UNGER
CONSTRUCTION CO.

Proof of Training

Print name: _____Signature: _____ Date: _____

Line Breaking

Purpose

The purpose is to establish appropriate expectations and safe work practices when employees or subcontractors are performing line breaking activities.

Scope

This policy will apply to all work performed by Unger employees and our subcontractors including, but not limited to the following activities: construction, installation, demolition, remodeling, relocation, refurbishment, testing, and servicing or maintenance of equipment or machines, and at other times when line breaking is required.

Objective

Due to the potential for catastrophic injuries and or significant business interruptions, specialized work techniques are required to remove, relocate, demolish or otherwise change the integrity of a line, pipe, tubing, duct, tank, or container. This policy will apply to all operations where the integrity of a line, pipe, tubing, duct, tank, or container is changed, regardless of what it currently contains or once contained (inert materials, hazardous material, and hazardous pressure).

Responsibilities

Management (Board of Directors and Project Managers)

Management is responsible for ensuring that the materials (e.g., tools, equipment, personal protective equipment) and other resources (i.e., worker training materials) required to fully implement and maintain this program are readily available where and when they are required. Additionally, management will monitor the effectiveness of the program, provide technical assistance as needed, and review the program bi-annually.

Program Manager

Dave Simpson is responsible for the development, documentation, training and administration of the program. This position carries the responsibility of insuring this program is adhered to and that proper reporting is executed.

Supervisors (Superintendents and Foreman)

Supervisors are responsible for ensuring that a task specific job hazard analysis (JHA), also known as a safe work plan, is developed. The JHA will select, implement and document the appropriate site-specific control measures as defined within this policy. Supervisors will direct the work in a manner that ensures the risk to workers is minimized, adequately controlled and that practices defined by this policy will be

followed. Supervisors are responsible for ensuring Unger Construction employees and subcontractors are following expectations. Supervisors will be held accountable for enforcing the requirements of this program. Undesirable behavior will not resolve itself, therefore supervisors must be directly involved with modifying behaviors inconsistent with program expectations. Supervisors will be held accountable for enforcing Unger Construction's disciplinary program.

Workers (Employees and Subcontractors)

Unger Construction has high expectations and requires safety excellence for each employee, crew, project and for our entire company. Workers are required to follow the minimum procedures outlined in this program. Workers are responsible for knowing the hazards and the control measures established in the JHA. Workers are responsible for using the assigned PPE in an effective and safe manner. Workers are responsible for stopping unsafe acts and correcting unsafe conditions on the spot as soon as they are discovered. Any deviations from this program must be immediately brought to the attention of your supervisor. Workers that choose to conduct themselves in a manner that is inconsistent with these expectations will be held accountable for those decisions and may incur disciplinary actions.

Job Hazard Assessment (Safe Work Plan)

Unger Construction utilizes JHA's as our means of hazard assessment and establishing a safe work plan. JHA's are performed by supervisors and/or workers. Our library of hazard assessments is maintained on the "S" drive. Before beginning a new task refer to the JHA library, generally speaking all scopes of our work are covered. For situations that have not yet been covered select one that is substantially similar and use it as a baseline. JHA's on the "S" drive are organized by work area and job description. JHA's include strategies for elimination, substitution, engineering and administrative controls. After applying all appropriate reduction and elimination technique, the remaining hazards will be analyzed and the proper PPE to reduce the hazards will be selected. PPE will be identified for hazards that are in the process of being reduced or eliminated and/or when hazard-reduction efforts are not 100% effective in eliminating the hazards.

For complex or moderate to high hazard tasks, tasks where an additional level of safety planning is needed, the safety director will perform the JHA with the supervisor and workers.

Training

Before any employee is allowed to perform line breaking they must first receive training. Each employee must demonstrate an understanding of the required training to their supervisor before being allowed to perform work. Proof of training is available on the "S" drive. The training data base can be sorted by employee name or by subject. This ensures supervisors and employees are able to confirm they have the necessary training and if they don't which employees do. Employees that need training should contact their project manager or superintendent to make arrangements for them to be trained.

Retraining

The need for retraining will be indicated when: An employee's work habits or knowledge indicate a lack of necessary understanding, motivation or skills required, new equipment is installed/purchased, changes in the workplace make previous training obsolete, or upon a supervisor request.

Discussion

Line breaking is a high hazard activity in which all risks must be identified and controlled. Workers must be aware of and protected from any potential hazard before any work is to begin. This will be accomplished through the following steps.

