need to Accommodate" state. If an employee is in a safety-sensitive position and has been prescribed marijuana for a medical condition, the items addressed above apply (prescribed by U.S. Physician; provide specific restrictions per job function and term of prescription; reasonable accommodations into non-safety-sensitive position)

3.4 **Possession Prohibited -** Employees are prohibited from using, possessing, purchasing, transferring, dispensing, trafficking, or distributing (or attempting to use, possess, purchase, transfer, dispense, traffic or distribute) alcohol, illegal drugs and/or unauthorized substances, including related paraphernalia, in any amount, in any manner or at any time, on or in company premises or property

3.5 **Inspections –** The Kuesel Group reserves the right to inspect all portions of its premises, or customer property (i.e. construction site), for drugs, alcohol or other contraband. All employees, contract employees and visitors may be asked to cooperate in inspections of their persons, work

areas and personal property that might conceal a drug, alcohol or other contraband. Employees who possess such contraband or refuse to cooperate in such inspections are subject to appropriate discipline, up to and including discharge. The Kuesel Group's procedure for pursuing an inspection are:

- Document observations. Should include:
  - Name of employee; contract employee or visitor
  - Date, time and location of incident
  - Summary of observations, including pictures if permitted
  - Witness(es) information
  - Actions taken by supervisor
- Contact another member of management; report observations. At least (2) members of management (supervisor, project manager, Safety Director, owner) need to be present for proceedings
- If both members of management believe employee, contract employee or visitor will cooperate, discuss the observations with individual in private and reason for inspection
- Allow individual to respond
- Summarize individuals comments and add to documentation
- Conduct inspection and document findings
- If illegal drugs or other contraband present, employee terminated. Contract employees and visitors will be escorted from the premises and incident will be reported to appropriate authorities.
- Members of Kuesel management will not confiscate.
- If employee, contract employee or visitor is confirmed to be under the influence, do not allow them to drive. Member of management or hired transportation to provide ride home. If individual forcefully gets into vehicle and drives away, contact the police and report individual driving under the influence.
- If members of management do not feel comfortable confronting the employee, contract employee or visitor in this situation, call 911 and report. Allow the law enforcement agency to arrive and take control of the situation.

3.6 **Confiscation of Controlled Substances –** Any illegal drugs or drug paraphernalia will not be confiscated by Kuesel Group managers. If turned over to an appropriate law enforcement agency, allow them to take control of the situation, confiscate and pursue criminal charges.

3.7 **Types of Drug and/or Alcohol Testing -** Applicants for employment and referrals from local unions may be tested for alcohol and/or drugs prior to beginning employment with the Company. The Company reserves the right to test for drugs and/or alcohol at any time including:

3.7.1 **Pre-Employment/Post-Offer Testing –** Individuals extended a conditional offer of employment will submit to a drug test as a prerequisite to their employment with company

3.7.2 **Post-Accident Drug & Alcohol Testing –** Accident is defined as: An unplanned, unexpected, unintended or intended event which occurs on company property, on

company business, or during work hours, or which involves company-supplied or personal vehicles while being used for company purposes. Employees will be drug tested following an accident that results in at least one of the following:

- A fatality of any party
- Bodily injury of any party requiring immediate medical treatment away from the accident scene
- Any damage to a motor vehicle in excess of $10,000.00
- Non-vehicular property damage in excess of $10,000.00

3.7.2.1 Due to time constraints, formal estimates of accident are not required. A supervisor's estimate is acceptable for the purposes of determining the need for a drug and alcohol test based on the definition above.

3.7.2.2 Employees are required to immediately notify:

- Kuesel – Jill Heimann
- Amcon – David Ilges
- GS – Kevin Keenoy
- The Safety Director (Jill) should be informed of all reported accidents

3.7.3 Reasonable Suspicion Testing – Employees will be drug and/or alcohol tested when there is a reasonable belief based on specific facts and rational inferences drawn from those facts that an employee is engaged in the inappropriate or illegal use of drugs or alcohol and/or has violated this policy. The Kuesel Group's intervention process when a potential substance abuse situation has been encountered:

- Document observations. Should include:
  - Name of employee
  - Date, time and location of incident
  - Summary of observations
  - Witness(es) information
  - Actions taken by supervisor
- At least (2) members of management (supervisor, project manager, Safety Director, owner) will meet with employee in private to discuss
- Explain the observations to employee and requirement to undergo drug or alcohol testing
- Allow employee to respond
- Summarize employee comments and add to documentation
- Under no circumstances will employee be allowed to drive to the testing facility. A member of management must transport the employee or arrange for hired transportation; and arrange for the employee to be transported home.

Examples of the circumstances which constitute cause include, but are not limited to:

3.7.3.1 An employee with a past history of drug use or alcohol abuse

3.7.3.2 An employee exhibiting abnormal behavior

3.7.3.3 An employee exhibiting behavior normally associated with persons under the influence of drugs or alcohol

- Odors (smell of alcohol, body odor or urine)
- Movements (unsteady, fidgety, dizzy)
- Eyes (dilated, constricted or watery eyes, or involuntary eye movements)
- Face (flushed, sweating, confused or blank look)
- Speech (slurred, slow, distracted mid-thought, inability to verbalize thoughts)
- Emotions (argumentative, agitated, irritable, drowsy)
- Actions (yawning, twitching)
- Inactions (sleeping, unconscious, no reaction to questions)

3.7.3.4 An employee's involvement in an on-the-job accident or an employee performing negligent or improper work

3.7.4 Random Testing – Where permitted by state law, employees are subject to random drug and alcohol testing. The union consortium will administer Point of Care Testing (POCT) which will take place on the jobsite. The traditional method, once an employee is notified of his/her selection for random drug and alcohol testing, the employee must report to the testing facility and submit to such testing immediately

3.7.5 Periodic Testing – All employees are subject to periodic drug testing to the fullest extent permitted by law and employees in Safety Sensitive jobs are subject to periodic alcohol testing

3.7.6 Return To Work, Post Treatment, Rehabilitation Testing: The Kuesel Group Employees shall be required to successfully pass a drug and alcohol test upon release from an approved rehabilitation and/or assessment program prior to being returned to work. The cost of this test is borne by the employee. Union employees will be covered under the Collective Bargaining Agreement Substance Abuse Consortium Policy.

3.7.7 Follow-up Testing: Individuals who have previously tested positive for drugs and/or alcohol and seeking to resume employment in a safety-sensitive position, must have their Substance Abuse Professional (SAP) provide a written follow-up testing plan. The SAP will determine the number and frequency of follow-up tests and whether these tests will be for drugs, alcohol, or both. At a minimum the SAP will direct that the employee be subject to six unannounced follow-up tests in the first 12 months of safety-sensitive duty. The SAP may also require follow-up tests during the 48 months of safety-sensitive duty following this first 12 month period.

3.8 Employee Refusal – an employee's refusal to take a drug test will result in the employee's termination of employment. Testing will be on company time at company expense, and the employee will be paid, up to one hour, for the time spent traveling to and time spent at the

medical facility in connection with any such testing. Such testing will follow established clinical procedures and will be mandatory.

3.9 Altered Drug Tests – Adulteration, dilutes and substitution of drug test results will result in the employee's termination of employment. There will not be disciplinary action if employee's diluted urine sample is due to medical condition involving the kidneys, or employee legitimately drinks a lot of water to avoid kidney stones.

3.10 Confidentiality – Information and records relating to positive test results, drug and alcohol dependencies, and legitimate medical explanations provided to the MRO will be kept confidential to the extent required by law and maintained in secure files. Such records and information may be disclosed among managers and supervisors on a need-to-know basis and may also be disclosed when relevant to a grievance, charge, claim or other legal proceeding initiated by or on behalf of an employee or applicant.

3.11 Exception for Alcohol Use at Company-Sponsored Events - Alcohol is served at certain company-sponsored events, industry association events, and client events. At those events, alcohol consumption by employees does not violate the terms of this policy so long as the employee exercises good judgement and so long as the employee acts in a lawful, safe, professional, and responsible manner at all times

REVISION REGISTER:

Date	Description of Change	Page No.	Initials
10/24/19	3.2.1.1 – 3.2.1.4 Incorporated	413-414	KTK
10/24/19	3.5.2 Re-written	414	KTK
10/24/19	3.5.4 Point of Care Testing (POCT) added	415	KTK
9/23/2021	Majority of Section updated	412 - 419	KTK

The Kuesel Group (Hereafter referred to as the Company) and our Customers recognize a moral as well as legal obligation to provide all workers with a safe and healthy work environment. As such, the Company, in cooperation with our Customers, has instituted a Drug-Free Work Place Policy.

As a condition of employment:

I, _____

(applicant's/employee's printed name)

agree to abide by the stipulations and ramifications of The Kuesel Group Substance Abuse Policy.

I understand that this policy prohibits Company employees from using, possessing, transporting, selling, attempting to sell, purchasing, attempting to purchase, transferring, concealing, receiving, and furnishing to others substances of abuse and alcohol and equipment or paraphernalia related to substance abuse while on company property or while on the customer's property. Furthermore, I understand that Company employees are prohibited from being under the influence of substances of abuse and/or alcohol while on company property or while on the Customer's property. I understand that "under the influence" is defined as having alcohol in my system sufficient to yield a positive alcohol test result and/or with illegal drugs (and/or drug metabolites) in my system sufficient to yield a positive drug test result. Also, it means that the applicant or employee is affected by a prohibited substance or alcohol, either singularly or in combination, in any detectable manner. The symptoms of influence are not confined to those consistent with misbehavior, nor to obvious impairment of physical or mental ability, such as slurred speech or difficulty maintaining balance. Substances of abuse include, but are not limited to, marijuana, hashish, heroin, cocaine/crack and hallucinogens.

I also understand that the right of entry onto company property or a Customer’s property (including but not limited to construction sites, offices, and vehicles) constitutes a consent to inspection for prohibited substances, alcohol, paraphernalia, or possession of unauthorized property or equipment on my person, or in my personal effects and/or vehicle when entering, while on, or upon leaving the property. This inspection may be performed by the Customer, the Company, or their agents.

I understand that violation of this policy or refusal to submit to a search or testing for prohibited substances or alcohol, as required by the policy, shall be cause for immediate termination of employment.

This document is not intended to supersede the collective bargaining agreement between my labor local and the Company or its bargaining agents.

I HAVE READ AND UNDERSTAND THE ABOVE POLICY AND FURTHER HAVE BEEN GIVEN A COPY OF THE KUESEL GROUP DRUG AND ALCOHOL POLICY AND HAVE READ SAME. I UNDERSTAND AND AGREE TO ITS CONTENTS.

_____ _____ (applicant's/employee's signature) (date)

_____

(printed name of applicant/employee)

SP 51 Traffic Control

1.0 PURPOSE:

1.1 The primary function of traffic control is to move traffic safely and expeditiously through or around work areas.



1.2 The control of traffic through work areas is an essential part of highway and street construction and maintenance operations. For these operations, there must be adequate pre-job planning, performed in cooperation with local/state transportation departments and law enforcement agencies, for the implementation and enforcement of needed traffic regulations, parking controls, and speed zoning. Such plans must provide sufficient flexibility in the application of traffic control to meet the needs of the changing conditions in the work areas.

1.3 Maintaining good public relations is necessary. The cooperation of the various news media in publicizing the existence of and reasons for worksites therefore can be of great assistance in keeping the motoring public well informed.

2.0 DRIVER INFORMATION NEEDS IN WORK ZONES:

2.1 The usefulness of traffic control devices intended to assist motorists in guidance and navigation tasks depend on whether the devices satisfy a driver's need for information. Both the message content and the placement of the traffic control device must be carefully considered. Inappropriate messages and/or incorrect placement of signs, markings, and other traffic control devices can mislead and confuse the motorist.

2.2 In work zones there are usually three types of traffic control device messages. These include the warning of potential hazards, safe speed, and the lane or shoulder over which a vehicle should be traveling. Positive guidance principles should be considered when determining which traffic control devices will be used and where they will be located.

2.3 Research indicates that the more serious failures to meet driver needs result from:

2.3.1 Providing contradictory or misleading information

2.3.2 Presenting a sign with inaccurate distance information

2.3.3 Using nonstandard messages or using inappropriate standard signs

3.0 FUNDAMENTAL PRINCIPLES:

Construction and maintenance areas can present the motorist with unexpected or unusual situations as far as traffic operations are concerned. Because of this, special care should be taken in applying traffic control techniques in these areas.

Experience has shown that several principles and procedures tend to enhance the safety of motorists and workers in the vicinity of construction and maintenance work. Some of the more important ones include the following:

3.1 Traffic safety in construction zones should be an integral and high priority element of every project, from planning through design and construction. Similarly, maintenance work should be planned and conducted with the safety of the motorist, pedestrian, and work kept in mind at all times.

3.1.1 The basic safety principles governing the design of permanent roadways and roadsides should also govern the design of construction and maintenance sites. The goal should be to route traffic through such areas with geometric and traffic control devices as similar as possible to those for normal highway situations.

3.1.2 A traffic control plan, in detail appropriate to the complexity of the work project, should be prepared and understood by all responsible parties before the site is occupied. An individual trained in safe traffic control practices should approve any changes in the traffic control plan.

3.1.3 Traffic movement should be inhibited as little as practicable.

3.1.4 Traffic control in worksites should be designed on the assumption that motorists will only reduce speed if they clearly perceive a need to do so. Reduced speed zoning should be avoided as much as practicable.

