02/07/2023

Environmental Health & Safety

XODUS INDUSTRIES SAFETY MANUAL

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XODUS INDUSTRIES

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In case of any emergency dial 911 or call Company Nurse

Company Nurse: 1-888-817-9282

INTRODUCTION TO THE XODUS INDUSTRIES SAFETY MANUAL

The Xodus Industries Safety Manual was developed by XODUS INDUSTRIES as a training and reference tool for all Xodus Industries Employees. The Xodus Industries Safety Manual, is an abridged version of existing XODUS INDUSTRIES Transportation Safety Manual. Xodus Industries have provided the compliance guidance materials and referenced polices found in each section of the manual.

The manual contains essential health and safety information as well as answers to general compliance questions. Each section topic summarizes specific program and policy requirements. Each section topic outlines the required information for Supervisor and Employees responsibilities and provides quick references to Xodus Industries policy.

The intent of the Xodus Safety Manual is to aid and assist Supervisors and Employees with integrating existing XODUS INDUSTRIES Programs and Policies into everyday work practices. Supervisors and Employees are responsible for implementing safety policies and procedures in the work areas they operate in. The manual provides information and references to specific requirements of existing XODUS INDUSTRIES Environmental Health & Safety program in one document. Supervisors and Employees now have the ability to easily search for and read specific health & safety information and requirements. For further instruction or information regarding this manual please contact the Safety Manager.

“The content of this Safety Manual is not all-inclusive and should not be construed as containing all necessary compliance and safety information. Guidelines within each section are intended to provide an abridged version of existing XODUS INDUSTRIES EH&S programs, policies and procedures that apply to employees. For direct assistance or questions regarding the manual please contact the Xodus Industries through the contact information provided below.”

“These procedures apply to all Xodus Industries employees. When work is performed on a non-owned or operated site, the operator’s program shall take precedence, however, this document covers Xodus Industries employees and contractors and shall be used on owned premises.”

XODUS INDUSTRIES

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AUDITS AND INSPECTIONS

Xodus Employees are subject to audits and inspections to verify compliance with company safety policies and procedures.

INTERNAL SAFETY AUDITS AND INSPECTIONS

Operations personnel and representatives of the Safety & Environmental Department will conduct safety audits and/or inspections.

Safety audits and/or inspections will include facility equipment, operations and practices described in this manual.

Field personnel assigned to facilities may be asked to participate in safety audits and inspections by answering questions and explaining procedures followed in their day-to-day activities.

Findings will be documented and reviewed at the conclusion of audit and/or inspection.

BEHAVIOR BASED SAFETY PROGRAM

POLICY

The policy of Xodus Industries is to perform work in the safest possible working conditions for its employees' work place. It is each employee's responsibility to ensure they are performing their job in the safest most efficient manner possible.

PURPOSE

The purpose of the Behavior Based Safety Program is to provide the guidelines for the implementation of a Behavior Based Safety (BBS) program. Successful implementation of Behavior Based Safety requires a top-down management approach. The policy reflects the importance of BBS and also the commitment of management to this program. Behavior Based Safety will be fully integrated in Xodus Industries' organization and management systems. It is an integral part of Xodus Industries' culture and is one of the key drivers for continuous performance improvement through the implementation of key performance indicators.

KEY PERFORMANCE INDICATORS

- Accident/incident statistics
- Rework costs
- Insurance premiums
- OSHA fines
- Workman's Compensation costs

RESPONSIBILITIES

UPPER MANAGEMENT:

- Prepare a document describing the company's planned approach towards BBS including all components.
- Communicate this plan to all personnel involved and review it at least annually.
- Develop a BBS training program
- Initiate, implement and provide ongoing support for the BBS program.
- Define roles, deliver resources, resolve issues and remove barriers for a successful implementation.
- Set targets, monitor status and results.
- Keep records of performance indicators.
- Manage the improvement process based on BBS data analysis.

Supervisors/Managers:

- Understand and support the BBS program.
- Avoid planning and instructions that conflict with the BBS principles.

Safety Department / Trainers:

- Execute the BBS training to all employees.
- Observe and interactively communicate the findings with the employees.
- Collect data and report results to upper management.
- Identify and report any issues that need to be followed up by the employees or management.

Employees:

- Understand the purpose of the BBS program and be committed to participate.
- Discuss performance weaknesses with the trainer and help in finding solutions.
- Implement preventative changes as a result of the BBS analysis.

SEVEN GUIDING PRINCIPLES OF SAFETY MANAGEMENT

A successful BBS process by default or design encompasses the Seven Guiding Principles of safety management. These principles provide the foundation on which any BBS process should be built. They are as follows:

- **Line Management Responsibility for Safety** - The responsibility for safety and the BBS process is shared by management and front-line workers. All levels of the organization are involved in an effective BBS process.
- **Clear Roles and Responsibilities** - Functions within the BBS process is performed at the proper level and are integrated and adapted to fit the formal organization itself.
- **Competence Commensurate with Responsibilities** - An effective BBS process provides the skills needed to perform the tasks and functions associated with the job in a timely manner; provides the opportunity to use those skills on a regular basis; and provides for coaching and interaction with other people and organizations using the BBS process.

- **Balanced Priorities** - BBS provides the consistent stream of safety data that enables managers to balance safety priorities with production and other operational needs.
- **Identification of Safety Standards and Requirements** - Existing safety standards and requirements aid in developing the list of behaviors and definitions used in the BBS process.
- **Hazard Controls Tailored to Work Being Performed** - The observation process provides ongoing monitoring of employees and/or processes so that Hazard Controls reflect the risks associated with work being performed in changing environments and conditions.
- **Operations Authorization** - The BBS process helps provide the behavior-related safety information necessary to make informed decisions prior to initiating operations.

FIVE CORE FUNCTIONS OF SAFETY MANAGEMENT

The following is a list of how sites developing and maintaining a BBS follow five core functions of a safety management system:

1. **Define the Scope of Work**

    - Form assessment team(s)
    - Extract behaviors that were involved in past accidents/incidents
    - Develop definitions that describe the safe behavior
    - Compile data sheet using identified behaviors
    - Determine observation boundaries
    - Train observers
    - Gather data
    - Determine barrier removal process
    - Form barrier removal teams

2. **Analyze the Hazards** - Analyzing hazards is built into the BBS process. Hazards are analyzed during each observation, and the worker observed receives direct, measurable, immediate feedback on both safe and unsafe behaviors and ideas on how to minimize the risk. The assessment team and barrier removal team analyze the data gathered through observations to determine workplace hazards. The teams then develop action plans to remove barriers to safe work.

3. **Develop and Implement Hazard Controls** - Employees tasked with planning or designing work can also use the behavior assessment and data. By studying the definitions and data, barriers that could require a worker to perform at-risk behaviors can be “designed out” up front. This forethought makes the workplace a much safer environment.

4. **Perform Work within Controls** - Although work has been designed and training conducted to help the employee know how to work safely, bad habits and shortcuts can introduce at-risk behaviors into the workplace. The ongoing observation process encourages the continued use of safe behaviors and reminds workers that one at-risk behavior could cause an accident, injury, or even fatality.

5. **Provide Feedback and Continuous Improvement** - Feedback is provided each time an observation is performed. The process reinforces the use of safe behaviors and helps determine

why certain at-risk behaviors were performed. Collecting information about the at-risk behaviors helps the teams determine the root cause of a behavior and develop an action plan to remove the barrier causing the behavior.