Planning for Line Breaking Tasks

The entire operation will be pre-planned involving the Unger project manager/ superintendent, all persons supporting the operation (e.g., facilities technicians, the owners of the building), vendor representatives and other trades who will be performing the work. Use of layout, as-built, isometric, or line drawings of the line, pipe, or duct is required for safe and efficient planning. In some cases, a field drawing prepared just prior to the work may be needed to capture the actual equipment configuration; this is especially true for chemical drain lines where additional services may have been added since the last formal system drawing was prepared. The line should be 'walked' by all parties associated with the line breaking operation to allow full assessment of the scope of the work, and to identify potentially difficult situations (elevated work, restricted access, need for supplemental lighting, conflicts with normal travel paths etc.) and hazardous energy lockout points. Lines (any house gas, cylinder gas, bulk chemical delivery system, including closed loop and open loop house systems, liquid supply and drains) cannot be demolished until all signatures are affixed to the demolition tag or flag. Emergency actions necessary to deal with unintentional or incidental releases of hazardous material supply, control, or waste systems; due to line separation, cutting, or other demolition practices must be established before the activity can begin. The necessary support equipment shall be staged such that the emergency response is immediate. Any intended work that does not appear to be safely feasible within the requirements of this policy must be referred to the Unger project manager/ superintendent for discussion and approval of alternative methods.

Personal Protective Equipment (PPE)

Line breaking operations may require the use of highly specialized PPE, depending on the hazards identified in the work planning stage. Subcontractors selected to perform line breaking task must be prepared to provide both the necessary PPE and personnel who have experience performing high hazard work safely in this type of PPE. Specialized PPE may include, but is not limited to: splash hoods, gloves, face shields, respirator, glove-bags, and other chemical protective garments. (Requirements vary depending on the degree of potential exposure and the constituents of the exposure. Check with your safety or industrial hygiene representative for specific information.) PPE requirements for the first cut must be based on the worst-case scenario; such as a sudden high-pressure (greater than 15 PSI) release where chemicals can spray long distances, create projectiles, force chemicals around certain PPE (i.e. safety glasses.)A safety representative can downgrade PPE after the initial cuts have occurred. PPE needs to fit properly; excessive or undersized PPE could hamper the work.

Work Procedures

Procedures must be in place to identify the specific sequence of events to turn off, dissipate, lock out, and verify zero residual hazardous energy. In addition, these procedures must include a statement of the hazards involved, how hazardous energies are to be specifically controlled, and any emergency or contingency steps that may need to be taken.

All hazardous energy must be controlled during the entire line breaking operation. With respect to the demolition of chemical, pneumatic, and hydraulic services, the lock out device must remain in place until the pipe or tubing has been removed and the outlet of the valve sealed with a welded fitting or other leak-tight tamper-proof device with the supply valve labeled “normally closed”. Tools with drains require special attention because there are no valves to lockout. Tools connected to the same lateral will need to be controlled (placed in an idle mode or prevented from contributing to the drain system) such that nothing can be released into the drain while the first two cuts are being performed. The first cut will be at the highest point of connection. After the line is cut, a cap will be installed to control the potential drain down during the second cut. The second cut will be at the lateral connection. The former connection to the lateral will be capped and a valve will be installed on the line to be removed. Once the two caps and the valve are installed, control over the tools sharing the same lateral can be released. Any alternate methods of controlling discharges into the drain must be approved by the Unger project manager/ superintendent. Prior to starting the line break, a second-set-of-eyes (independent confirmation) is required to confirm zero hazardous energy and confirmation that the correct line, pipe or duct is prepared. Lines must be physically traced, relying on labels is not acceptable. The work area where the line breaking will take place will be controlled and isolated, as necessary, to keep unprotected persons out of the danger zone. Barrier tape, PVC barricades, and warning signage can accomplish this. Depending on the nature of the materials remaining in the lines, pipes, or ducts, decontamination procedures may be needed to control any incidental contamination of persons or the immediate work area. Contact the Unger project manager/ superintendent for direction. Whenever a line passes through an obstruction, such as a wall, floor, ceiling or other physical obstruction, the line must be cut as close to the obstruction as practical and must be pushed, not pulled through the obstruction. Rings and sleeves must be immediately reinstalled as soon as the line is clear of the obstruction. Where cutting is required, the lines first must be pulled out away from any other interfering lines or services to avoid damaging those items. The line in question will have to be removed (released from clamps and positioned outside of the rack or support structure) such that the probability of an accidental or unintentional cut to neighboring lines is zero. Check clearances 360 degrees around the point of work. Place high visibility flags or supplemental shielding on nearby lines or items of concern so workers can clearly distinguish items in the proximity, which should be avoided. Have 3-dimensional awareness of the point of work. Identify any energy sources where you are working that might be affected by the work (e.g., cutting into a nearby gas line, electrical line). Determine what is behind, within, or on the opposite side of what you are about to drill or cut. Generally speaking when lines must be cut in place the cut should be performed with a shearing type cutter (bolt cutter, wheel cutter or hand held hacksaw). Powered reciprocating saws, band saws, or rotating saw blades are the exception not the rule. If something does not “look right”, “sound right”, “feel right” **Stop** and contact the Unger Project Manager/ Superintendent or the Director of Safety.