3.1.5 Frequent and abrupt changes in geometries such as lane narrowing, dropped lanes, or rapid transitions in main roadway travel) should be avoided.

3.1.6 Provisions should be made for the safe operation of work vehicles, particularly on high speed, high volume roadways.

3.1.7 Construction time should be minimized to reduce exposure to potential hazards.

3.2 Motorists should be guided in a clear and positive manner while approaching and traversing construction and maintenance work areas.

3.2.1 Adequate warning, delineation, and channelization (by means of proper pavement marking, signing, and the use of other devices which are effective under varying conditions of light and weather) should be provided to assure the motorist of positive guidance in advance of and through the work area.

3.2.2 Inappropriate markings should be removed to eliminate any misleading cues to drivers under all conditions of light and weather. On short term maintenance projects it may be determined that such removal is more hazardous than leaving the existing markings in place. If so, special

attention must be paid to providing additional guidance by other traffic control measures.

3.2.3 Flagging procedures, when used, can provide positive guidance to the motorist traversing the work area. Flagging should only be employed when required to control traffic or when all other methods of traffic control are inadequate to warn and direct drivers.

3.3 To insure acceptable levels of operation, routine inspection of traffic control elements should be performed.

3.3.1 Only individuals knowledgeable in the principles of safe traffic control should be assigned responsibility for safety at worksites. Their most important duty is to assure that all traffic control elements of the project conform to the traffic control plan and are effective in providing safe conditions for motorists, pedestrians, and workers.

3.3.2 It may be necessary to modify traffic controls or working conditions in order to allow safe traffic movement and to promote worker safety. The individual responsible for safety must have the authority to control the progress of work at the project in order to maintain safe conditions. This should include the authority to modify conditions or halt work until safety hazards are corrected.

3.3.3 Throughout the project, worksites should be carefully monitored under varying conditions of traffic volume, light, and weather, to ensure that traffic control measures are operating effectively and that all devices used are clearly visible, clean, and in good repair.

3.3.4 When warranted, an engineering analysis should be made (in cooperation with law enforcement officials) of all accidents occurring within work zones. Work zones should be monitored to identify and analyze traffic accidents or conflicts. As examples, skid marks or damaged traffic control devices may indicate the need to change traffic control measures.

3.4 The maintenance of roadside safety requires constant attention during the life of the construction zone, because of the potential increase in hazards.

3.4.1 To accommodate run-off-the-road incidents, disabled vehicles, or other emergency situations, it is desirable to provide an unencumbered roadside recovery area that is as wide as practical.

3.4.2 Channelization of traffic should be accomplished by the use of pavement markings, signing, flexible posts, barricades, and other lightweight devices which will yield when hit by an errant vehicle.

3.4.3 Whenever practical, construction equipment, materials, and debris should be stored in such a manner as not to be vulnerable to run-off-the-road vehicle impact.

4.0 HAND SIGNALING DEVICES:

4.1 A number of hand signaling devices (such as red flags, STOP/SLOW paddles, and lights) are used in

controlling traffic through work areas. The flag is the most common device used during the daylight hours. The sign paddle bearing the clear message STOP or SLOW also may be used.

4.2 Flags used for signaling purposes shall be a minimum of 24 by 24 inches in size, made of a good grade of red material and securely fastened to a staff approximately 3 feet in length. The free edge should be weighted to insure that the flag will hang vertically, even in heavy winds.

4.3 Sign paddles should be at least 18 inches wide with letters at least 6 inches high. A rigid handle should be provided. This combination sign may be fabricated from sheet metal or other light semi-rigid material. The background of the STOP face shall be red with white letters and border. The background of the SLOW face shall be orange with black letters and border. When used at night, the STOP face shall reflectorize red with white reflective letters and border, and the SLOW face shall reflectorize orange with black letters and border.

5.0 FLAGGERS:

5.1 Since flaggers are responsible for human safety and make the greatest number of public contacts of all construction personnel, it is important that qualified personnel be selected. A flagger should possess the following minimum qualifications:

5.1.1 Average intelligence

5.1.2 Good physical condition, including sight and hearing

5.1.3 Mental alertness

5.1.4 Courteous but firm manner

5.1.5 Neat appearance

5.1.6 Sense of responsibility for safety of public and crew

5.2 The use of orange clothing such as a vest, shirt, or jacket shall be required for flaggers. For nighttime conditions, similar outside garments shall be reflective

5.3 Flaggers are provided at worksites to stop traffic intermittently, as necessitated by work progress, or to maintain continuous traffic past a worksite at reduced speeds to help protect the work crew. For both these functions the flagger must, at all times, be clearly visible to approaching traffic for a distance sufficient to permit proper response by the motorist to the flagging instructions, and to permit traffic to

reduce speed before entering the worksite. In positioning flaggers, consideration must be given to maintaining color contrast between the work area background and the flagger's protective garments.

5.4 Whenever practicable, the flagger should advise the motorist of the reason for the delay and the approximate period that traffic will be halted. Flaggers and operators of construction machinery or trucks should be made to understand that every reasonable effort must be made to allow the driving public the right-of-way and prevent excessive delays.

5.5 Flagging Procedures - The following methods of signals should be used when flagging:

5.5.1 To Stop Traffic: The flagger shall face traffic and extend the flag horizontally across the traffic lane in a stationary position, so that the full area of the flag is visible hanging below the staff. For greater, emphasis, the free arm may be raised with the palm toward approaching traffic.

5.5.2 When it is Safe for Traffic to Proceed: The flagger shall stand parallel to the traffic movement and, with flag and arm lowered from view of the driver, motion traffic ahead with the free arm. Flags shall not be used to signal traffic to proceed.

5.5.3 Where it is desired to Alert or Slow Traffic: Where it is desired to alert or slow traffic by means of flagging, the flagger shall face traffic and slowly wave the flag in a sweeping motion of the extended arm from the shoulder level to straight down without raising the arm above a horizontal position.

5.5.4 If a sign paddle is used, it shall be held in a stationary position with the arm extended horizontally away from the body. For added emphasis, the flagger may slowly raise and lower the free hand with the palm down. The uses of the flag and sign paddle are illustrated in Appendix A to this section.

5.5.5 Lights approved by the appropriate highway authority or reflective sign paddles or reflective flags shall be used to flag traffic at night. Daytime flagging procedures shall be followed whenever such lights, paddles, or flags are used at night.

5.6 Flagger Stations

5.6.1 Flagger stations shall be located far enough ahead of the worksite so that approaching traffic will have room and time to reduce speed before entering the project. This distance is related to approach speed and physical conditions at the site; however 200 to 300 feet is desirable. In urban areas, where speeds are low and streets closely spaced, the distance must be decreased.

5.6.2 The flagger should stand either on the shoulder adjacent to the traffic being controlled or in the barricaded lane. At a "spot" obstruction, a position may have to be taken on the shoulder

opposite the barricaded section to operate effectively. Under no circumstances should a flagger stand in the lane being used by moving traffic.

5.6.3 The flagger should be clearly visible to approaching traffic at all times. For this reason, the flagger should stand alone, never permitting a group of workers to congregate around the flagger station.

5.6.4 The flagger should be stationed sufficiently in advance of the work force to warn them of approaching danger, such as out-of-control vehicles.

5.6.5 Flagger stations should be adequately protected and preceded by proper advance warning signs. At night, flagger stations should be adequately illuminated.

5.6.6 At short construction and maintenance lane closures, where adequate sight distance is available for the safe handling of traffic, the use of one flagger may be sufficient.

6.0 ONE-WAY TRAFFIC CONTROL:

Where traffic in both directions must use a single lane for a limited distance, provision should be made for alternate one-way movement to pass traffic through the constricted section. At a "spot" obstruction, such as an isolated pavement patch, the movement may be self-regulating. However, where the one-lane section is of any length, there should be some means of coordinating movements at each end. This will prevent the simultaneous movement of vehicles moving in opposite directions in the section and minimize delays at either end. Control points at each end of the route should be chosen so as to permit easy passing of opposing lines of vehicles.

Alternate one-way traffic control may be effected by the following means:

6.1 Flagger Control:

6.1.1 Where the one-lane section is short enough so that each end is visible from the other end, traffic may be controlled by means of a flagger at each end of the section. One of the two should be designated as the chief flagger for purposes of coordinating movement. They should be able to communicate with each other verbally or by means of signals. These signals should not be such as to be mistaken for flagging signals.

6.1.2 Where the end of a one-lane section is not visible from the other end, the flaggers may maintain contact by means of radio or field telephones. So that a flagger may know when to allow traffic to proceed into the section, the last vehicle from the opposite direction can be identified by description or license.

6.2 Flag-Carrying or Official Car:



6.2.1 Flag carrying is effective when the route is well defined and non-hazardous. It should be employed only when the one-way traffic is confined to a relatively short stretch of road, usually not more than 1 mile in length. The driver of the last vehicle proceeding into the one-lane section is given a red flag (or other token) and is instructed to deliver it to the flagger at the other end. The opposite flagger, upon receipt of the flag, then knows that it is safe to allow traffic to move in the other direction. The flag being carried should always be clean and dry.

6.2.2 A variation of this method is the use of an "official" car which always follows the last vehicle proceeding through the section. The use of an official car eliminates the possibility of loss of the flag.

6.3 Pilot Car

6.3.1 The use of a pilot car for traffic control can be most effective where the route is particularly hazardous, or so involved or frequently altered as to preclude adequate signing. The pilot car is used to guide a train of vehicles through the job or detour. Its operation must be coordinated with flagging operations or other controls at each end of the one-lane section. Sufficient turnaround room should be provided at these points. Provision should be made for identification of the last vehicle in the column.

6.3.2 The vehicle selected for pilot-car use should be lightweight and easy to handle and should have the name of the contractor or contracting authority prominently displayed. The “Pilot Car” sign shall be mounted on the rear of the vehicle.

6.3.3 Two or more pilot cars may be used to guide two-way traffic through a particularly complex or hazardous detour.

7.0 TRAFFIC CONTROL SIGNALS:

7.1 Traffic control signals may be used for special applications to control vehicular traffic movements at construction or maintenance work areas. Typical applications include:

7.1.1 A highway or street intersection with a temporary "haul road" or “equipment crossing.”

7.1.2 Through areas requiring one-way traffic operations.

7.2 One-way traffic operation necessitates the use of an all-red interval of sufficient duration for traffic to clear the zone at the speed posted through the work area.

8.0 TRAINING:

8.1 Each person in the organization, from the upper-level management personnel through construction and maintenance field personnel, whose actions affect maintenance and construction zone safety should receive training appropriate to the job decisions each individual is required to make. Only those individuals who are qualified by means of adequate training in safe traffic control practices and have a basic understanding of the principles established by applicable standards and regulations should supervise the selection, placement, and maintenance of traffic control devices in maintenance and construction areas.

9.0 SUMMARY:

9.1 The following list may be used as general guidance for those involved with work-zone traffic control activities:

9.1.1 Keep the motorist's respect and the agency's credibility; don't lie to the public.

9.1.2 If work is not in progress or a hazard is not there take down, fold over, or cover signs.

9.1.3 If there is no need for channeling devices, remove them.

9.1.4 Do not tell drivers to expect a hazard that is not there. If you do, they may not believe other signs and devices used on the project.

9.1.5 Do not assume that drivers and pedestrians will see or recognize the workers or the hazards in the work area.

9.1.6 Maintain the controls as if every driver were approaching the area for the first time.

9.1.7 Once you understand the philosophy of good work area traffic control, explain it to your workers or assistants. This will enable them to perform their work with a minimum of exposure to traffic, watch for problems, and report any damaged or missing devices.