BEHAVIOR -BASED SAFETY PROCESS

Most behavioral safety processes are tailored to the work and management environment of the site. Despite these variations, all behavioral safety processes have three major components:

- Development of a list of at-risk behaviors,
- Observations, and
- Feedback.

IDENTIFYING AT- RISK BEHAVIORS

A very important step is the development of a list of at-risk behaviors. This inventory is supported by a list of definitions and examples of critical behaviors based on information extracted from injury reports, interviews, and observation of ongoing tasks native to a site's work environment. This inventory of behaviors, customized for the facility/department, is the basic tool of observation. Individual departments as well as the company as a whole will compare these measurements and track these results by an acceptable method so that numerical and statistical comparisons can be made over time. The observation data will ultimately be used to develop plans for risk reduction. This plan will be designed by evaluating unsafe behaviors from a prioritized trend analysis and reviewing comments and feedback from observations data sheets. A responsible party and time frames for the implementation of the action plan and ensure management will support the action plan. The Safety Manager will Follow-up on the completion of the action plan to ensure implementation of all actions listed within the action plan. The follow-up process will include a defined frequency for the review of the action plan; assign accountability for closeout of the action plan and archiving of the action plan.

Customizing the inventory for each facility/department is also critical in promoting acceptance and ownership of the process by the employees. The behavioral definitions and examples will be written so that they are "observable." Critical behaviors will be organized by risk factors and ranked in order of their potential severity.

Resources utilized for extraction of critical behaviors:

- **Accident/Incident Reports** – Information extracted from the investigations will indicate behaviors that have placed employees at risk for injury in the past. Review of these reports will often result in more than one critical behavior contributing to an injury or incident. The Steering Committee will be involved in current and future investigation groups to maintain good continuity of information from a behavioral perspective.
- **Job Hazard Analysis and PPE Assessments** – Foreman will generate these documents. Information derived from these documents will assist in determining hazards on a "task to task/step by step" basis for Steering Committee members who may not be familiar with certain jobs.
- **Task Observations** – Conducting observations of typical work tasks will not only validate behaviors that have already been extracted from historical sources but may also reveal new critical behaviors that have not yet resulted in recordable injury. Observations can also provide a

means of engaging employees in the development of the site process. Observations provide direct, measurable information on employees' work practices identifying both safe and unsafe behaviors.

- **Employee Interviews** – Interviewing employees from various work groups can provide an opportunity for workers to explain how they perform their jobs safely. Knowing what behaviors are used to perform jobs safely can aid in determining the risks of not performing a job in a behaviorally safe manner.
- **Brainstorming** – Group interviews can help identify critical behaviors in work teams that have historically low injury rates and low risk perception.

REVIEW AND REVISION

Maintaining a valid inventory is critical to continuous improvement. The inventory will be reviewed periodically (at least annually) for applicability by the Safety Manager. Observers also review the tools during routine observations. New at-risk behaviors may be identified, especially when new equipment, facilities, and processes are introduced. Some behaviors may not be currently valid because the tasks associated with them have been changed or are no longer contributing to risk. These may need to be retired from the inventory. Inventories are modified based on a combination of data and the informed judgment of the Safety Manager and Upper Management

Once trend analysis is complete, appropriate action plans must be developed to address unsafe behaviors. Action planning will include:

- Evaluate unsafe behaviors from trend analysis and prioritize
- Develop action plan for unsafe behaviors based on comments and feedback from data sheets
- Designate responsible parties and timeframes within the action plan
- Define who is responsible for action planning
- Ensure management support

MAINTAINING AND GROWING THE PROCESS

Keeping the momentum is an important part of a successful process. To present new challenges for the team, these questions will be asked on each project:

- How soon can you achieve an observation/feedback rate that will improve safety?
- How can you improve or maintain this observation rate?
- What is the decision process for growing BBS into new “jobs/facilities/departments” or adding different at-risk behaviors to the process?

TRAINING

All affected personnel will be trained on the following topics:

- Observation Process
- Program objective and incident metrics reviewed.
- How to conduct the observation.
- How to complete the observation form.
- What do the behaviors mean?
- Feedback training including role playing (mentoring and coaching).

- Understanding that any employee can be observed at any time.
- General employee awareness.

New employees will be trained with (30) thirty days from the day they start work. Management will be trained on the topics listed above as well as the following topics:

- How to interpret feedback information.
- How to ensure their departments are following this procedure.
- How to provide ongoing support for the BBS program.
- How to set goals for their departments pertaining to BBS.

Retraining shall be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired through the initial training.

SAFETY

EMPLOYEE RESPONSIBILITIES

All Personnel are responsible for implementing safety policies and procedures in the work areas they operate in.

Including:

- Ensure the work areas they operate in are safe.
- Immediately stop any work were as personnel safety and/or environmental safety is compromised.
- Ensure employees are aware of the safety rules.
- Determine, establish and implement standard safety operating procedures (general and protocol-specific), and ensuring employees follow all safety rules and standard safety operating procedures in their work area.
- Report hazards promptly. Continually identify and mitigate hazards in changing work conditions.
- Wear the required PPE while ensuring that properly use is practiced.
- Ensure that the required Personal Protective Equipment (Safety Glasses, Gloves & Hard Hat) when necessary.
- Ensure employees report accidents and injuries immediately.
- Ensure employees attend the required safety meetings.
- Immediately report all injuries, incidents and spills.
- Operate vehicles in a safe and curious manner
- Ensure Driver's License and Medical Card or current and up to date.

If employees are found to not be in possession of the required license's, observed not following safety rules, or purposely working in an unsafe manner it is at the discretion of the supervisor to file a report and/or release the personnel.

SHORT SERVICE EMPLOYEE (SSE)

The Short Service Employee (SSE) Management Program applies to employees or subcontractors who have less than six months experience in the area of work in which they were hired. The purpose of the

program is to prevent work related injuries and illnesses to new hires, temporary workers and subcontractors.

REQUIREMENTS

All short service employees and/or subcontractors are to be managed in accordance with this program to ensure that they have an initial orientation of the Company's health and safety requirements prior to performing work.

- An SSE may only work under the direct on-site supervision of a designated employee who, as one of his duties, serves as a mentor/trainer in safety for the SSE. The mentor/trainer assigned to an SSE must be a knowledgeable, experienced employee who can provide guidance and development for the SSE.
- An exception to the mentor/trainer requirement may be granted to employees who have a high level of previous work experience in the same job functions.
- An SSE must be easily identified while on a job site. This is accomplished by using a unique identifier to be determined prior to starting work.
- A single person crew cannot be an SSE.