9.2 For additional information on Traffic Control, refer to MUTCD Part 6

9.2.1 http://mutcd.fhwa.dot.gov/pdfs/2003r1r2/pdf_index.htm

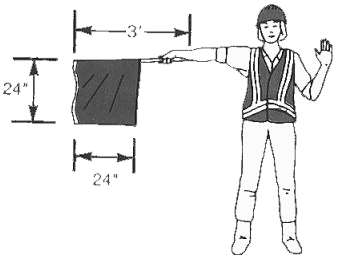
10.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

Paddle

Flag





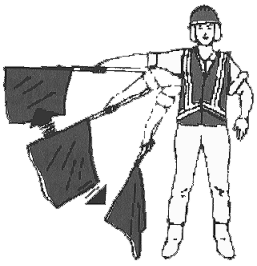
To Stop Traffic





Traffic Proceed





To Alert and
Slow Traffic

SP 52 OSHA Recordkeeping

1.0 PURPOSE:

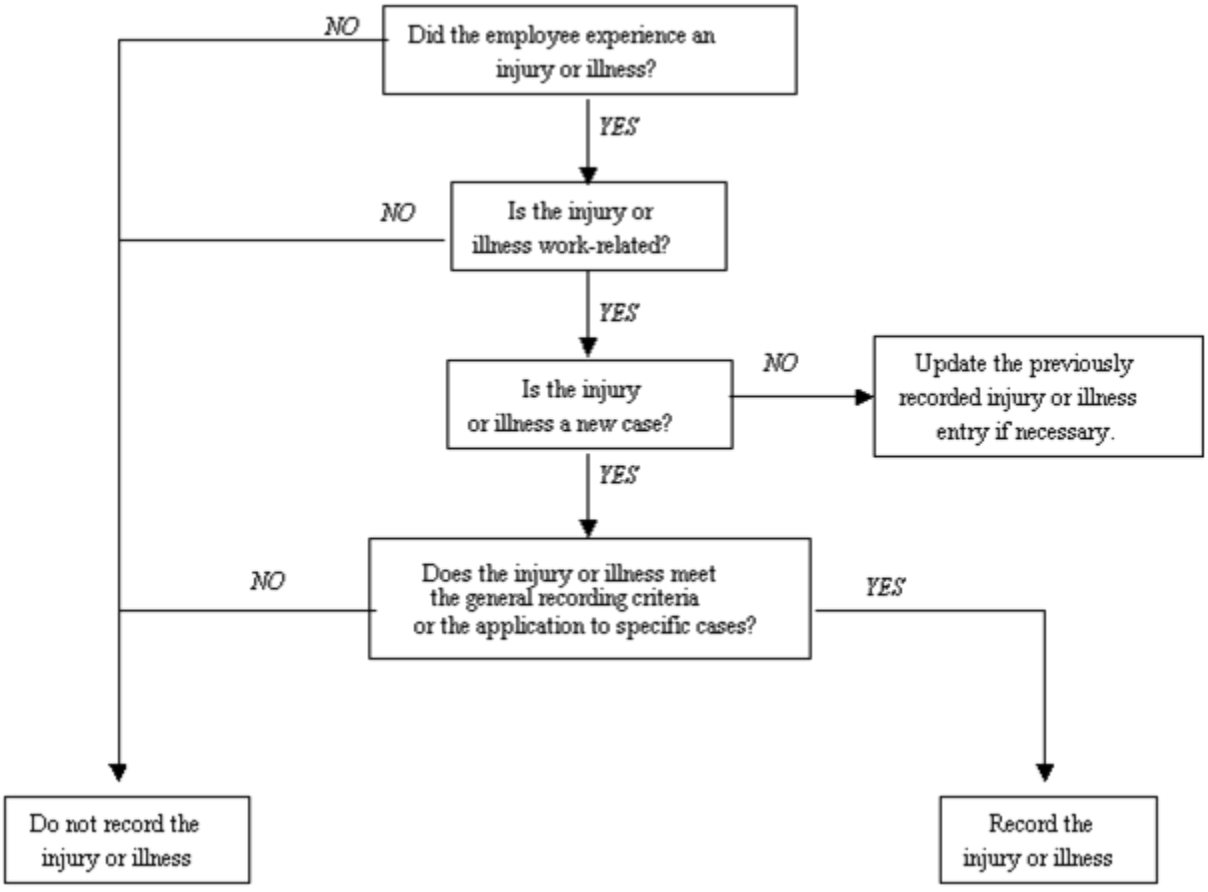
1.1 Recording and Reporting Occupational Injuries & Illnesses: Each employer required by OSHA Part 1904.4 to keep records of fatalities, injuries, and illnesses must record each fatality, injury and illness that:

1.1.1 Is work-related; and

1.1.2 Is a new case; and

1.1.3 Meets one or more of the general recording criteria of OSHA Part 1904.7 or the application to specific cases of OSHA Parts 1904.8 through 1904.12.

1.2 Recordable Injury or Illness: How to decide whether a particular injury or illness is recordable. The decision tree for recording work-related injuries and illnesses below shows the steps involved in making this determination.



2.0 REVISION REGISTER:

Date	Description of Change	Page No.	Initials

U.S. Department of Labor
Occupational Safety and Health Administration

OSHA
Forms for Recording
Work-Related Injuries and Illnesses

Dear Employer:

This booklet includes the forms needed for maintaining occupational injury and illness records. Many but not all employers must complete the OSHA injury and illness recordkeeping forms on an ongoing basis. Employers in State Plan States should check with their State Plan to see if the exemptions below apply.

Employers with 10 or fewer employees throughout the previous calendar year do not need to complete these forms. In addition to the small employer exemption, there is an exemption for establishments classified in certain industries. A complete list of exempt industries can be found on the OSHA web page at https://www.osha.gov/recordkeeping.

Establishments normally exempt from keeping the OSHA forms must complete the forms if they are informed in writing to do so by the Bureau of Labor Statistics or OSHA.

All employers, including those partially exempted by reason of company size or industry classification, must report to OSHA any workplace incident that results in a fatality, in-patient hospitalization, amputation, or loss of an eye. You can report to OSHA by calling OSHA's free and confidential number at 1-800-321-OSHA (6742); calling your closest Area Office during normal business hours; or by using the online reporting form at https://www.osha.gov/pls/ser/serform.html.

Starting in 2017, many employers will be required to electronically submit their injuries and illnesses records to OSHA. To see if your establishment is required to submit the information, visit https://www.osha.gov/recordkeeping/finalrulc/.

The Occupational Safety and Health Administration shares with you the goal of preventing injuries and illnesses in our nation's workplaces. Accurate injury and illness records will help us achieve that goal.

Occupational Safety and Health Administration
U.S. Department of Labor

What's Inside...

In this package, you'll find everything you need to complete OSHA's *Log* and the *Summary of Work-Related Injuries and Illnesses* for the next several years. On the following pages, you'll find:

- ***An Overview: Recording Work-Related Injuries and Illnesses —*** General instructions for filling out the forms in this package and definitions of terms you should use when you classify your cases as injuries or illnesses.
- ***How to Fill Out the Log —*** An example to guide you in filling out the *Log* properly.
- ***Log of Work-Related Injuries and Illnesses —*** A copy of the *Log* (but you may make as many copies of the *Log* as you need.) Notice that the *Log* is separate from the *Summary*.



- ***Summary of Work-Related Injuries and Illnesses —*** Removable *Summary* pages for easy posting at the end of the year. Note that you post the *Summary* only, not the *Log*.



- ***Worksheet to Help You Fill Out the Summary*** — A worksheet for figuring the average number of employees who worked for your establishment and the total number of hours worked.
- ***OSHA's 301: Injury and Illness Incident Report —*** A copy of the OSHA 301 to provide details about the incident. You may make as many copies as you need or use an equivalent form.



Take a few minutes to review this package. If you have any questions, **visit us online at www.osha.gov or call your local OSHA office.** We'll be happy to help you.

U.S. Department of Labor
Occupational Safety and Health Administration

An Overview: Recording Work-Related Injuries and Illnesses

The Occupational Safety and Health (OSH) Act of 1970 requires certain employers to prepare and maintain records of work-related injuries and illnesses. Use these definitions when you classify cases on the Log. OSHA's recordkeeping regulation (see 29 CFR Part 1904) provides more information about the definitions below.

The *Log of Work-Related Injuries and Illnesses* (Form 300) is used to classify work-related injuries and illnesses and to note the extent and severity of each case. When an incident occurs, use the *Log* to record specific details about what happened and how it happened. The *Summary* — a separate form (Form 300A) shows the totals for the year in each category. At the end of the year, post the *Summary* in a visible location so that your employees are aware of the injuries and illnesses occurring in their workplace.

Employers must keep a *Log* for each establishment or site. If you have more than one establishment, you must keep a separate *Log* and *Summary* for each physical location that is expected to be in operation for one year or longer.

Note that your employees have the right to review your injury and illness records. For more information, see 29 Code of Federal Regulations Part 1904.35, *Employee Involvement*.

Cases listed on the *Log of Work-Related Injuries and Illnesses* are not necessarily eligible for workers' compensation or other insurance benefits. Listing a case on the *Log* does not mean that the employer or worker was at fault or that an OSHA standard was violated.

When is an injury or illness considered work-related?

An injury or illness is considered work-related if an event or exposure in the work environment caused or contributed to the condition or significantly aggravated a preexisting condition. Work-relatedness is presumed for injuries and illnesses resulting from events or exposures occurring in the workplace, unless an exception specifically applies. See 29 CFR Part 1904.5(b)(2) for the exceptions. The work environment includes the establishment and other locations where one or more employees are working or are present as a condition of their employment. See 29 CFR Part 1904.5(b)(1).

Which work-related injuries and illnesses should you record?

Record those work-related injuries and illnesses that result in:

- death,
- loss of consciousness,
- days away from work,
- restricted work activity or job transfer, or
- medical treatment beyond first aid.

You must also record work-related injuries and illnesses that are significant (as defined below) or meet any of the additional criteria listed below.

You must record any significant work-related injury or illness that is diagnosed by a physician or other licensed health care professional. You must record any work-related case involving cancer, chronic irreversible disease, a fractured or cracked bone, or a punctured eardrum. See 29 CFR 1904.7.

What are the additional criteria?

You must record the following conditions when they are work-related:

- any needlestick injury or cut from a sharp object that is contaminated with another person's blood or other potentially infectious material;
- any case requiring an employee to be medically removed under the requirements of an OSHA health standard;
- tuberculosis infection as evidenced by a positive skin test or diagnosis by a physician or other licensed health care professional after exposure to a known case of active tuberculosis;
- an employee's hearing test (audiogram) reveals 1) that the employee has experienced a Standard Threshold Shift (STS) in hearing in one or both ears (averaged at 2000, 3000, and 4000 Hz) and 2) the employee's total hearing level is 25 decibels (dB) or more above audiometric zero (also averaged at 2000, 3000, and 4000 Hz) in the same ear(s) as the STS.

What is medical treatment?

Medical treatment includes managing and caring for a patient for the purpose of combating disease or disorder. The following are not considered medical treatments and are NOT recordable:

- visits to a doctor or health care professional solely for observation or counseling;

What do you need to do?

1. Within 7 calendar days after you receive information about a case, decide if the case is recordable under the OSHA recordkeeping requirements.
2. Determine whether the incident is a new case or a recurrence of an existing one.
3. Establish whether the case was work-related.
4. If the case is recordable, decide which form you will fill out as the injury and illness incident report.

   You may use *OSHA's 301: Injury and Illness Incident Report* or an equivalent form. Some state workers compensation, insurance, or other reports may be acceptable substitutes, as long as they provide the same information as the OSHA 301.

How to work with the Log

1. Identify the employee involved unless it is a privacy concern case as described below.
2. Identify when and where the case occurred. Also describe the case, as specifically as you can.
3. Classify the seriousness of the case by recording the **most serious outcome** associated with the case, with column G (Death) being the most serious and column J (Other recordable cases) being the least serious.
4. Enter the number of days the injured or ill worker was away from work or was on job transfer or restricted work activity.
5. Identify whether the case is an injury or illness. If the case is an injury, check the injury category. If the case is an illness, check the appropriate illness category.

U.S. Department of Labor
Occupational Safety and Health Administration

- diagnostic procedures, including administering prescription medications that are used solely for diagnostic purposes, and
- any procedure that can be labeled first aid. (*See below for more information about first aid.)*

What is first aid?

If the incident required only the following types of treatment, consider it first aid. Do NOT record the case if it involves only:

- using non-prescription medications at non-prescription strength;
- administering tetanus immunizations;
- cleaning, flushing, or soaking wounds on the skin surface;
- using wound coverings, such as bandages, BandAids™, gauze pads, etc., or using SteriStrips™ or butterfly bandages;
- using hot or cold therapy;
- using any totally non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc.;
- using temporary immobilization devices while transporting an accident victim (splints, slings, neck collars, or back boards);
- drilling a fingernail or toenail to relieve pressure, or draining fluids from blisters;
- using eye patches;
- using simple irrigation or a cotton swab to remove foreign bodies not embedded in or adhered to the eye;
- using irrigation, tweezers, cotton swab or other simple means to remove splinters or foreign material from areas other than the eye;
- using finger guards;
- using massages;
- drinking fluids to relieve heat stress.

How do you decide if the case involved restricted work?

Restricted work activity occurs when, as the result of a work related injury or illness, an employer or health care professional keeps, or recommends keeping, an employee from doing the routine functions of his or her job or from working the full workday that the employee would have been scheduled to work before the injury or illness occurred.

How do you count the number of days of restricted work activity or the number of days away from work?

Count the number of calendar days the employee was on restricted work activity or was away from work as a result of the recordable injury or illness. Do not count the day on which the injury or illness occurred in this number. Begin counting days from the day **after** the incident occurs. If a single injury or illness involved both days away from work and days of restricted work activity, enter the total number of days for each. You may stop counting days of restricted work activity or days away from work once the total of either or the combination of both reaches 180 days.

Under what circumstances should you NOT enter the employee's name on the OSHA Form 300?

You must consider the following types of injuries or illnesses to be privacy concern cases:

- an injury or illness to an intimate body part or to the reproductive system,
- an injury or illness resulting from a sexual assault,
- a mental illness,
- a case of HIV infection, hepatitis, or tuberculosis,
- a needlestick injury or cut from a sharp object that is contaminated with blood or other potentially infectious material (see 29 CFR Part 1904.8 for definition), and
- other illnesses, if the employee independently and voluntarily requests that his or her name not be entered on the log.

You must not enter the employee's name on the OSHA 300 *Log* for these cases. Instead, enter "privacy case" in the space normally used for the employee's name. You must keep a separate, confidential list of the case numbers and employee names for the establishment's privacy concern cases so that you can update the cases and provide information to the government if asked to do so.

If you have a reasonable basis to believe that information describing the privacy concern case may be personally identifiable even though the employee's name has been omitted, you may use discretion in describing the injury or illness on both the OSHA 300 and 301 forms. You must enter enough information to identify the cause of the incident and the general severity of the injury or illness, but you do not need to include details of an intimate or private nature.

What if the outcome changes after you record the case?

If the outcome or extent of an injury or illness changes after you have recorded the case, simply draw a line through the original entry or, if you wish, delete or white-out the original entry. Then write the new entry where it belongs. Remember, you need to record the most serious outcome for each case.

Classifying injuries

An injury is any wound or damage to the body resulting from an event in the work environment.