RESPONSIBILITIES

Supervisor Responsibilities to SSE:

- Assure they have been through Safety Orientation
- Assure they are aware of and understand the contents in the Accident Prevention Program, Emergency Action and Response Plan
- Assure they have completed all mandatory training
- Assign a mentor/trainer to each SSE
- Discuss the job expectations and procedures prior to the job to provide a clear understanding of what is expected
- Notify a customer if an SSE will be working at their facility
- Provide customer with a proper identifier so the SSE is easily recognizable

Mentor/Trainer Responsibilities to SSE:

- Set the proper safety example
- Assure they have a complete knowledge of their job functions and follow all policies
- Converse frequently with those assigned to them to discuss any questions or concerns

SSE Responsibilities:

- Shall consult with and listen to mentor and supervisor
- Shall perform work as directed
- Shall speak up when and if work is deemed unsafe
- Shall wear identifier clothing as instructed

MONITORING

Supervisors will monitor its employees, including SSE personnel and subcontractors, for awareness of the health and safety policies and procedures. If at the end of the six-month period, the SSE has

worked safely, adhered to the Company's health and safety policies and has no recordable incidents attributable to him/her, the SSE identifier may be removed at the discretion of their Supervisor.

STOP WORK AUTHORITY

All work sites present many hazards to employees when they are performing work-related activities. The purpose of Stop Work Authority (abbreviated as SWA) Program is to provide employees and contract workers with the training, responsibility and obligation to stop work when a perceived unsafe condition or behavior may result in an unwanted event. Xodus Industries considers no activity to be so urgent or important that its standards for environmental protection, safety, or health may be compromised. Employees have the right and responsibility not to perform tasks or activities they feel pose undue risk to themselves, co-workers, or the environment. Stop work actions take precedence over all other priorities and procedures.

SWA should be initiated for conditions or behaviors that threaten danger or imminent danger to person(s), equipment or the environment. Situations that warrant a SWA may include, but are not limited to the following:

- **Change**- A modification or alteration that deviates from the way the job task is normally performed may cause unsafe work actions or conditions. For example, using a different tool, altering a standard procedure to meet new job task requirements, making a change to the work plan, or observing parameters that are outside the standard procedures.
- **Unscheduled event**- An unplanned event that distracts employees from the job task being performed may cause unsafe work actions or conditions. For example, inclement weather, simultaneous work occurring nearby, or a community or property owner activity following an accident or spill.
- **Observation with safety impact**- Whenever an employee observes a condition or situation that has an impact on safety. For example, a hose lying across a walkway, a spill that has not been cleaned up, a loose handrail or a damaged tool.
- **Incomplete understanding**- Whenever an employee or coworker does not completely understand instructions, procedures or ongoing activities. For example, making assumptions about job task steps, uncertainty over the order that job steps are performed, or differing opinions about how a job task is performed.
- **Relay information**- Whenever a situation requires critical information to be relayed, an unsafe work action or condition may occur. For example, shift change or employee reassignment.
- **Observing new hazards**- Whenever an employee encounters risks that have not been addressed during previous job safety analysis or risk assessments. For example, new PPE requirements based on job task demands previously unidentified.
- **Need to ask for help**- Whenever a job requires additional people, or the experience level of the person performing the job task requires support, an unsafe work action or condition may occur. For example, working to meet production demands and performing a two-person procedure alone, an inexperienced employee who does not ask for help, not asking for help with a heavy lift, or needing help with reading a drawing or sketch.

SAFER TECHNIQUE

If a hazard presents itself, use the **SAFER** technique

- **S**top work
- **A**ssess the situation
- **F**ile a report
- **E**radicate Hazard
- **R**esume

Stop work – When a worker perceives an unsafe condition, hazard, or behavior on the job site, they have an obligation to stop work or intervene on behalf of another person at risk. If the danger is immediate, stop work immediately and begin the **SAFER** sequence. If the danger is not immanent, report the hazard to a supervisor and make it clear that it is a SWA request.

Assess the situation – stop work activities and make the area as safe as possible by recognizing the hazards, removing workers from the area, reporting the incident to a supervisor, and stabilizing the situation.

File a report – This documented report helps record what actions were taken to mitigate the hazard to prevent future injuries. If the request is valid, a SWA authorization form will need to be filled out before resuming work.

Eradicate the hazard – the unsafe conditions, hazards, or behaviors will be corrected. The work areas that are affected will need to be inspected by a qualified professional to ensure that all hazards have been successfully resolved.

Resume – once the hazards have been recorded, removed or corrected, and inspected, workers will be educated on what actions were taken and work should be then be resumed.

After the task is completed the supervisor will complete a follow up to ensure everyone understands the SWA event that took place.

RESPONSIBILITIES

- **Senior Management**- Creates a culture that promotes SWA, allows it to be exercised freely, establishes clear expectations and responsibilities, resolves SWA conflicts when they arise and hold accountable anyone who chooses not to comply with established SWA policies. Demonstrates support for using SWA without the potential for retribution. Holds employees and contractors accountable for full compliance with the SWA program. All Stop Work reports will be reviewed by Senior Management.
- **Supervisors and Managers**- Promotes a culture where SWA is freely exercised, SWA requests are honored and resolved before resuming operations, works to resolve issues before operations resume, and recognizes proactive participation. Ensures necessary stop work follow-up is completed. All Stop Work reports will be reviewed by a supervisor/manager.

- **Safety Manager**- Provides training and training materials, support, maintain associated documentation and monitors compliance of the SWA program. All SWA's will be documented by the Safety Manager to assess trends and to share lessons learned.
- **Company employees and contractors**- Initiate stop work (in good faith) and support stop work initiated by others. All employees have the authority to stop work when the control of the HSE risk is not clearly established or understood. Employees will not be reprimanded for issuing a SWA. Employees must support the intervention of others and properly report all SWA.

Any form of retribution or intimidation directed at any employee for exercising their authority to stop work will not be tolerated.

SAFETY MEETING

All personnel performing work are required to attend safety meetings to gain knowledge that will help prevent incidents and injuries and to provide information that will allow work to be carried out in a safe manner.
Safety meetings be conducted at least once each month or per hitch.

Pre-job safety meetings (tailgate meetings) are held before any critical tasks are performed. Hazards associated with the task and appropriate safety precautions are discussed with all personnel involved.

JSA (or equivalent document) should be reviewed during pre-job safety meetings…

JOB SAFETY ANALYSIS (JSA)

A Job Safety Analysis is a method for reviewing or studying a job to identify hazards & potential incidents. It includes an organized process for developing solutions that will eliminate, minimize or provide protection from hazards and incidents. The JSA process, when utilized, as part of a pre-job safety meeting is a valuable tool in our accident prevention program.

The JSA is a process is documented on paper, but the most important thing is to follow the steps involved and communicate with all persons involved with the job task. The written portion is only an outline of what needs to be covered verbally as part of the review process before a task can begin.

- List basic steps of task in sequence
- Analyze and list potential hazards for each step
- Establish controls and actions to eliminate/minimize hazards
- Check accuracy & completeness
- Obtain review & approval signatures
- Establish a regular review cycle
- Monitor job & process changes
- Communicate any changes or variations to the personnel involved.

WORKPLACE SAFETY

ACCIDENT PREVENTION AND GENERAL WORKPLACE SAFETY

As a part of XODUS INDUSTRIES's General Workplace Safety requirements, it is important that potential safety hazards be recognized, controlled, or eliminated from the workplace whenever possible. Hazards may include, but are not limited to, biological, chemical, environmental and physical hazards.

When hazards cannot be eliminated, they must be mitigated through special training or other administrative control procedure. Including standard operating procedures (SOPs) for area specific actions, job safety analyses (JSAs), and personal protective equipment (PPE) requirements.

Supervisors are responsible for reviewing all job descriptions to determine if safety controls measures and PPE are required. Items such as eye, face, foot, and hearing protection.

For information and answers to questions about accident prevention and general workplace safety employee training, please contact Xodus Industries.

LOCKOUT/TAGOUT (LOTO)

Lockout and tagout procedures prevent unexpected start-up of machinery or unexpected release of potential or actual hazardous energy or chemicals.

All employees should be trained on the Lockout/Tagout procedures. Refresher training will be given annually or as specified by supervisors.

All workers involved in any maintenance activity must place their own lock and tag on each energy control point to ensure Lockout/Tagout is maintained.

DEFINITIONS:

Authorized employee: An employee who locks or tags machines or equipment in order to perform servicing or maintenance.

Affected employee: An employee who is required to use machines or equipment on which servicing is performed under the Lockout/Tagout standard or who performs other job responsibilities in an area where such servicing is performed.

Other employees: All employees who are or may be in an area where energy control procedures may be utilized.

Capable of being locked out: An energy-isolating device is considered capable of being locked out if it:

- Is designed with a hasp or other means of attachment to which a lock can be affixed.
- Has a locking mechanism built into it?
- Can be locked without dismantling, rebuilding, or replacing the energy-isolating device or permanently altering its energy control capability.

Energized: Machines and equipment are energized when they are connected to an energy source or they contain residual or stored energy.

Energy-isolating device: A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

Energy source: Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Lockout: The placement of a lockout device on an energy-isolating device, in accordance with an established procedure, ensuring that the energy-isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout device: Any device that uses positive means, such as a lock, blank flanges and bolted slip blinds, to hold an energy-isolating device in a safe position, thereby preventing the energizing of machinery or equipment.

Normal production operations: Utilization of a machine or equipment to perform its intended production function.

Servicing and/or maintenance: Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, maintaining and/or servicing machines or equipment, including lubrication, cleaning or unjamming of machines or equipment, and making adjustments or tool changes, where employees could be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

Tagout: The placement of a tagout device on an energy-isolating device, in accordance with an established procedure, to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout device: Any prominent warning device, such as a tag and a means of attachment that can be securely fastened to an energy isolating device to indicate that the machine or equipment to which it is attached may not be operated until the tagout device is removed.

TYPES/FORMS OF POTENTIALLY HAZARDOUS SOURCES OF ENERGY

Workers may be exposed to hazardous energy in several forms and combinations during installation, maintenance, service or repair work. A comprehensive hazardous energy control program should address all forms of hazardous energy:

- Electrical Energy
- Mechanical Energy
- Hydraulic Energy
- Pneumatic Energy
- Chemical Energy
- Thermal Energy
- Process Energy
- Kinetic Energy

- Gravity Energy
- Other?

Each of the above named potentially hazardous energy sources must be evaluated and eliminated, controlled, or protected against if they are present.

LOCKOUT/TAGOUT DEVICE REQUIREMENTS

Lockout Tagout Devices:

- Must be durable, so that they are capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.
- Must be singularly identified.
- Must be the only devices used for controlling energy.
- Must not be used for other purposes.
- Must be standardized within the facility in at least one of the following criteria: color, shape, or size. Additionally, tagout devices must be standardized as to print and format.
- Must be identifiable, in that it indicates the identity of the employee applying the devices.

Lockout Hardware:

- Must be substantial enough to prevent removal without the use of excessive force or unusual techniques such as with the use of bolt cutters or other metal cutting tools.

Tagout Hardware:

- Must be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.
- Must not deteriorate when used in corrosive environments such as areas where acid and alkali chemicals are handled and stored.
- Must be standardized in print and format.
- Must be substantial to prevent inadvertent or accidental removal.
- Must have an attachment means of a non-reusable type, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds and having the general design and basic characteristics of being at least equivalent to a one-piece all-environment-tolerant nylon cable tie.
- Must warn against hazardous conditions if the machine or equipment is energized. • Must include a legend such as: Do Not Start, Do Not Open, Do Not Close, Do Not Energize, Do Not Operate.

GENERAL SEQUENCE OF LOCKOUT/TAGOUT

1. **Notify**- The authorized employee performing the work must identify and locate all isolating devices, and notify all affected and other employees as necessary that a lockout is to be performed.

2. **De-energize**- If the machine or equipment is in operation, shut it down using the normal shutdown procedure, and deactivate isolating device(s) so that the machine or equipment is isolated from energy source(s).

3. **Lockout and Tagout**- Lockout all energy isolating device(s) in the "OFF" position with assigned individual locks, and attach a tagout device to the lock with the authorized employee's name, date, and reason for LOTO. Note: Toggle switches, push buttons, and other types of control switches are NOT energy isolating devices. It is possible to start equipment at a push button station, even though the push button is in the off position.

4. **Relieve stored energy**- All forms of stored energy or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems and air, gas or steam pressure, etc.) must be released or restrained by methods such a s grounding, repositioning, blocking, bleeding down, etc. Any parts that could inadvertently move during the procedure must be blocked in place to prevent this movement. Blocking must be secured in place so that it cannot inadvertently remove or fall out.

5. **Verify-** Verify that the equipment is disconnected form the energy source(s) by first checking that no personnel are exposed, then attempt to re-start or re-energize the equipment or machinery to verify an isolated condition.

WRITTEN LOCKOUT/TAGOUT PROCEDURES

Written lock-out/tag-out procedures for primary equipment such as compressors shall be developed and reviewed annually by operations personnel. Written lock-out/tag-out procedures shall also be developed for unusual modifications requiring isolation of piping and equipment.

ISOLATING EQUIPMENTAND ENERGY SOURCES

Rotating machinery or energized equipment must be isolated from all energy sources before beginning any repair or maintenance. Isolation and lock-out prevents unexpected start-up or release of energy. Any stored, hazardous energy shall be relieved, disconnected, restrained or secured to make the equipment safe. Energy includes electricity, steam or pressurized fluids, suspended loads, or elevated or rotating loads on drive trains.

Minor adjustments and servicing activities (e.g. timing adjustments, voltage checks), which can only be performed while the equipment is in service and are routine and repetitive in nature, shall only be performed by trained personnel using alternative measures that provide effective protection.

Maintain a supply of unique padlocks, chains, danger tags, multi-lock hasps and tag attachment devices. Personnel performing lock-out/tagout procedures should identify all energy sources leading to or departing from specific pieces of equipment. Lock-out/tag-out equipment shall not be used for any other purposes. If the personnel working with the equipment change shifts or leave for any reason, the incoming personnel must be made aware of the lock-out and identify and attach his/her locking device. Personnel leaving the facility or site shall remove his/her locking device, so oncoming personnel can attach his/her locking device.

Following a rest or personnel break, the employee shall not resume work until making certain that all of the isolation devices are in the proper position.

PROCESS

HYDRAULIC AND PNEUMATIC ENERGY SOURCES LOCK-OUT/TAG-OUT PROCEDURES

At least one of the following lock-out/tag-out procedures shall be used to safely isolate other types of stored energy sources:

Blinding of process piping, vessels and equipment.

Disconnection of piping.

Double block and bleed process piping where block valves are closed, locked (chained) and tagged with a "bleed" or vent valve open in between.

Single block valves closed, locked and tagged as a minimum for certain routine maintenance operation.