Examples: Cut, puncture, laceration, abrasion, fracture, bruise, contusion, chipped tooth, amputation, insect bite, electrocution, or a thermal, chemical, electrical, or radiation burn. Sprain and strain injuries to muscles, joints, and connective tissues are classified as injuries when they result from a slip, trip, fall or other similar accidents.

U.S. Department of Labor
Occupational Safety and Health Administration

Classifying illnesses

Skin diseases or disorders

Skin diseases or disorders are illnesses involving the worker's skin that are caused by work exposure to chemicals, plants, or other substances.

Examples: Contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous plants; oil acne; friction blisters, chrome ulcers; inflammation of the skin.

Respiratory conditions

Respiratory conditions are illnesses associated with breathing hazardous biological agents, chemicals, dust, gases, vapors, or fumes at work.

Examples: Silicosis, asbestosis, pneumonitis, pharyngitis, rhinitis or acute congestion, farmer's lung, beryllium disease, tuberculosis, occupational asthma, reactive airways dysfunction syndrome (RADS), chronic obstructive pulmonary disease (COPD), hypersensitivity pneumonitis, toxic inhalation injury, such as metal fume fever, chronic obstructive bronchitis, and other pneumoconioses.

Poisoning

Poisoning includes disorders evidenced by abnormal concentrations of toxic substances in blood, other tissues, other bodily fluids, or the breath that are caused by the ingestion or absorption of toxic substances into the body.

Examples: Poisoning by lead, mercury, cadmium, arsenic, or other metals; poisoning by carbon monoxide, hydrogen sulfide, or other gases; poisoning by benzene, benzol, carbon tetrachloride, or other organic solvents; poisoning by insecticide sprays, such as parathion or lead arsenate; poisoning by other chemicals, such as formaldehyde.

Hearing Loss

Noise-induced hearing loss is defined for recordkeeping purposes as a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more in either ear at 2000, 3000 and 4000 hertz, and the employee's total hearing level is 25 decibels (dB) or more above audiometric zero (also averaged at 2000, 3000, and 4000 hertz) in the same ear(s).

All other illnesses

All other occupational illnesses.

Examples: Heatstroke, sunstroke, heat exhaustion, heat stress and other effects of environmental heat; freezing, frostbite, and other effects of exposure to low temperatures; decompression sickness, effects of ionizing radiation (isotopes, x-rays, radium), effects of nonionizing radiation (welding flash, ultra-violet rays, lasers); anthrax; bloodborne pathogenic diseases, such as AIDS, HIV, hepatitis B or hepatitis C; brucellosis; malignant or benign tumors; histoplasmosis; coccidioidomycosis.

When must you post the Summary?

You must post the *Summary* only — not the *Log* — by February 1 of the year following the year covered by the form and keep it posted until April 30 of that year.

How long must you keep the Log and Summary on file?

You must keep the *Log* and *Summary* for 5 years following the year to which they pertain.

Do you have to send these forms to OSHA at the end of the year?

Starting in 2017, many employers will be required to electronically submit their injuries and illnesses records to OSHA. To see if your establishment is required to submit the information, visit https://www.osha.gov/recordkeeping/finalrule/.

How can we help you?

If you have a question about how to fill out the *Log*,

- **visit us online at www.osha.gov or**
- **call your local OSHA office.**

U.S. Department of Labor
Occupational Safety and Health Administration

Optional

Calculating Injury and Illness Incidence Rates

Note: You can type input into this form and save it.
Because the forms in this recordkeeping package are "fillable/writable" PDF documents, you can type into the input form fields and then save your inputs using the free Adobe PDF Reader. In addition, the forms are programmed to auto-calculate as appropriate.

What is an incidence rate?

An incidence rate is the number of recordable injuries and illnesses occurring among a given number of full-time workers (usually 100 full-time workers) over a given period of time (usually one year). To evaluate your firm's injury and illness experience over time or to compare your firm's experience with that of your industry as a whole, you need to compute your incidence rate. Because a specific number of workers and a specific period of time are involved, these rates can help you identify problems in your workplace and/or progress you may have made in preventing work-related injuries and illnesses.

How do you calculate an incidence rate?

You can compute an occupational injury and illness incidence rate for all recordable cases or for cases that involved days away from work for your firm quickly and easily. The formula requires that you follow instructions in paragraph (a) below for the total recordable cases or those in paragraph (b) for cases that involved days away from work, *and* for both rates the instructions in paragraph (c).

(a) *To find out the total number of recordable injuries and illnesses that occurred during the year,* count the number of line entries on your OSHA Form 300, or refer to the OSHA Form 300A and sum the entries for columns (G), (H), (I), and (J).

(b) *To find out the number of injuries and illnesses that involved days away from work,* count the number of line entries on your OSHA Form 300 that received a check mark in column (H), or refer to the entry for column (H) on the OSHA Form 300A.

(c) *The number of hours all employees actually worked during the year.* Refer to OSHA Form 300A and optional worksheet to calculate this number.

You can compute the incidence rate for all recordable cases of injuries and illnesses using the following formula.

Total number of injuries and illnesses X 200,000 ÷ Number of hours worked by all employees = Total recordable case rate

(The 200,000 figure in the formula represents the number of hours 100 employees working 40 hours per week, 50 weeks per year would work, and provides the standard base for calculating incidence rates.)

You can compute the incidence rate for recordable cases involving days away from work, days of restricted work activity or job transfer (DART) using the following formula:

(Number of entries in column H + Number of entries in column I) X 200,000 ÷ Number of hours worked by all employees = DART incidence rate

You can use the same formula to calculate incidence rates for other variables such as cases involving restricted work activity (column (I) on Form 300A), cases involving skin disorders (column (M-2) on Form 300A), etc. Just substitute the appropriate total for these cases, from Form 300A, into the formula in place of the total number of injuries and illnesses.

What can I compare my incidence rate to?

The Bureau of Labor Statistics (BLS) conducts a survey of occupational injuries and illnesses each year and publishes incidence rate data by various classifications (e.g., by industry, by employer size, etc.). You can obtain these published data at www.bls.gov/iif or by calling a BLS Regional Office.

Worksheet

Total number of injuries and illnesses		200,000	÷	Number of hours worked by all employees	=	Total recordable case rate
	X					

Number of entries in Column H + Column I		200,000	÷	Number of hours worked by all employees	=	DART incidence rate
	X					

Save Input Reset

U.S. Department of Labor
Occupational Safety and Health Administration

How to Fill Out the Log

Note: Because the forms in this recordkeeping package are "fillable/writable" PDF documents, you can type into the input form fields and then save your inputs using the free Adobe PDF Reader. In addition, the forms are programmed to auto-calculate as appropriate.

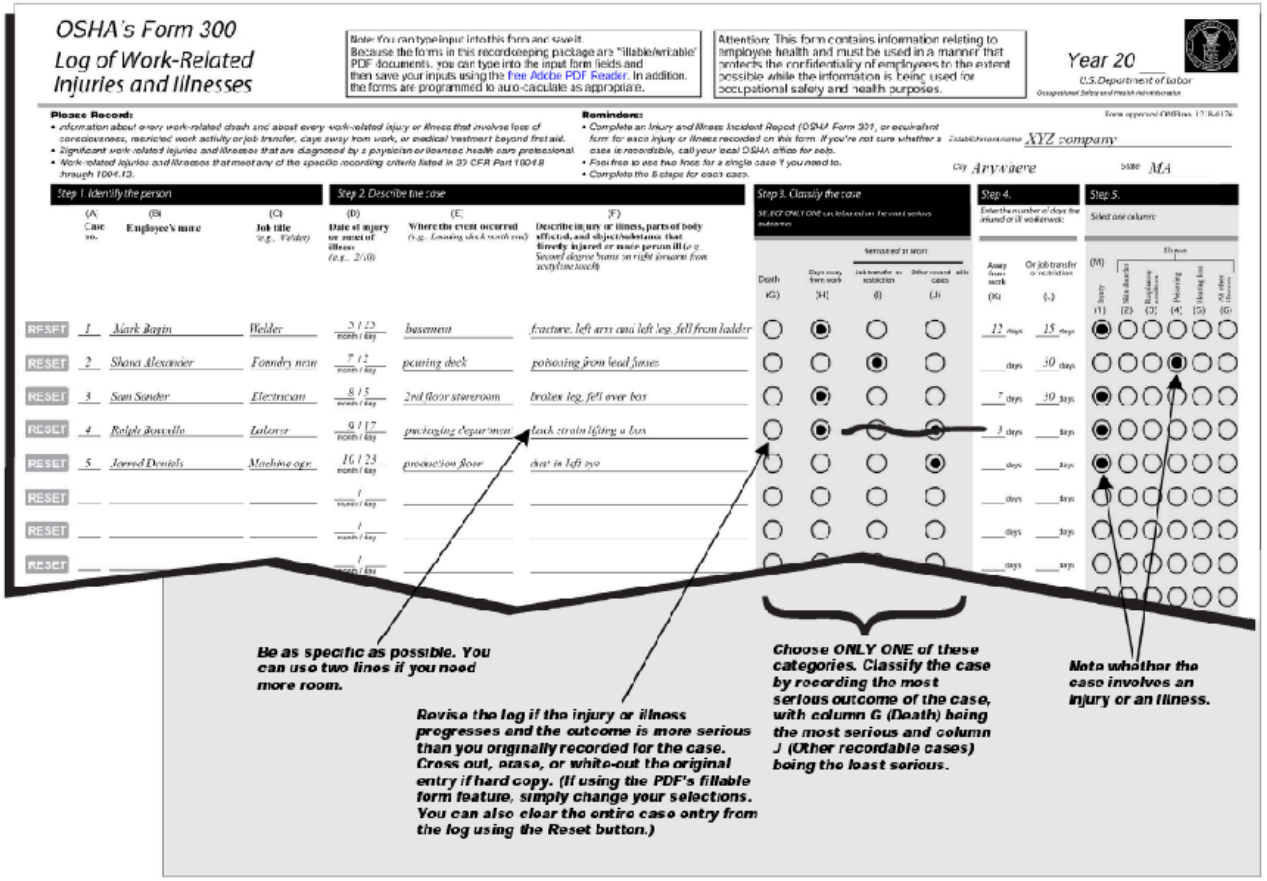
The *Log of Work-Related Injuries and Illnesses* is used to classify work-related injuries and illnesses and to note the extent and severity of each case. When an incident occurs, use the *Log* to record specific details about what happened and how it happened.

If your company has more than one establishment or site, you must keep separate records for each physical location that is expected to remain in operation for one year or longer.

If you need additional copies of the *Log*, you may photocopy the printout or insert additional form pages in the PDF, and then use as many as you need.

The *Summary* — a separate form — shows the work related injury and illness totals for the year in each category. At the end of the year, count the number of incidents in each category and transfer the totals from the *Log* to the *Summary*. Then post the *Summary* in a visible location so that your employees are aware of injuries and illnesses occurring in their workplace.

You don't post the Log. You post only the Summary at the end of the year.



OSHA's Form 300 (Rev. 04/2004)

Log of Work-Related Injuries and Illnesses

Note: You can type input into this form and save it. Because the forms in this recordkeeping package are "fillable/writable" PDF documents, you can type into the input form fields and then save your inputs using the free Adobe PDF Reader. In addition, the forms are programmed to auto-calculate as appropriate.

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

Year 20 ____

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

Please Record:
- *information about every work-related death and about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid.*
- *Significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional.*
- *Work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR Part 1904.8 through 1904.12.*

Reminders:
- *Complete an Injury and Illness Incident Report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.*
- *Feel free to use two lines for a single case if you need to.*
- *Complete the 5 steps for each case.*

Establishment name _____

City _____ State _____

Step 1. Identify the person			Step 2. Describe the case			Step 3. Classify the case (SELECT ONLY ONE circle based on the most serious outcome: Death / Days away from work / Remained at Work: Job transfer or restriction / Other recordable cases)				Step 4. Enter the number of days the injured or ill worker was: Away from work / On job transfer or restriction		Step 5. Select one column: Illness: Injury (1) / Skin disorder (2) / Respiratory condition (3) / Poisoning (4) / Hearing loss (5) / All other illnesses (6)
(A) Case no.	(B) Employee's name	(C) Job title (e.g., Welder)	(D) Date of injury or onset of illness (e.g., 2/10)	(E) Where the event occurred (e.g., Loading dock north end)	(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g., Second degree burns on right forearm from acetylene torch)	(G) Death	(H) Days away from work	(I) Job transfer or restriction	(J) Other recordable cases	(K) Away from work	(L) On job transfer or restriction	(M) Injury (1) / Skin disorder (2) / Respiratory condition (3) / Poisoning (4) / Hearing loss (5) / All other illnesses (6)
Reset			/ month / day							___ days	___ days	
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Public reporting burden for this collection of information is estimated to average 14 minutes per response, including time to review the instructions, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any other aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistical Analysis, Room N-3644, 200 Constitution Avenue, NW, Washington, DC 20210. Do not send the completed forms to this office.

Save Input | Add a Form Page

Page 1 of 1

Injury (1) / Skin disorder (2) / Respiratory condition (3) / Poisoning (4) / Hearing loss (5) / All other illnesses (6)

OSHA's Form 300A (Rev. 04/2004)

Summary of Work-Related Injuries and Illnesses

Note: You can type input into this form and save it.
Because the forms in this recordkeeping package are "fillable/writable" PDF documents, you can type into the input form fields and then save your inputs using the free Adobe PDF Reader.