MECHANICAL ENERGY LOCK-OUT/TAG-OUT PROCEDURES

Chains, blocking, locking pins or other hardware shall be used for isolating, securing or blocking of machines or equipment from mechanical energy sources. The use of the hand brake on a pumping unit alone is not an acceptable means of isolation.

RESTORING EQUIPMENT AND ENERGY SOURCES

After servicing or completing maintenance, make sure the equipment is ready for normal operations.

Check the equipment and energy sources to determine whether the area is safe.

Remove lock-out device after removing all tools from the equipment or machine. Make sure the guards are reinstalled and personnel are clear of danger.

All personnel, tags, locks and isolation devices must be accounted for before startup or restoring of equipment is initiated.

Start-up or restoring of equipment is initiated after the EOG representative has inspected the repaired equipment, confirmed that all personnel have completed their assigned tasks and the circuit or equipment is ready to be placed back into service.

Electrical circuits may be isolated by using locking devices on switches or by physically disconnecting electrical leads from the power source. Each isolating device shall be equipped with a tag and lock placed by each person performing work on the circuit or equipment.

Never destroy, remove or modify electrical interlocks to make them inoperative.

PERIODIC INSPECTION

An inspection of an area/division's lockout tagout program shall be performed at least annually to ensure that the lockout/tagout procedure and requirements are being followed. This inspection shall be documented and filed for future reference and audit.

The periodic inspection shall meet the following requirements:

- The periodic inspection shall be performed by an authorized employee other than the ones(s) utilizing the energy control procedure being inspected.
- The periodic inspection shall be conducted to correct any deviations or inadequacies identified.
- Where lockout is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized employee, of that employee's responsibilities under the energy control procedure being inspected.
- Where tagout is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized and affected employee, of that employee's responsibilities under the energy control procedure being inspected, and the elements set forth related to the training requirements on the limitation of tags used for isolation purposes.
- The employer shall certify that the periodic inspections have been performed. The certification shall identify the machine or equipment on which the energy control procedure was being utilized, the date of the inspection, the employees included in the inspection, and the person performing the inspection.

SHOP SAFETY & HOUSEKEEPING

The Shop Safety & Housekeeping requirement was developed to manage the safe operation of all XODUS INDUSTRIES shop equipment, employees and their specific work areas. The intent of XODUS INDUSTRIES's Shop Safety and Housekeeping requirements are to provide supervisors and employees with guidelines for proper work area cleanup and general safety considerations.

SPILL PREVENTION

All chemicals will be stored in approved chemical containers to minimize the potential for a spill. All large tank storage will have the appropriate secondary containment system. Emergency contact numbers will be prominently displayed for all to see. All chemicals will be stored away from storm drains with spill kits readily available in the event of a spill. All spills must be reported and all paperwork and investigations must be completed an turned into the safety manger. All supervisors and employees will be trained on spill prevention and response procedures.

CLEAN-UP

All XODUS INDUSTRIES Employees shall strive to keep the work area. Tools, materials, dirt, lumber, concrete, metal, paper, etc. should be promptly disposed of to prevent the potential for slips, trips and falls. All debris should be disposed of each day in the yard supplied dumpster.

FALL PROTECTION

Fall protection must be followed. Providing engineering controls as a primary protective mechanism; Providing a competent person at the job site where fall hazards exist; and providing personal protective equipment and training to protect employees from fall hazards where engineering controls are not feasible.

XODUS INDUSTRIES TOOLS AND EQUIPMENT

- All equipment must be inspected to ensure its safe operating condition.
    - If tools and/or equipment is damaged or defective it must be put out of service until repaired or replaced.
- All guards most not be removed and must be in place, and meet or exceed all applicable governmental regulations.
- Appropriate PPE must be worn when using tools and equipment

SAFE DRIVING

All Xodus Industries and contract personnel are expected to obey all traffic laws and drive safely. Drivers shall maintain a valid CDL CLASS A driver's license and Certified Medical Card at all times, and must advise their supervisor if the license status is revoked or suspended for any reason. All incidents and/or traffic citations received while driving a Xodus Industries company vehicle must be reported to your supervisor. All employees must have a cell phone in the event of emergencies.

All Vehicles and equipment shall be inspected and maintained according to applicable federal and state regulations. All vehicles are equipped with roadside emergency kits.

All Xodus employees will be disqualified from driving any company vehicle for a period of no less than one year for the first conviction of the following violations:

- Driving a company vehicle under the influence of drugs or alcohol.
- Driving a company vehicle with an alcohol concentration of .04 of higher.
- Leaving the scene of an accident.
- Using a company vehicle in the commission of a felony.
- Refusing to submit to a test to determine the driver's alcohol and/or drug content.

All cargo must be secured after loading and must be rechecked before the departure of a location.

CELL PHONE AND OTHER ELECTRONIC DEVICES

A driver's first responsibility is the safe operation of the vehicle and the best practice is not to use electronic devices including cellular phones while driving. When on the road, drivers should concentrate on safe and defensive driving and not on making or receiving phone calls, texting, using computers, navigation systems, or other distracting influences. If a driver needs to use a cellular phone, the following is to be followed.

- As a driver, your first responsibility is to pay attention to the road. Conversations should be kept to a minimum,
- No texting or email tasks are to be performed while operating vehicles.
- Hands free units will be used in company vehicles
- Do not attempt to dial and place calls when you are moving
- Whenever possible, use your cellular phone when parked
- If your phone rings when you are driving- especially during hazardous road and/or heavy traffic conditions - let your cellular voice mail service take the call
- Suspend conversations during hazardous driving conditions or situations

- Let the person you are speaking with know you are driving and that the call may need to be suspended at any time
- When possible, plan your calls before you begin your trip, or call when you are able to find a safe area to stop and place and/or answer calls

VEHICLE AND DRIVING SAFETY

- Check the vehicle for proper mechanical operation before your first trip of the day. Any safety-related deficiency found shall be corrected prior to operating for the day.
- Inspections of company vehicles should be performed and documented on a monthly basis. Each division/office should develop vehicle program with specific requirements.
- Plan your actions in advance, and give proper warning signals.
- Observe road signs and take special precautions during adverse weather conditions. When using wipers for rain or snow, slow down and turn on your headlights.
    - During adverse weather conditions driving should be avoided, whenever practicable.
- Driving directions should be obtained before traveling to any unfamiliar location.
- Rest breaks should be taken at correct times to reduce fatigue.
- All personnel in vehicles must wear seat belts.
- No passengers shall be allowed to ride in the bed of pickup trucks. No riders are allowed in or on vehicles unless there are manufacturer supplied seats and restraints available
- Dispatch should always know the route and location of the trip.
- It is preferred that vehicles are backed in, or pulled through, when parking, if it can be done safely. This allows the driver to have their first motion forward when departing. Think about your departure upon arrival. If backing is necessary, back only as far as needed.
- Avoid cell phone use while driving, if possible. If the phone must be used, utilize “hands free” technology.

FATIGUE

It has been shown that 20 - 30 % of all vehicle fatalities has fatigue as a causal factor. Driving is one of the most dangerous fatigue-related tasks we do because it requires constant vigilance (not paying attention for even a moment can prove serious), and it is often a monotonous task that can itself cause fatigue. Drivers and tasks will be analyzed and evaluated periodically to help manage fatigue. Here is some advice on how to manage fatigue while driving.