Year 20 ____

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no work-related injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete and accurate before completing this summary.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the Log. If you had no cases, write "0."

Employees, former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR Part 1904.35, in OSHA's recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0	0	0	0
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
0	0
(K)	(L)

Injury and Illness Types

Total number of . . .	(M)		
(1) Injuries	0	(4) Poisonings	0
(2) Skin disorders	0	(5) Hearing loss	0
(3) Respiratory conditions	0	(6) All other illnesses	0

Post this Summary page from February 1 to April 30 of the year following the year covered by the form.

Public reporting burden for this collection of information is estimated to average 58 minutes per response, including time to review the instructions, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any other aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistical Analysis, Room N-3644, 200 Constitution Avenue, NW, Washington, DC 20210. Do not send the completed forms to this office.

Establishment information

Your establishment name _____

Street _____

City _____ State _____ Zip _____

Industry description (*e.g., Manufacture of motor truck trailers*)

_____

North American Industrial Classification (NAICS), if known (e.g., 336212)

Employment information *(If you don't have these figures, see the Worksheet on the next page to estimate.)*

Annual average number of employees _____

Total hours worked by all employees last year _____

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

_____ _____
Company executive Title

Phone _____ _____ _____ Date ____/____/____

Save Input

U.S. Department of Labor
Occupational Safety and Health Administration

Optional

Worksheet to Help You Fill Out the Summary

Note: You can type input into this form and save it. Because the forms in this recordkeeping package are "fillable/writable" PDF documents, you can type into the input form fields and then save your inputs using the free Adobe PDF Reader. In addition, the forms are programmed to auto-calculate as appropriate.

At the end of the year, OSHA requires you to enter the average number of employees and the total hours worked by your employees on the summary. If you don't have these figures, you can use the information on this page to estimate the numbers you will need to enter on the Summary page at the end of the year.

How to figure the average number of employees who worked for your establishment during the year:

1. ***Add*** the total number of employees your establishment paid in all pay periods during the year. Include all employees: full time, part time, temporary, seasonal, salaried, and hourly.

   The number of employees paid in all pay periods = ❶ _____

2. ***Count*** the number of pay periods your establishment had during the year. Be sure to include any pay periods when you had no employees.

   The number of pay periods during the year = ❷ _____

3. ***Divide*** the number of employees by the number of pay periods.

   ❶ _____ / ❷ _____ = ❸ _____

4. ***Round the answer*** to the next highest whole number. Write the rounded number in the blank marked *Annual average number of employees.*

   The number rounded = ❹ _____

For example, Acme Construction figured its average employment this way:

In this pay period . . .	Acme paid this many employees . . .	
1	10	Number of employees paid = 830 ❶
2	0	
3	15	Number of pay periods = 26 ❷
4	30	830 ÷ 26 = 31.92 ❸
5	40	
▼	▼	
24	20	31.92 rounds to 32 ❹
25	15	
26	+10	32 is the annual average number of employees
	830	

How to figure the total hours worked by all employees:

Include hours worked by salaried, hourly, part-time and seasonal workers, as well as hours worked by other workers subject to day to day supervision by your establishment (e.g., temporary help services workers).

Do not include vacation, sick leave, holidays, or any other non-work time, even if employees were paid for it. If your establishment keeps records of only the hours paid or if you have employees who are not paid by the hour, please estimate the hours that the employees actually worked.

If this number isn't available, you can use this optional worksheet to estimate it.

Optional Worksheet

_____ ***Find*** the number of full-time employees in your establishment for the year.

X _____ ***Multiply*** by the number of work hours for a full time employee in a year.

_____ This is the number of full-time hours worked.

\+ _____ ***Add*** the number of any overtime hours as well as the hours worked by other employees (part time, temporary, seasonal)

_____ ***Round*** the answer to the next highest whole number. Write the rounded number in the blank marked *Total hours worked by all employees last year.*

Save Input Reset

OSHA's Form 301 (Rev. 04/2004)

Injury and Illness Incident Report

Note: You can type input into this form and save it. Because the forms in this recordkeeping package are "fillable/writable" PDF documents, you can type into the input form fields and then save your inputs using the free Adobe PDF Reader. In addition, the forms are programmed to auto-calculate as appropriate.

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

This *Injury and Illness Incident Report* is one of the first forms you must fill out when a recordable work related injury or illness has occurred. Together with the *Log of Work-Related Injuries and Illnesses* and the accompanying *Summary*, these forms help the employer and OSHA develop a picture of the extent and severity of work related incidents.

Within 7 calendar days after you receive information that a recordable work-related injury or illness has occurred, you must fill out this form or an equivalent. Some state workers' compensation, insurance, or other reports may be acceptable substitutes. To be considered an equivalent form, any substitute must contain all the information asked for on this form.

According to Public Law 91-596 and 29 CFR 1904, OSHA's recordkeeping rule, you must keep this form on file for 5 years following the year to which it pertains.

If you need additional copies of this form, you may photocopy the printout or insert additional form pages in the PDF, and then use as many as you need.

Information about the employee

1) Full name

2) Street

City State ZIP

3) Date of birth Month Day Year

4) Date hired Month Day Year

5) ○ Male ○ Female

Information about the physician or other health care professional

6) Name of physician or other health care professional

7) If treatment was given away from the worksite, where was it given?

Facility

Street

City State ZIP

8) Was employee treated in an emergency room?
- ○ Yes
- ○ No

9) Was employee hospitalized overnight as an in-patient?
- ○ Yes
- ○ No

Information about the case

10) Case number from the *Log* *(Transfer the case number from the Log after you record the case.)*

11) Date of injury or illness Month Day Year

12) Time employee began work ○ AM ○ PM

13) Time of event ○ AM ○ PM ○ Check if time cannot be determined

***Re fields 14 to 17:** Please do not include any personally identifiable information (PII) pertaining to worker(s) involved in the incident (e.g., no names, phone numbers, or Social Security numbers).

14)* ***What was the employee doing just before the incident occurred?*** Describe the activity, as well as the tools, equipment, or material the employee was using. Be specific. *Examples:* "climbing a ladder while carrying roofing materials"; "spraying chlorine from hand sprayer"; "daily computer key-entry."

15)* ***What Happened?*** Tell us how the injury occurred. *Examples:* "When ladder slipped on wet floor, worker fell 20 feet"; "Worker was sprayed with chlorine when gasket broke during replacement"; "Worker developed soreness in wrist over time."

16)* ***What was the injury or illness?*** Tell us the part of the body that was affected and how it was affected. *Examples:* "strained back"; "chemical burn, hand"; "carpal tunnel syndrome."

17)* ***What object or substance directly harmed the employee?*** *Examples:* "concrete floor"; "chlorine"; "radial arm saw." *If this question does not apply to the incident, leave it blank.*

18) ***If the employee died, when did death occur?*** Date of death Month Day Year

Completed by

Title

Phone - - Date Month Day Year

Page 1 of 1

Save Input | Add a Form Page | Reset

Public reporting burden for this collection of information is estimated to average 22 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Persons are not required to respond to the collection of information unless it displays a current valid OMB control number. If you have any comments about this estimate or any other aspects of this data collection, including suggestions for reducing this burden, contact: US Department of Labor, OSHA Office of Statistical Analysis, Room N-3644, 200 Constitution Avenue, NW, Washington, DC 20210. Do not send the completed forms to this office.

U.S. Department of Labor
Occupational Safety and Health Administration

If You Need Help...

If you need help deciding whether a case is recordable, or if you have questions about the information in this package, feel free to contact us. We'll gladly answer any questions you have.

- **Visit us online at www.osha.gov**
- **Call your OSHA Regional office and ask for the recordkeeping coordinator**

or

- **Call your State Plan office**

Federal Jurisdiction

Region 1 - 617 / 565-9860
Connecticut; Massachusetts; Maine; New Hampshire; Rhode Island

Region 2 - 212 / 337-2378
New York; New Jersey

Region 3 - 215 / 861-4900
DC; Delaware; Pennsylvania; West Virginia

Region 4 - 678 / 237-0400
Alabama; Florida; Georgia; Mississippi

Region 5 - 312 / 353-2220
Illinois; Ohio; Wisconsin

Region 6 - 972 / 850-4145
Arkansas; Louisiana; Oklahoma; Texas

Region 7 - 816 / 283-8745
Kansas; Missouri; Nebraska

Region 8 - 720 / 264-6550
Colorado; Montana; North Dakota; South Dakota

Region 9 - 415 / 625-2547

Region 10 - 206 / 553-5930
Idaho

State Plan States

Alaska - 907 / 269-4957

Arizona - 602 / 542-5795

California - 415 / 703-5100

*Connecticut - 860 / 566-4380

Hawaii - 808 / 586-9100

*Illinois - 217 / 782-6206

Indiana - 317 / 232-2688

Iowa - 515 / 281-3661

Kentucky - 502 / 564-3070

*Maine - 207 / 623-7900

Maryland - 410 / 527-4465

Michigan - 517 / 322-1848

Minnesota - 651 / 284-5050

Nevada - 702 / 486-9020

*New Jersey - 609 / 984-1389

New Mexico - 505 / 827-4230

*New York - 518 / 457-2574

North Carolina - 919 / 807-2875

Oregon - 503 / 378-3272

Puerto Rico - 787 / 754-2172

South Carolina - 803 / 734-9669

Tennessee - 615 / 741-2793

Utah - 801 / 530-6901

Vermont - 802 / 828-2765

Virginia - 804 / 786-6613

*Virgin Islands - 340 / 772-1315

Washington - 360 / 902-5554

Wyoming - 307 / 777-7786

*Public Sector only

U.S. Department of Labor
Occupational Safety and Health Administration

Have questions?

If you need help in filling out the *Log* or *Summary*, or if you have questions about whether a case is recordable, contact us. We'll be happy to help you. You can:

- Visit us online at. **www.osha.gov**
- Call your regional or state plan office. You'll find the phone number listed on the previous page.

SP 53 Pandemic Guidelines

1.0 INTRODUCTION

This plan is intended to provide guidance to employees of The Kuesel Group through a widespread outbreak of illness or disease in order to maintain continuity of our business and remain a viable entity during a potential crisis. The elements of this plan will help minimize the impact of this pandemic event on the company and provide a safe workplace for all our employees and subcontractors.

2.0 INFORMATION AND COMMUNICATION

Throughout the event, communication and information are critical between all levels. Important keys to remember and follow through the process:

A. I**nformation shared on The Kuesel Group's behalf is to be approved** by Management before it is sent to owners/clients and employees of The Kuesel Group.

B. **Use reputable sources** for information such as:

1. Centers for Disease Control (cdc.gov)
2. Occupational Safety and Health Administration (osha.gov)

C. If **requests for information or action** regarding COVID-19 are made by owners/clients, the request must be submitted to the office for approval by Management prior to replying to the owner/client.

D. **Certain worker information** –anything regarding medical evaluations, testing, treatment or status – is protected by Federal Law and must be treated as confidential. Only approved personnel in Safety and Operations Management are to collect and disseminate this information – no information may be shared with anyone that is not approved to receive it.

3.0 TRAVEL

Traveling during a pandemic can be difficult and may need to be restricted or eliminated – especially to certain areas of the world or within the United States. "Hot Zones" where the virus is present in great numbers pose a threat to people who travel from those areas and risk the spread of the virus to other areas. For this reason, we will control and limit travel during the times of a pandemic event.

A. **MEETINGS**: Whenever possible, hold meetings virtually using Webex, Zoom, Skype, FaceTime or other technology that facilitates a meeting or conversation without occupying the same room.

B. **BUSINESS TRAVEL.** During this outbreak event, travel will be minimized to only that which is essential to maintain project continuity. Project managers, are permitted to travel, subject to approval, as

described below.

1. If at all possible, drive instead of using public transportation or commercial travel.
2. We urge extreme caution if using commercial travel; cleaning your seating area, wash your hands often, and don't touch your face.
3. Training, conferences, or other large group settings are to be avoided.
4. Any company travel must be approved by Company Owners.

C. **PERSONAL TRAVEL**. If you or your family live or travel in/out of any area that includes COVID-19 cases, The Kuesel Group employees shall contact their manager and likely be held for a self-quarantine 14-day period at home.

Anyone who feels sick, even a mild cough or symptoms of a cold, should stay home (and work from home if possible). If you have a fever, report to the Safety Director and remain home. Individuals must remain fever free for 24 hours and be free from other cold symptoms before returning to work.

D. **VISITORS TO THE KUESEL GROUP OFFICES**. All visitor meetings in a Kuesel Group office are postponed indefinitely. Avoid inviting visitors to the office that are travelling from or through "Hot Zones" or that may have had potential exposures to COVID-19 recently.

4.0 SEPARATION AND PREVENTION

General

A. **Telecommuting** Office staff who are capable of working from home should do so when possible. If you need assistance in getting connected to the office, please contact the IT administrator.

B. **Administrative controls** may be employed to aid in separation such as staggering and/or rotating shifts, night shifts and other schedule alternatives.

C. **Practice "Extreme Personal Hygiene"**
1. Avoid handshakes and bodily contact with others.
2. Cover your mouth and nose with a tissue when you cough or sneeze.
3. Dispose of used tissues in the trash or flush down a toilet.
4. If tissues are not available, cough/sneeze into your elbow – not into your hand!
5. Wash hands thoroughly with warm water and soap after using the bathroom, coughing, sneezing or coming into contact with people or surfaces.
6. If soap and water are not available, use a hand sanitizer containing alcohol.
7. Stay away from public areas and events if you are not feeling well, have cold or flu-like symptoms and/or have a temperature, stay at home. This includes work! Do not risk infecting others.