- **Respect the Signs**: If you are showing signs of fatigue or feel drowsy, pay attention and manage your fatigue. This is critical as ignoring the signs can lead to microsleeps. Microsleeps are 2 - 60 second unintended sleeps that your body provokes when severely tired. These can prove deadly while driving.
- **Be Rested**: Ensure adequate rest before you need to drive. If you are able, sleep on the bus, on the plane or at the airport. Coming off a long shift and traveling are difficult, so keep that in mind and recognize the likelihood of fatigue.
- **Delay Travel**: As much as it is nice to get home as quickly as possible, it can be better to delay driving home until you have had the chance to rest. Delaying the trip by a few hours or a night is better than not arriving at all.
- **Find Alternatives**: Take public transportation, if possible, or arrange to have someone come and pick you up at the airport.
- **Respect Your Clock**: As much as possible, plan not to be driving when you are sleepiest (midnight - 6 AM with the worst being from 2 - 5 AM and the secondary dip from 1 - 4 PM).

- **Take a Nap**: If you are fatigued, pull over and take a 15 - 20-minute nap. A nap is one of the best ways to reduce fatigue and restore alertness.
- **Take Breaks**: Be sure to take regular breaks - every 2 hours take a 15-minute, or more, rest. When you stop for rest, get out of the vehicle and walk around for a while.
- **Keep Comfortable**: Use the ergonomic friendly equipment provided in the vehicles. Keep your seat upright and in a comfortable position; do not sit to close to the steering wheel, keep the temperature even and not too warm, eat light meals and avoid heavy greasy foods.
- **Reduce the Glare**: Avoid visual fatigue. If driving during the day, use sunglasses to reduce eye strain. When you drive at night, dim dashboard lights and tip your rear-view mirror to reduce glare.
- **Watch the Drugs**: Be sure you are not on any medication that will affect your ability to drive and stay awake. Remember alcohol is a depressant so even a small amount will increase fatigue.

DEFENSIVE DRIVING

Drivers must be prepared to take any actions necessary to avoid an accident.

- Expect the unexpected
- Don't take anything for granted.
- Aim high in steering, get the big picture.
- Keep your eyes moving
- Leave yourself an escape path.
- Make sure other drivers can see you.

COLLISION AVOIDANCE

Avoid collisions with vehicles in front by staying alert and watching for signs as to what the driver ahead intends to do. Look beyond the driver ahead to see situations that may require quick reaction. Follow the four-second rule to maintain a safe distance from the vehicles in front. Allow more distance for adverse weather or road conditions. Avoid collisions with vehicles behind you by clearly signaling intentions, stopping smoothly and keeping clear of tailgaters. Slowing down will either encourage the tailgaters to pass or force them to slow down, and it will increase the following distance between your vehicle and the car ahead. To avoid being hit from behind when stopped, keep a foot on the brake to activate the brake lights and keep lights on if necessary. When stopping, allow enough distance so that the rear tires of the car ahead are visible.

Avoid collisions with oncoming vehicles by reading the road ahead. Watch out for vehicles or pedestrians about to enter your lane or a vehicle trying to pass in your lane.

IF A CRASH IS UNAVOIDABLE:

- Reduce speed to minimize the distance traveled and the force of impact.
- Hit something that will absorb energy (bush, for example) rather than something hard (like a car or tree).
- Hit something stationary rather than anything coming toward you.
- Never hit anything head-on, and try to hit stationary objects with a glancing blow (a sideswipe will help dissipate energy and slow you down).

BACKING

The best way to avoid a backing accident is to position the vehicle to avoid backing. When it is necessary to back a vehicle, walk around it to get the complete picture. Back slowly (1mph), and have someone guide you when necessary.

ACCIDENTS

If you are involved in a traffic accident, follow these instructions:

- Assess the scene to find out if anyone is injured, apply appropriate first aid and summon medical assistance or law enforcement if warranted.
- Call your immediate supervisor.
- Remain at the scene of the accident until law enforcement officials have authorized you to leave (if you feel that your personal safety may be threatened, however, drive to a safe place and call the police).
- Do not admit any fault or liability and do not discuss the accident with anyone other than law enforcement personnel or authorized company representatives.

TRUCK LOADING AND UNLOADING

General guidelines for loading and unloading operations are listed below.

TRUCK DRIVER RESPONSIBILITIES

- Driver shall remain in a position to enable clear visibility of loading/unloading operations.
- Park the truck a safe distance from tank or manifold and set the brakes.
- Position chocks in front of and behind one wheel. Recommend setting cone in front and back of transport vehicle.
- Consult with Personnel if other work is being conducted on location before loading or unloading.
- Smoking, open lights or fires are not permitted in loading and/or unloading areas.
- H2S personal monitors required to be worn in areas where H2S may be present.
- Wear proper Personal Protective Equipment (PPE).
- Before making any other connections, attach/secure bonding/grounding cable to the truck from properly grounded equipment.
- Connect the loading/unloading line to the truck.
- Connect vent line to truck, if present. Some areas may require a hose running from truck vent away from loading area (if vent is not present)
- Verify all connections are tight and that the purpose of each valve is understood before operating.
- Be certain there is over-pressure protection and/or vacuum protection on transport tanks which are being filled or emptied.
- Keep a constant check on tanks, hoses, valves, lines and other equipment to detect and prevent leaks.
- Release pressure/vacuum before disconnecting lines.
- Disconnect the loading/unloading line to the truck and any other connections, with the grounding/bonding connection being the last one removed.
- Do not perform any work on mechanical or electrical systems on the truck or loading racks during loading or unloading.

- Confirm that all lines are empty, disconnected, valves securely closed, caps replaced/installed, chocks are removed and enough clearance exists before the truck is moved.
- All location load lines shall be placed inside containment areas after use.

CONFINED SPACES

The confined space & vessel entry permit is used to protect personnel from the hazard during entry into confined spaces. This is done by informing personnel of hazards and communicating appropriate protective measures to be followed. A space that meets the definition of a permit required confined space as defined below will require the use of the Permit.

- **Attendant** - An individual who is stationed outside a confined space when a potential hazard exists, a physical hazard that cannot be eliminated or a hazardous atmosphere that cannot be controlled through ventilation, and whose only duties are to monitor and communicate with the entrant(s) and also monitor the surrounding area for potential hazards to the entrants.
- **Confined Space** - A space large enough for a person to enter and perform work and with limited or restricted means of entry or exit. It is not designed for continuous personnel occupancy (tanks, vessels, excavations, etc.). Excavations greater than 4 ft. (1.22 m) deep, which are to be entered by personnel, constitute a confined space (see Excavation and Trenching section for additional precautions).
- **Entrant** - An individual who is authorized by the company to enter a confined space and is trained in confined space entry procedures.
- **Entry** - Act of passing through an opening into a confined space. Entry begins as soon as any part of the entrant's body breaks the plane of the opening.
- **Entry Supervisor** - The individual responsible for determining if acceptable entry conditions are present, for authorizing entry, overseeing entry operations and for terminating entry.

"Non-permit confined space" means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

Permit- Required Confined Space - ("permit space)" means a confined space that has one or more of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere;
- Contains a material that has the potential for engulfing an entrant;
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
- Contains any other recognized serious safety or health hazard.

Duration of Permit

- 12 hours, end of shift, end of job, whichever occurs first.
- The permit may be revalidated for one shift or a maximum of 12 hours if the conditions remain within the permit requirements.
- Unscheduled work stoppage and/or emergency conditions will cancel the permit.

PREPARATION:

In preparation for entry, initiate and complete a Confined Space Entry Permit according to the following:

1. A qualified individual (Entrant, Attendant, or Entry Supervisor) inspects and evaluates each space prior to entry and periodically thereafter to ensure that conditions remain consistent with the permit.
2. Properly isolate each confined space or vessel.
3. Control all hazardous atmospheres through ventilation. If applicable, the space should be purged, steam washed; etc., to sufficiently free the vessel of all possible contaminants.
4. Perform atmospheric tests for oxygen, explosive and toxic gases and vapors and record results on the checklist immediately prior to entry, after breaks, or interruptions in the work procedure and at periodic intervals to ensure the continuing safety of workers in the space. At a minimum, atmospheric hazards for oxygen and explosive gases will be tested and be within the designated levels indicated on the checklist. Permit instructions shall indicate when continuous monitoring is required to be performed. Continuous monitoring results shall be recorded periodically to document instrument readings.

   Note: Conduct appropriate air monitoring for CO, H2S, and Naturally Occurring Radioactive Material (NORM) if other atmospheric hazards exist.
5. Eliminate or control all sources of ignition.
6. Properly ground or bond all equipment, including air movers.
7. Control physical hazards, including falling objects, contact with hot surface and engulfment.
8. Use fall protection, which includes a safety harness attached to an acceptable fall arrest system, when confined space entry exceeds 4 ft. (1.23 m) vertically.
9. Wear all required personal protective equipment during confined space entries.
10. Identify a means of egress, communication and emergency/rescue phone numbers on the checklist. Notify emergency/rescue provider of time and location of entry.
11. Post the permit, signs and/or barricades outside confined spaces to inform personnel that entry is in progress and prohibit unauthorized entry.
12. Attendant(s) for permit required confined space entry must be properly equipped (A self-contained breathing apparatus (SCBA) or an approved hose line unit with an escape feature), trained in First Aid/CPR and stationed outside the space to remain in direct communication with the workers inside. A First-Aid kit shall be available on site.
13. Use rescue equipment including lifelines, harnesses and hoists when entering permit required confined spaces.

BEFORE ENTERING

1. Complete, sign and post the CSE permit before entry. Authorized personnel designated to enter the space shall review the provisions of the permit and sign the permit.
2. Do not allow unauthorized person to enter the space. If the vessel or confined space is left unattended, the entrance must be blocked.
3. Attendants shall remain at their station and have no other responsibilities as long as any entrants are inside the confined space.
4. Attendant shall remain at his/her post until properly relieved by another qualified and authorized attendant. This includes continuing the attendant role in the event of a rescue operation.
5. If an attendant need to leave their post and cannot be properly relieved, the entrants shall leave the confined space until a qualified and authorized attendant arrives.
6. Periodically recheck the atmosphere during entry to ensure a safe work environment. Consideration should be given to continuous monitoring when permit conditions change. **Recommend going with most stringent air testing requirements due to quick atmospheric changes.

When work is complete and the confined space is ready to be returned to service; the permit should be used as a checklist for proper restoration of the space. In addition to items listed on the permit, items to consider include:

- Confirm that all personnel are out of the space.
- Confirm that all blinds are removed using the blind list.
- Confirm that all equipment and tools are removed.
- Confirm that all man-ways and flanges are closed and sealed.
- Confirm that start-up procedures are reviewed.

HAZARD COMMUNICATIONS

It is the responsibility of XODUS INDUSTRIES to provide a safe workplace for its employees. Xodus Industries shall provide employees and new hires at their initial assignment effective information and training on hazardous chemicals in their work area. The main objective of the XODUS INDUSTRIES Hazard Communications Program (HazCom) is to minimize employee exposure to hazardous chemicals in the workplace. XODUS INDUSTRIES's HAZCOM ensures employees are informed of the potential hazards in their workplace, and also the appropriate means to protect themselves. When chemicals are used by XODUS INDUSTRIES employees in the performance of their duties, these activities shall be conducted in accordance with the provisions of the XODUS INDUSTRIES HAZCOM. The written HAZCOM shall be readily available to all employees, employee representatives and appropriate regulatory agencies upon request.

Supervisors should develop and communicate a contingency plan for all locations and jobs being performed.

THE HAZCOM STANDARD REQUIRES XODUS INDUSTRIES TO:

- Ensure hazard identification;
- Determine employee exposure to hazardous chemicals;
- Inform employees of identified potential hazards;
- Provide information on safe work practices;
- Establish a file of the chemicals used;
- Acquire and distribute Safety Data Sheets (SDS) for each chemical used;
- Maintain a container labeling system; and
- Establish record keeping procedures.

Chemical inventories should be placed with the SDS for each shop locations. Information shall be accessible to all employees at all times. XODUS INDUSTRIES employee is responsible for knowing the following:

- Know the location and how to use the information provided in the SDS;
- Ensure proper labeling of hazardous chemical containers;
- Report potential hazards; accidents and near-misses to supervisor immediately; and
- Assist in implementing recommendations for improving safety.
- Identity of chemicals (chemical or common name on the Safety Data Sheet);
- Name and address of the chemical manufacturer or distributor; and
- Appropriate hazard warning (designated by the chemical manufacturer or distributor). Labels will not be removed unless the container is immediately re-labeled or the chemical in the container is emptied, cleaned and/or a new type of chemical is placed in the container, and the chemical container is re-labeled with the identity of the new chemical.

NOTIFICATION

- In the event a contractor's employees are working on the premises, they must be informed of the hazardous substances they may come in contact with. The contractor will be provided (upon request) with copies of the Safety Data Sheets for all hazardous substances which the contractor's employees may come in contact with or may be exposed to. Contractor employees are expected to take appropriate protective measures listed on the SDS and provide their own personal protective equipment.
- Contractors must supply Xodus Industries with SDS's for any hazardous substances that personnel may come in contact with or may be exposed to while working on their facilities. with which an employee may come in contact with or may be exposed to. This includes any material brought on or stored at a Xodus Industries facility or location.

NON-ROUTINE TASKS HAZARDS

When an employee is required to perform a non-routine task(s), the immediate supervisor must inform the employee of the hazardous substance that they may come in contact with. This information must include the physical and health hazards of the substances and measures they can take to protect themselves from hazards, and the specific procedures that have been implemented to protect them from exposure to these substances such as appropriate work practices, emergency procedures, and the personal protective equipment to be used.

WARNINGS AND LABELS

- All chemical manufacturers, importers, or distributors are required to confirm that each container leaving their workplace is labeled, tagged, or marked with the following information:
- Identity of the hazardous chemicals.
- Appropriate warning hazards, including target organ, if applicable.
- The name and address of the chemical manufacturer, importer, or other responsible party.
- It is the responsibility of the facility personnel to make sure that each container of hazardous substance used in the workplace is labeled, tagged, or marked with the following information:
    - Identity of the hazardous chemicals contained therein.
    - Appropriate hazard warnings
    - Pictograms
    - Signal word
    - Hazard and precautionary statements
    - Product identifier
    - Supplier identification

ACCIDENT REPORTING

Employees shall report accidents and injuries to dispatch and rig personnel immediately. Supervisors shall submit a report to Environmental Health & Safety for any accident, injury or near miss within 24 hours. All employees will be free from any reprisals for reporting accidents. Accident reporting will assist Environmental Health & Safety in providing corrective procedures to avoid a recurrence of the accident.