D. **Practice "Extreme Cleaning"**
1. Ensure proper handwashing and other cleaning facilities are readily available and stocked. Provide sufficient handwashing stations, guidance 1/ 10 people.

2. All projects shall provide/designate sufficient cleaning personnel to maintain full wipe down of meeting spaces, workspaces (desks, chairs, computers, monitors, keyboards, etc) for office personnel and conduct routine wipe-down of equipment on the jobsites and in the shop.
3. All facilities are to be thoroughly cleaned after each use with some areas requiring more frequent cleaning (break areas, rest rooms, furniture, switches, door handles, handrails). Assure cleaning materials and hand sanitizer are readily accessible to workspaces.
4. Cleaning materials shall be provided for all meetings to encourage self-cleaning of meeting spaces.
5. Various high use equipment such as forklifts, skid loaders, backhoes, etc. must be wiped down frequently.
6. Subcontractors are expected to fully implement COVID-19 prevention practices and keep all work areas clean and sanitary.
7. Evaluate the need for air scrubbers and frequent HVAC filter changes and ductwork cleaning.
8. Housekeeping and cleaning effectiveness will be inspected on a daily basis to ensure quality.

E. **Communications**
1. Posters and signs will be displayed in common areas such as break areas and restrooms, reminding people to stay home if not feeling well; signs and symptoms of COVID-19; and proper handwashing.
2. Project teams/offices will continue to receive and communicate the latest procedures, requirements and educational information learned to prevent the spread of COVID-19.
3. Any suspected/actual COVID-19 cases must be reported via email, managed, and closely monitored by The Kuesel Group following the “COVID-19 Test Positive Protocol”.
4. Project/Office Team meetings will be held virtually when possible – face-to-face meetings are limited to where space allows 40 sf/attendee – Conference/Meeting Rooms reconfigured to reduce seating capacity. No meeting shall occur in groups greater than 10 persons.

F. **Resources**
1. Projects must evaluate and prepare for additional resource and material needs such as cleaning supplies, handwashing stations, PPE, restroom facilities and third-party services to assist with cleaning.
2. Project contingency staffing plans will be made to ensure proper project management is on site in the case key staff members are unable to work due to suspected or actual COVID-19.
3. Develop project organizational structure to understand proximity, location and participants in correlation to various areas and include in project site mapping.
4. Monitor supply chains and notify appropriate contacts if there is an anticipated delay that will affect The Kuesel Group’s ability to maintain current schedule.

Project Sites – Separation Planning and Execution

All projects will implement these guidelines to help prevent the spread of COVID 19. If there is a unique situation that the guidelines below do not address, please contact the Safety Director.

1. Each work space shall provide hand sanitation within 100’ of the work area.
2. Trade/subcontractor trailers, job boxes and established work areas are to be separated by at least 6’ of each other.

3. Workers are not to share tools. If more tools are required due to multiple users, additional tools shall be purchased to prevent transfer. If workers MUST share tools, tools must be thoroughly disinfected with a Clorox-type wipe between users.
4. No sharing of PPE for workers or visitors is allowed. Utilize single-use vests and gloves for visitors. Hard hats may be re-used only after sanitized with a Clorox-type wipe between uses.
5. Delivery drivers/visitors are to be managed with the same minimum 6’ distancing and separation as needed. Drivers shall remain in truck cab until designated subcontractor representative can supervise separation activities during unloading/loading of materials and equipment. No visitors are allowed on site without prior approval and specific escort.
6. Meetings in offices/trailers shall first seek virtual format. Any required face to face meetings shall be organized to ensure at least 6’ minimum distancing from others. This may require additional space, smaller meetings or virtual meetings.

- ✔ Toolbox talks and daily planning meetings are only to be held in groups where at least 6’ minimum distance per person is possible and separated by subcontractor. This may require more space, additional sessions and separation by floors, doors, partitions or walls.
- ✔ Safety meeting are postponed until further notice.

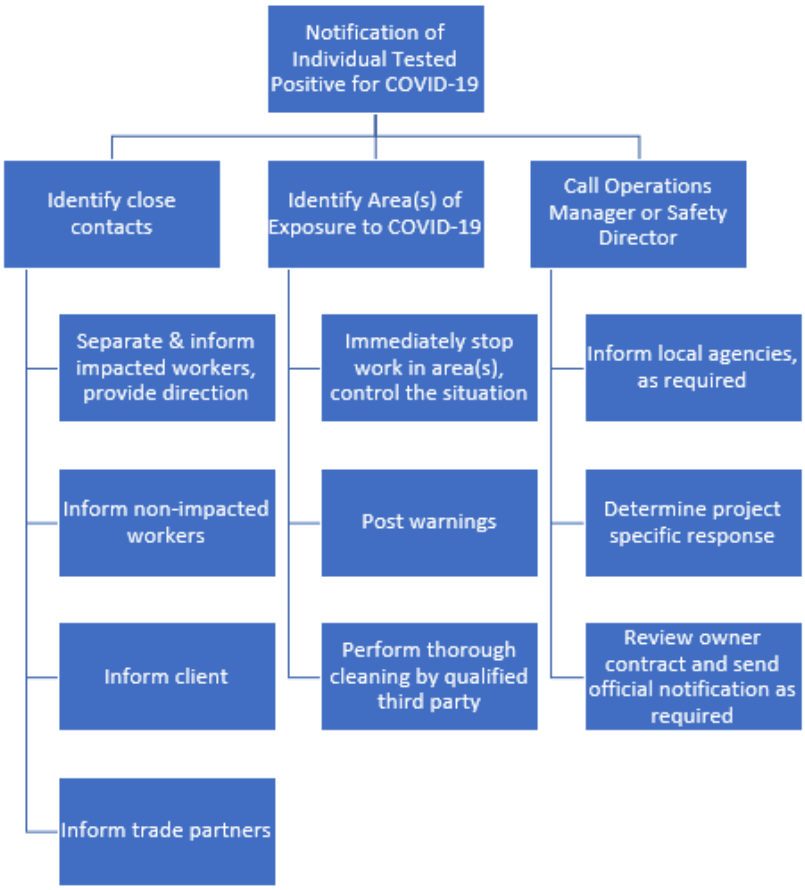
Handling Cases of COVID-19

The Kuesel Group recognizes the potential of exposure to Coronavirus (COVID-19) on our projects and offices and the impact it could have on our people and the company. Accordingly, we have the following plan in place in the event that an individual tests positive for COVID-19 and was present on a The Kuesel Group project site or at a The Kuesel Group office.

A. **Purpose of Plan**

- **a.** Protect people and reduce the spread of the virus
- **b.** Sustain business operations
- **c.** Provide access to internal and external expertise
- **d.** Ensure compliance with contractual and regulatory obligations

B. **Response Process**


Notification of Individual Tested Positive for COVID-19
Identify close contacts
Identify Area(s) of Exposure to COVID-19
Call Operations Manager or Safety Director
Separate & inform impacted workers, provide direction
Inform non-impacted workers
Inform client
Inform trade partners
Immediately stop work in area(s), control the situation
Post warnings
Perform thorough cleaning by qualified third party
Inform local agencies, as required
Determine project specific response
Review owner contract and send official notification as required

Section 1 - Protect People and Reduce the Spread of COVID-19

A. Communicate with Individual having, or suspected of having, COVID-19

1. Confirm individual is receiving care they need.
2. Confirm areas and people the individual had contact with and during what time.
3. Determine if the individual knows when they might have been exposed.
4. Confirm that individual should not report to work and should self-quarantine to avoid contact with other people as much as possible to keep from spreading illness.
5. For The Kuesel Group employees who have tested positive, communicate all available resources and benefits available to them including that this time off will be considered sick leave and short-term disability for those who become eligible.
6. For subcontractor employees, they should check with their employer and/or union to determine leave benefits.
7. Confirm with an individual that they should not return to work until a doctor confirms it is safe.

If an individual receives notification of a positive diagnosis of COVID-19 while at the project or office, please isolate them in a separate room and provide them a mask to wear. The comfort and the care we show is important to everyone's mindset.

B. Identify Close Contacts

Considerations when assessing close contact include the duration of exposure (e.g., longer exposure time likely increases exposure risk) and the clinical symptoms of the person with COVID-19 (e.g., coughing likely increases exposure risk, as does exposure to a severely ill patient).

The CDC defines close contact as:

1. Being within approximately 6 feet (2 meters) of a COVID-19 case for a prolonged period of time; close contact can occur while caring for, living with, visiting, or sharing a health care waiting area or room with a COVID-19 case
   – or –
2. Having direct contact with infectious secretions of a COVID-19 case (e.g., being coughed on).

C. Separate & Inform Workers with Close Contact, Provide Direction

The Kuesel Group shall inform those who were in close contact, both verbally and in writing, of the situation.

1. Keep the identity of the individual with COVID-19 private.
2. The Centers for Disease Control and Prevention recommends that these individuals limit public activities.
3. People (The Kuesel Group and subcontractor employees) should self-quarantine and work from home until they are symptom free for 14 days from the day they had contact.
4. The Kuesel Group employees unable to work from home while quarantined, and who are a full-time or part- time employee will be compensated according to the Families First Coronavirus Response Act (FFCRA or Act).
5. For subcontractor employees, individuals should check with their employer and/or union to determine leave benefits.

D. **Self-quarantine**

When people are in self-quarantine, they may have no symptoms, but because there is a possibility that they might have been exposed, the CDC and healthcare leaders indicate they should stay away from others in public settings. People in self-quarantine should not go to work, school, or any public places where they could have close contact with others.

E. **Inform People, Client, and Subcontractor Principals**

In the office, Company Owners or the Safety Director will be responsible to inform employees. On a project, the Project Executive or Project Manager is responsible for informing client and trade partner after obtaining approval from Company Owners or Safety Director.

1. Keep the identity of the individual with COVID-19 private.
2. The Kuesel Group shall inform everyone working at the project or office location of the situation. We recommend that people be gathered in small groups to deliver the message and be provided written guidance.
3. Share facts of situation, our response, and ongoing steps to protect people.

Section 2 - Sustain Business Operations

A. Immediately Stop Work in Area / Control the Situation

The Project Superintendent is responsible to stop all work directly associated with the area in question. The area should be controlled in such a manner to eliminate the potential for both worker and public exposure.

A determination will be made by The Kuesel Group Executive Leadership as to whether a project/office will be required to stand down for a period of time.

B. Personnel Screening

Workers showing evidence of a fever or temperature of 100.4 degrees or higher will first be referred for additional screening and possible medical attention.

C. Post Warnings

The Project Superintendent shall post signage, barricades, and other protective measures to ensure the area remains undisturbed.

D. Cleaning

Work with The Kuesel Group Safety Director to determine the scope of cleaning needed. Cleaning must comply with OSHA's standards, including proper disposal of regulated waste. Post applicable warning notices that alcohol-based cleaning products may be flammable.

E. Reduce the Spread of the Virus

1. All personnel on jobsites are required to wear all personal protective equipment at all times, especially if work requires proximity to other workers.
2. Provide resources that promote personal hygiene, for example, tissues, no-touch trashcans, hand soap, hand sanitizer, disinfectants and disposable towels for employees to clean their work surfaces.
3. Place informational postings to educate employees, subcontractors, owners, vendors, and visitors on how to protect themselves and mitigate the spread of the virus.

Section 3 - Access to Internal and External Expertise

A. **Engage Company Resources**

1. The Project Superintendent shall immediately notify The Kuesel Group Safety Director, Director of Operations, and Project Manager.
2. Assure communications and information technology capacity is able to support employees working remotely due to either self-quarantine or diagnosis.

B. **Continuity of Operations**

1. Provide support to ensure that core functions, people and skills are identified and that strategies are in place to ensure continuity of operations.
2. Consult with Safety and Operations in order to prepare the project site or office to safely function with a

potential for increased absenteeism and a reduced workforce.

Section 4 - Compliance with Regulatory Obligations

A. The Kuesel Group will **monitor and stay in compliance** with the recommendations, requirements and guidelines from the CDS, WHO and other agencies with authority and expertise in the area of COVID-19.

B. The Kuesel Group will **review and comply** with all local governmental guidance including OSHA CFR 1904 Recordkeeping requirements.

The Kuesel Group PROJECT SPECIFIC ACTION PLAN FOR MANAGEMENT OF COVID-19

Key Action Items	Who/Team	Plan Date	Actual Date	Status
General Pre-Planning				
Encourage and coach self-reporting of flu-like symptoms.				
Postpone Safety Lunches for 30 days min. Do not schedule until approved by executive leadership.				
Evaluate ability to safely do Stretch & Flex sessions, PTSA's, and Tool Talks. Postpone if needed or do in small crew sized groups.				
Continue to communicate, educate, and inform on COVID-19 prevention (talks, posters, and other forms of communication).				
Ensure there are contingency plans in place for necessary personnel resources and materials. Review key contacts lists.				
The Kuesel Group Personnel – travel plans evaluated by Senior Mgmt.				

Evaluate job site orientation areas to determine whether to continue, do in small groups, or perform on-line?				
Evaluate need for personnel screenings at project entry point (questionnaire and/or physical exam). Create process for site.				

Methods of Separation and Control				
Daily coordination meetings to plan where/when subs will work.				
Use of alternative shift times, rotating shifts, night shifts, etc.				
Provide means of separating crews – multiple gates, parking, walkways, break areas, toilet/wash facilities, and (primary) work areas that promote keeping workers spread out and separated as much as possible.				
Develop subcontractor crew work plan organized by areas of work - Trailers, job boxes, and work areas should provide at least six feet of separation between people.				
Delivery drivers and visitors managed same as all other onsite personnel.				
Meeting spaces large enough to allow for at least six feet of separation between people.				
Toolbox Talks, Stretch & Flex, Orientations to be held in areas large enough to allow for at least six feet of personal space, or to be broken into smaller groups (crews hold Stretch & Flex/Tool Box Talks individually).				
Safety Lunches postponed until further notice.				

Focus Areas				
Evaluate the need for increased handwashing facilities - Water and Soap Systems – Outside Buildings/Break Areas				
Place signs in lobbies, kitchens, and restrooms reminding people the importance of handwashing. Sign/poster reminding people if they feel ill to report it immediately.				
Remove all porous work and eating surfaces/Replace with washable tables.				
Verify we have proper awareness signage in place in Spanish.				
Evaluate the need for Mobile Hand Washing Facility to concentrated area of workforce.				
Establish wash down/sanitation plan for gate access.				
As needed. Inventory and procure additional cleaning services and safety supplies/equipment – hand sanitizer, bleach, face shields, nitrile gloves, respirators, third party cleaning service, etc.				
Evaluate need to clean HVAC system filters more frequently.				

Facility Cleaning				
Execute a deep cleaning and inspection protocol – Daily Inspection: 1) Porta Johns – clean daily, proper sanitizer 2) Break Areas 3) Offices/trailers 4) Work Areas				
Detailed cleaning daily above the CDC Guidelines: 1. All door handles in shared areas 2. Light switches 3. Kitchenette appliance handles, microwaves, faucets and soap dispensers 4. Elevator buttons 5. Lobby furniture 6. Stairwell handrails 7. Conference room table and phones 8. Computer keyboards etc. 9. All aspects of restrooms				

The Kuesel Group COVID-19 CONTROL CHECKLIST

Use the information below as a guide to make sure your site is approaching precautions for preventing the spread of COVID-19. Use this as your initial planning piece and as an auditing tool throughout the event to maintain upkeep of preventative measures.

The Kuesel Group COVID-19 Prevention Checklist

Project Name:

Date Completed:

Author:

Item Description	Item No.	Mitigations | Actions	Conformance			Responsible Party	Scheduled Completion	Actual Completion	Action Required
			YES	NO	NA				
Site Organization									
Site COVID-19 Awareness signage		Posting at Handwashing Facilities							
		Posting at Project Entrance							
		Posting at Restrooms							
		Posting at Break Area							
		Other Locations:							
		Other Locations:							
COVID- 19 Education		Daily Message							

		Weekly Message							
		Site Changes/Modifications							
		Orientation							
		Toolbox Talk							
		Foreman Meeting							
		Preconstruction							

Site Education/ Orientation		Virtual Training Tool							
		Remote Video Capabilities							
		Project Walk Thru | Acclimation							
		Space vs Group Size							
Process in place for screening workers as they enter the site gate		Visual Observation							
		Non-Contact Temperature Scan							
		Gate Access - Point of Entry							
		Hard Hat Identification							
		Site Entry Queuing Plan							
		Secondary Temperature Check - Verification							

		Appropriate Trained Personnel to Administer Scan							
Cleaning Supplies/ Equipment		Staging Locations							
		Hand Wash Facilities - Water and Soap							
		Hand Wash Facilities - Sanitizer							
		Cleaning Products							
		Rags							
		Disposal Containers							
Cleaning Schedule		Restroom - 3x's/week							
		Break Areas - Immediately Following Use							
		Office - Daily Wipe Down/Mop							
		Meeting Space-Immediately Following Use							
		Site Equipment - Daily							
		Point of Access - Daily							
		Transportation - Bus - After Use							
		Transportation - Vertical Lifts - Daily							
		Tools - After Use							

Personal Protective Equipment		Gloves - First Line of Defense - Replace Every 2 Weeks							
		Vests - Not Transferable							
		Hard Hats - Sanitization Required							
		Visitor Safety Glasses - Single Use							
Site Logistics Plan Inclusions		Restroom							
		Break Areas							
		Office							
		Meeting Space							
		Vehicular Pathways							
		Pedestrian Pathways and Point of Access							
		Transportation - Bussing - 2x's/day							
		Transportation - Buggies - 2x's/day							
		Transportation - Vertical Lifts - 4x's/day							
		Transportation - Stairs - 2x's/day							
		Emergency Response Muster Point							

		3rd Party Cleaning Services							
		Handwashing Stations							

General									
Project Coordination Meetings		Meeting Matrix - Defining Location, Agenda and Participants, Frequency							
		Toolbox Talk Logistics - Localized in Work Areas							
		Stretch & Flex - Localized in Work Area							
		PTSA - Localized in Work Area							
		Weekly OAC - Virtual							
		Daily Planning Work Schedule							
		Meeting Locations - Create Space vs Virtual Plan							
Work Planning		Staggered Shifts							
		Swing Shift							
		Alternating Shifts							
Visitors		Screening							
		Background - Previous 2 Weeks							
		Approval for Entry							
Delivery Management		Screening							

		Background - Previous 2 Weeks							
		Approval for Entry							
		Escort							

Methods of Separation and Prevention									
Coordinate crews to “de-densify” areas – crews on different floors or areas of the building		Observe rule of 1 person/40 SF							
		Pathways Identified and Assigned							
		Temporary Facilities (Restrooms/ Hand Wash Facilities) - Correct Quantity							
		Temporary Facilities (Restrooms/ Hand Wash Facilities) - Proper Location							
		Temporary Walls, Barricades, Doors (if required)							
		Temporary Ventilation System Operational							
		Segmented, Spaced Queuing Space							
		Gate Access - Point of Entry							
		Break Areas							
		Isolation Space - Presumptive Positive							
		96-hour Stand Down							

Subcontractor Crew Separation		PTSA Used to Designate Work Location and Assigned Crew							
		Each Crew Task Designated by PTSA							
		PTSA's Approved by Superintendent							
		Daily Planning Updated Daily, Day Prior to the Work							
		Daily Project Map Updated – Reflects Current Situation							
		PTSA Contains List of All Crew Member Names							

Isolation of Positive Area		Post Positive Isolation Communication							
		Temporary Barriers on Ready							
		Temporary Recourses Available							
		Rapid Response Team Organized							
		Third Party Cleaning Specification Scope Complete – Contract in Place							

Equipment Laydown		Job Box - Maintain 6' Separation							

SP 54 Cargo Securement

1.0 PURPOSE

1.1 Equipment, tools, and material all need to be transported to set-up a new jobsite, relocate on an existing jobsite, or move between jobsites. Tools and equipment may need to be transported for security at the end of the workday. Whether they are simply tossed into the bed of your pick-up, or chained and bound to a transport lowboy, in one way or another all items to be transported must be secured for the road.

2.0 GUIDELINES FOR SECURING LOADS TO PREVENT LOSS AND KEEP THEM FROM BECOMING A ROAD HAZARD

2.1 At highway speeds even large, relatively heavy articles may be blown out of an open pick-up bed. Secure any large items which may provide wind resistance, or “catch air” and be dislodged from pick-up beds with rope, straps, chain, bungee cords, etc.

2.2 Tie-down methods used must provide adequate means to secure the load against movement during transit.

2.3 Do not use straps which have broken stitching, are frayed, or show any signs of wear, damage, or deterioration.

2.4 Any item which extends more than three feet beyond the body of your vehicle must be flagged with high visibility material.

2.5 Use a tarp to cover numerous small articles or materials which cannot be enclosed in a toolbox, compartment, etc. Tie the tarp down securely running your rope or straps all the way across the width of the tarp.

2.6 When using bungee cords for tie-downs, make sure the cargo cannot shift and unclip the hook from the anchor point. Run the cord through the anchor and clip the cord back onto itself if possible.

2.7 Before transporting equipment, ensure that any loose material is cleaned off; secure all wires, cables, and chains, check for tools or equipment left on frames, decks, or in hoppers.

2.8 Equipment or material carried in a truck bed must also be secured from shifting or being thrown forward in a sudden stop.

2.9 Do not place unsecured items on the rear window deck, or back seat of a vehicle; in a sudden stop or collision these items may strike the driver or passengers with extreme force.

2.10 Do a walk around inspection before leaving to ensure that all items are put away and secured. Check fasteners, tie-downs, and hitches, and look for loose tools and materials.

2.11 Ensure that compartment doors, tailgates, or cargo doors are fully latched.

2.12 When transporting cargo long distances, check your cargo frequently to ensure that it has not shifted, and that it is still secure

Cargo securement is extremely important to the safety of the driver, his or her vehicle and other vehicles using the road. Loads should be examined within the first 50 miles of initial transport and again at all following stops. All tie-downs, tarps, doors, hatches, blocks/chocks, straps/chains/binders, tires, placards, lights, etc. are to be verified as secure, meaning they cannot damage the cargo or come loose and fall off the vehicle.

When the article being tied down is not blocked or positioned to prevent forward movement, it must be secured as follows:

If the article is:	Then use at least:
• 5 feet or shorter, AND • 1,100 pounds or lighter	1 tie down
• 5 feet or shorter, AND • Over 1,100 pounds	2 tie downs
• Longer than 5 feet but no more than 10 feet, not matter what the weight is	2 tie downs
• Longer than 10 feet	2 tie downs, plus 1 additional tie down for every addition 10 feet or part thereof

When an article is blocked, braced, or immobilized to prevent forward movement, it must be secured by at least one tie down for every 10 feet of article length, or fraction thereof.

SP 55 Behavior Based Safety

1.0 PURPOSE:

1.1 This procedure defines the requirements for implementing and sustaining a process where written documentation of observed and assessed behaviors and conditions result in the identification, management and communication of root-causes, resolutions and best practices. As the process matures it will encourage constant movement toward continuous safety and process improvement within The Kuesel Group.

1.2 The purpose of this program is to ensure consistency across all operations by defining a common implementation framework while complimenting and improving existing programs.

2.0 SCOPE:

2.1 This program is applicable to all Kuesel Group employees and subcontract personnel working on any Kuesel Group project.

3.0 RESPONSIBILITIES:

3.1 Management/Supervisor/Foreman

3.1.1 Management will assume ownership and responsibility for this policy and ensure its implementation and maintenance.

3.1.2 Management will ensure, at least quarterly, program reviews by a representative cross-section of management, supervision and craft personnel.

3.1.3 Management will determine the level of participation of the employees within their division. Depending on the size and scope of the project, it is recommended that site supervision documents a minimum of one observation per month.

3.1.4 Project/Site Management will ensure that all personnel have the education and training necessary to successfully participate in the program.

3.1.5 Project/Site Management will participate in this program by successfully utilizing Continuous Improvement Cards as specified in this program.

3.1.6 Project/Site Management is responsible for ensuring that the Continuous Improvement Cards are completed and submitted by site personnel.

3.1.7 Project/Site Management will ensure that solutions and recommendations are consistently implemented and that all actions are communicated back to the originator(s) in a timely manner.

3.2 Employees

3.2.1 Will participate in the required training classes about this program and will perform the duties of the program, as defined.

3.3 Subcontractors

3.3.1 Will participate in the required training classes about this program and will perform the duties of this program, as defined.

3.3.2 Subcontractor personnel will evaluate and analyze their own information and submit it for incorporation in the reports generated by the Safety Representative.

3.4 Safety Representative

3.4.1 Will assist management in compliance with this program.

3.4.2 Will assist management in the organization of the Continuous Improvement Observation Process and offer full participation in the program.

3.4.3 Will be responsible for accumulating all data from personnel, setting up a database in which the information may be stored and generate reports as assigned.

3.4.4 Will provide the necessary support for everyone affected by this program, ensuring reasonable opportunity for understanding and successful implementation and sustainability of the program

3.4.5 Will manage the program data in such a way so as to provide accurate and timely tracking and trending information.

4.0 DEFININTIONS:

4.1 **At-risk Activity** – Any human action that exposes people to the chance of injury or loss.

4.2 **At-risk Conditions** – Any particular person, existing state, and/or situation with respect to circumstances that exposes people to the chance of injury or loss.

4.3 **Employees** – Are The Kuesel Group employees, 1099 Contractors, and The Kuesel Group subcontractor employees.

4.4 **IDLH** – Immediately dangerous to life and health.

4.5 **Continuous Improvement Card (CIC)** – The document to be used by selected and specially trained Kuesel Group and Kuesel Group subcontractor personnel as a guide to risk management including tracking, trending and communication of root causes and safe work practices.

4.6 **Loss** – The occurrence of an event for which compensation for damage is sustained.

4.7 **Observation** –The written documentation of observed and assessed behaviors and conditions identifying, managing and communicating root-causes, resolutions and best practices encouraging movement toward continuous safety and process improvement.

4.8 **Positions and Actions** – The way people use their bodies in relation to performing tasks.

4.9 **Program Administrator** – The assigned person responsible for ensuring that all aspects of the program are taking place within the area of that person's control.

4.10 **Project/Site Management** – Includes those identified and assigned by The Kuesel Group to manage the jobsite location where The Kuesel Group employees are working.

4.11 **Stop Work Authority** – The existing Kuesel Group program (see SP-06) utilized to encourage all Kuesel Group and subcontractor employees to immediately stop any observed at-risk activity and/or protect Kuesel Group and Kuesel Group subcontractor employees from at-risk conditions.

4.12 **Supervision** – Includes superintendents, general foremen, site supervisors, foremen, leads and any other persons supervising Kuesel Group and Kuesel Group subcontractor craft employees.

4.13 **Task Preparation** – The step-by-step process necessary for potentially at-risk employees to follow in order to raise levels of awareness before beginning work.

4.14 **Work Surroundings** – The circumstances, conditions, people, etc. related to the work area.

5.0 EDUCATION AND TRAINING:

5.1 Education and training will provide background information on the techniques and principles for completing successful observations and follow-up conversations as well as provide an understanding of why participation is critical. Personnel must understand the importance of being proactive while suggesting changes that promote a continuously improving and safer workplace.

5.2 Continuous Improvement Observation Process (CIOP) - The CIOP will be taught prior to official implementation.

5.3 Management will be educated as to:

5.3.1 The educational and physical requirements for implementing and maintaining this program ensuring consistency across all operations by defining a common implementation framework while complimenting and improving existing programs.

5.3.2 The benefits of the craft employees observing and assessing behaviors and conditions in an attempt to identify, manage and communicate root-causes, resolutions and best practices throughout the organization.

5.3.3 The process through which The Kuesel Group will encourage constant movement toward continuous safety and process improvement.

5.4 Program Administrators will be educated as to:

5.4.1 The benefits of the craft employees understanding, observing, and assessing behaviors and conditions in an attempt to identify, manage and communicate root-causes, resolutions and best practices throughout the organization.

5.4.2 The process through which The Kuesel Group will educate and subsequently encourage constant movement toward continuous safety and process improvement.

5.4.3 The collecting, entering, processing, distributing and effective utilization of the data obtained from this program.

5.5 All supervisors and selected employees will be further educated as to:

5.5.1 Understanding the levels of awareness as they relate to risk management and a comprehensive peer to peer observation process.

5.5.2 An in-depth understanding of risk assessment, analysis, peer interaction, positive resolution development and documentation.

6.0 CONTINUOUS IMPROVEMENT OBSERVATION PROCESS (CIOP)

6.1 Observations - The trust necessary to achieve full participation will not be gained through a fault-finding and consequently negative approach. Success requires a combination of coaching, positive feedback with firm, fair and consistent accountability.

6.1.1 Interaction with employees being observed:

6.1.1.1 Will be delivered in a constructive and professional manner.

6.1.1.2 Will consist of positive feedback when appropriate.

6.1.1.3 Will be concise, specific and lead toward effective resolution.

6.1.1.4 Will be supportive and non-threatening.

6.1.2 All observations will be collected, reviewed and processed at the site on at least a monthly basis (Note: this requirement is dependent on the project scope, duration, and the number of employees on the project).

6.1.2.1 On at least a monthly basis; site management/supervision will discuss with observed personnel all observations whether positive or negative.

6.1.2.2 If an observed employee is participating in and/or potentially affected by activity that is IDLH; the observer must stop the observation process and immediately intervene to stop the at-risk activity and/or conditions as per The Kuesel Group Stop Work Authority.

6.2 Observations

6.2.1 Observations will encourage all employees to invest time in their daily routine to observe and address personnel activity and/or worksite conditions in a non-threatening, peer to peer environment. Observations will include the identification of best practices as well as at-risk activity/behavior and conditions in the work environment.

6.2.2 All site Kuesel Group and subcontractor employees will participate in the observation process utilizing The Kuesel Group Stop Work Authority process for activity and/or conditions that could increase the risk of injury and/or loss.

6.2.3 Observations will immediately be followed by appropriate communication with the observed employee(s).

6.2.3.1 Start with positive comments. Communication regarding best practices must praise the excelling employee commending his/her high level of awareness and subsequent excellence.

6.2.3.2 Communication regarding at-risk activity must raise the at-risk employee's level of awareness and must include a documented path to resolution. Solicit from the observed employee an explanation of their unsafe behavior with open-ended questions. Be sure to re-emphasize that there will be no consequences to the observed employee.

6.2.4 As The Kuesel Group employees (or subcontractor employees) observe either SAFE or "At Risk" behavior and after Corrective Action has taken place, the CIC card (see Attachment 1) must be completed and turned in to his/her supervisor or the Site Safety Representative.

6.3 Management/Supervision Observations

6.3.1 A trained Management/Supervision observer will be required when the workforce on-location exceeds 24 total employees.. For projects that have a crew size between 10 and 24 employees; one supervisor or one employee may act as the observer. For projects that have a crew size of less than 10 employees; the supervisor must act as the observer.

6.3.2 It is recommended that all Management/Supervision observers conduct at least one (1) observation per week (when > 25 employees) and shall be afforded the time to do so on the project or location.

6.3.3 Management/Supervision observations will be on the behaviors of people as they relate to actions and attitudes. While unsafe conditions must also be identified, the main focus of the Management/Supervision observation is to identify and eliminate hazardous behaviors before the behaviors create an unsafe condition or lead to an incident and/or a loss.

6.3.4 Observations will be categorized according to the following common behaviors noted on the Continuous Improvement Card (See Attachment 1):

6.3.4.1 Task Preparation

6.3.4.2 Work Surroundings

6.3.4.3 Positions and Actions

6.3.4.4 Tools and Equipment

6.3.4.5 Personal Protective Equipment (PPE)

6.4 Comments

6.4.1 The “comment” section of the Observation Sheet is a valuable resource to you as an Observer, and to your Behavior Based Safety Observation Program (BBSOP) Administrator.

6.4.2 A detailed comment section can help communicate your ideas and recommendations for improvement, positive findings and reinforcement of SAFE behavior, and any actions taken by you to correct “At Risk” behavior.

6.5 Effective Observations

6.5.1 Conducting quality Observations that are effective in capturing “SAFE” or “At Risk” behavior is a critical component of The Kuesel Group BBSOP and will ultimately prevent injury to our employees. Listed below are three (3) tips for Quality and Effective Observations:

6.5.1.1 Plan to Observe

6.5.1.1.1 Conducting an Observation should be planned in advance just as carefully as any other aspect of the job. Ensure there is enough time allowed to do justice to the work being observed and the employees performing the work.

6.5.1.2 Use the Tools

6.5.1.2.1 Review the “Observation Assessment Flow Chart” of the CIC before you arrive at the observation site. Being properly prepared can make the observation smoother and more efficient. In addition, try to have a clear understanding of the work and task(s) you will be observing.

6.5.1.3 Be Positive

6.5.1.3.1 Discuss both “SAFE” and “At Risk” behavior in a positive manner, ensuring that feedback is specific to your observations. Building (or maintaining) self-esteem will encourage cooperation and confidence for the next observation.

6.6 During the Observation Process

6.6.1 Ensure that you are familiar with the definitions of the behaviors you are about to observe.

6.6.2 It is very important that there be consistency with the definitions of “observable actions” in order to make the data more meaningful to the BBS process, Program or Site Administrator and the reports that will be shared with all employees.

6.6.3 Assess the worker’s actions relative to the different categories on the CIC.

6.6.4 As you observe, check the item “SAFE” if it is 100% safe. Maximum of one (1) check per “SAFE” item, regardless of the number of workers. If the item is not 100% safe, then it is to be checked “At Risk” for each violation. This makes the measurement system more sensitive to the “At Risk” actions.

6.6.5 Positively reinforce all desired behaviors that you have observed.

Note: This is as high of a priority as the correction of undesired behavior.

6.6.5.1 Identify and correct any “At Risk” behaviors. It helps if you ask the worker how the job could be done in a safer manner rather than telling them. This approach will lead to more interactive and constructive conversation between the Observer and the workers being observed.

6.6.5.2 Ask the work group for any further ideas or suggestions, thank them for their help, and calculate the “% SAFE” for that particular observation session. Review and discuss as applicable, the completed observation card with the foreman/supervisor, and hand in your completed observation card to the Site Administrator (or Foreman) at the end of the observation process.

6.7 Foreman/Supervisors are responsible for making certain that all Corrective Actions required have been implemented and that the BBS Observation cards are forwarded to Management and Safety Personnel for further review and actions.

6.8 Data Accumulation, Tracking, Trending

6.8.1 The observation system will provide information in two ways:

6.8.1.1 Immediate verbal feedback.

6.8.1.2 Systematic recording of data relating to at-risk activity and conditions as well as excellence in best practices.

6.8.2 The Kuesel Group site program administrator will collect all Kuesel Group and subcontractor data.

6.8.3 Identified and trained subcontractor personnel will submit their data to the site program administrator.

6.8.4 Observation data will be collected, stored, analyzed and communicated back to the at-risk employees in a systematic way.

6.8.5 Observations may be entered into a database using the individual categories identified on the Continuous Improvement Card.

6.8.6 A database system can be used for collecting and reporting observation data, as well as tracking action items to closure.

6.8.7 Site supervision will be responsible for providing employees with regular and timely feedback on tracking, trending, best practices and resolution status.

6.8.8 Feedback will be provided at least on a monthly basis.

6.8.9 Identified trends will be used to develop leading indicators for performance reporting purposes. Trend indicators shall include:

6.8.9.1 The number of safe/unsafe observations recorded at the site.

6.8.9.2 The types of frequently observed safe and at-risk activity and conditions.

6.8.9.3 The ratio of safe to at-risk activity recorded within each category.

6.8.10 Once trend analysis is complete, appropriate action plans must be developed to address unsafe behaviors. Action planning may include:

6.8.10.1 Evaluate unsafe behaviors from trend analysis and prioritize

6.8.10.2 Develop action plan for unsafe behaviors based on comments and feedback from data sheets

6.8.10.3 Designate responsible parties and timeframes within the action plan

6.8.10.4 Define who is responsible for action planning

6.8.10.5 Ensure management support

6.8.11 Formal communication from management regarding identified leading indicators will be communicated and discussed regularly at management, operations, and safety meetings.

7.0 SYSTEM AUDIT:

7.1 Regular auditing of the behavior-based observation system shall be conducted to ensure that it is well communicated and understood, effective in addressing site risks, and achieving improved health and safety performance.

7.2 Auditing shall include an analysis of the key system components, such as levels of participation, management involvement, data analysis, trending, communication, and feedback.

8.0 SCORING PROCESS GUIDELINE:

8.1 Observers shall use the following Guidelines when conducting Management/Supervision Observations:

8.1.1 Do not score what you do not see! Score 1 for any “SAFE” behavior, regardless of the number of workers exhibiting that behavior.

8.1.2 There are only two possible scores in the “SAFE” column; 0 (no check in the SAFE column) or a single check mark in the SAFE column.

8.1.3 Score 0 “SAFE” (no check on the card in the SAFE category) for any “At Risk” behavior.

8.1.4 Add up the number of “At Risk” for each behavior. That number may range from 0 (no check on the card) to as many “At Risk” behaviors that are observed. For example: If 14 workers are observed doing a task that requires gloves, with only 2 wearing gloves and 12 without gloves, the score for that behavior would be; 0 “SAFE” and 12 “At Risk” (The card would be marked 12 “At Risk” with no checks in the SAFE column)

8.1.5 Total all “SAFE” behaviors

8.1.6 Total all “At Risk” behaviors

8.1.7 Perform the calculation:

8.1.7.1 (Number of SAFE Behaviors X 100) / (Total SAFE + At-Risk Behaviors) = %SAF

9.0 REVISION REGISTER

Date	Description of Change	Page No.	Initials
09/30/20	Insert Behavior Based Safety into EHS Manual		JMH

CONTINUOUS IMPROVEMENT CARD

Observer Name: _____ Date: _____ Time: _____ Location: _____ Number of People Observed: _____

1. Observe worker looking for safe and at-risk activity. 2. If worker is at risk, assess the specifics. 3. Discuss with worker the possible causes and... 4. The effective solutions.

Observation				At-Risk Assessment				Cause	Solution/Recommendation
1. Task/Preparation	N/A	Safe	At Risk	Incomplete	Incorrect	Inadequate	Not Done		Agreed Upon Solution
A. Permit									
B. JSA									
C. Training									
D. Procedures									
2. Work Surroundings	N/A	Safe	At Risk	Knowledge	Attitude	Priority	Distraction		Agreed Upon Solution
A. Housekeeping/Storage									
B. Walking/Working Surfaces									
C. Guards/Barricades									
D. Tags/Warnings/Signs									
E. Weather/Nature Issues									
F. Chemicals									
G. Other Worker Activity									
3. Positions & Actions	N/A	Safe	At Risk	Knowledge	Attitude	Priority	Distraction		Agreed Upon Solution
A. Eyes on Path									
B. Eyes on Task/Hands									
C. Reaching/Extending									
D. Ascending/Descending									
E. Lifting, Lowering, Twisting									
F. Pulling/Pushing									
G. Line of Fire									
H. Pinch Points									
4. Tools & Equipment	N/A	Safe	At Risk	Deficiency					Agreed Upon Solution
A. Right for Job				Not Working		Wrong Tools/Equip			
B. Used Properly				Inadequate		Condition			
C. Safe Condition				Not Available		Misuse			
5. PPE	N/A	Safe	At Risk	Type					Agreed Upon Solution
A. Being Worn				○ Head	○ Hearing	○ Fall			
B. Right for Job				○ Face	○ Hand/Arm	○ FRC			
C. Used Properly				○ Eye	○ Leg/Knee				
D. Safe Condition				○ Foot	○ Respiratory				
	Totals			Positive/Additional Comments:					

Percent Safe Calculation:	
Number of Safe X 100 =	
Divided by...	_____
Number of (Safe + At Risk) =	
Percent Safe	

Observation Assessment Flow Chart