RESOURCES FOR OBTAINING SDS's

SDSs can be obtained by contacting the vendor selling the product or the product manufacturer. Most SDS can be found by a simple web search such as goggle. If you have difficulty locating an SDS please contact Xodus Industries.

FIRST AID AND HEALTH & SAFETY INFORMATION

FIRST AID

All sites should have first aid providers that are certified by a reputable agency and are readily available to assist injured workers. First aid kits are available and inspected to ensure they are property equipped with the supplies needed. In the event an employee is injured a service will be in place to transport the employee to a health care facility if needed. Eye Wash Stations will be readily available at all work sites.

XODUS INDUSTRIES SMOKING

XODUS INDUSTRIES recognizes that smoking is a public health hazard and is dedicated to providing a healthy, comfortable environment for employees, and visitors; the company complies with state law on smoking.

SMOKING IS PROHIBITED IN

Enclosed company buildings and within at least 25 feet of any building entrance, exit, areas where flammable gases, liquids, or other volatile materials are located or stored areas in which a fire or safety hazard may exist and company owned vehicles.

HEALTH HAZARDS

BENZENE

Benzene is a naturally occurring aromatic compound, which may be present in oil and gas operations. The prevention and control of benzene exposure will be accomplished by engineering controls and personal protective equipment

Benzene (C_6H_6) is a colorless to light yellow, volatile, highly flammable liquid and has an aromatic odor. It can be contained in liquid mixtures and vapors released by liquids.

Benzene has been identified as a toxic substance that causes acute and chronic health problems. The inhalation of benzene vapors causes irritation to the upper respiratory tract. Skin contact with solvents containing benzene causes dry, itching, cracked and fissured skin. Short-term exposure irritates the skin and the respiratory tract. Swallowing benzene may cause aspiration into the lungs with the risk of chemical pneumonitis. Benzene may cause effects on the central nervous system. Long-term or repeated exposure defats the skin and may have effects on the blood forming organs, liver and immune system. Inhalation of high levels of benzene results in headaches, dizziness, nausea, convulsions, coma and eventually death.

Precautions

- Monitoring will be conducted to identify areas where benzene is present in amounts that will require the use of PPE. If monitoring results indicate benzene levels above the PEL, personnel protective equipment will be provided and worn to prevent eye contact, limit skin exposure and minimize the inhalation of vapors.
- DO NOT USE ANY IGNITION SOURCESS IN THE PRESENTS OF BENZENE

BLOODBORNE PATHOGENS

The bloodborne pathogens exposure control plan is designed to minimize or eliminate personnel exposure to bloodborne pathogens. All Xodus Industries Employees will be provided training on the bloodborne pathogens exposure control plan. Bloodborne Pathogens are microorganisms present in the human blood and other body fluids that can cause and carry disease including Human Immunodeficiency Virus (HIV) and Hepatitis B Virus (HBV).

Personnel may be exposed by contact to the non-intact skin (such as abrasion, open wound), parenteral contact (such as needle stick), contact to the eye, mouth, or mucous membrane by blood and other potentially infectious materials that result from the performance of an employee's duties. An Exposure Control Plan is available to all employees. All work site will have the proper PPE, handwashing facilities or antiseptic hand cleansers/towelettes available the all employees.

Potentially infected materials include the following body fluids: saliva in dental procedures, cerebrospinal fluid (fluid of the brain, spinal cord, cranial and spinal nerves, or a combination of one or more of the above), pleural fluid (lung lining fluid), pericardial fluid (heart cavity fluid), peritoneal fluid (abdominal cavity fluid), amniotic fluid (embryo sac fluid), and synovial fluid (joint lining fluid), semen, vaginal secretion, any body fluid that is visibly contaminated with blood, any unfixed tissue or organ (other than intact skin) and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.

Personnel exposed to blood or other potentially infectious material have the potential for contacting Human Immunodeficiency Virus (HIV), Hepatitis C Virus (HCV), and Hepatitis B Virus (HBV).
The Hepatitis B Vaccine will be provided to all employees who have been exposed to blood or other potentially infectious materials.

Precautions

- Take universal precautions by treating all blood and bodily fluids as though they are infected with a deadly pathogen such as HIV, HBV, or HCV. “Universal blood and body-fluid precautions” or “universal precautions”, include, but are not limited to the following:
- Blood-contaminated clothing must not be disposed of with regular waste. Use a biohazard waste disposal service. NOTE: Items like bandages, feminine hygiene products, etc. that are not leaking blood are not covered by this standard
- Workers shall use appropriate barrier precautions (latex gloves or nitrile) to prevent skin and mucous membrane exposure when in contact with blood or other body fluids, mucous membrane, or non-intact skin and for handling items or surfaces soiled with blood or body fluids. Latex gloves should be changed after contact, and then disposed of properly.
- Hands and other potentially contaminated skin surfaces shall be washed immediately after providing first aid.
- To prevent direct contact during mouth-to-mouth resuscitation, mouthpieces, resuscitation bags, or other ventilation devices should be used

Work practice controls are specific methods and processes used to reduce the likelihood of exposure by altering the manner in which a task is performed. Work practice controls include:

- When providing first aid, garments penetrated by blood shall be removed immediately or as soon as feasible. Additionally, all skin or mucous membranes shall be washed with soap and water after contact with blood.
- The employee should shower and change clothes if contaminated by blood or body fluids.
- All contaminated personal protective equipment (PPE) shall be removed by the employee prior to leaving the work area and should be placed in a designated container for disposal.
- Items contaminated with blood, such as gloves, bandages, paper towels, and any other materials shall be placed in a container or red plastic bag appropriately labeled with the Biohazard symbol and sealed.
- NOTE: Items like bandages, feminine hygiene products, etc., which are not leaking blood, are not covered by this standard.

- As soon as possible, all equipment and working surfaces which have been contaminated by blood or other infectious materials shall be cleaned and decontaminated with a ten (10) parts H2O to one (1) part bleach solution by mopping, wiping, and drying.
- Latex gloves and ten (10) parts H2O to one (1) part bleach solution shall be available for cleanup.
- All general levels of cleanliness shall be maintained.

CARBON DIOXIDE (CO2) and NITROGEN (N2)

The primary hazard associated with carbon dioxide and nitrogen is that they both displace oxygen. Working personnel are required to wear approved respiratory protection when working in a confined or poorly ventilated space where carbon dioxide or nitrogen is present.

Nitrogen and carbon dioxide also present freezing hazards. Precautions are necessary to prevent ice blockage (freeze plugs) in lines and equipment and to avoid freeze burns caused by direct contact.

Liquid nitrogen has a boiling point of -320ºF (-195ºC) and can cause severe frostbite or burns if it is allowed to contact unprotected skin.

Carbon dioxide (CO2) is much heavier than air, colorless and odorless. It is poisonous and can cause asphyxiation at concentrations exceeding 0.5 percent, or 5000 PPM.

Nitrogen (N2) is a colorless, odorless gas that makes up about 78% of the air we breathe

HYDROGEN SULFIDE (H2S)

Hydrogen sulfide is a poisonous, colorless, flammable gas naturally produced through the decomposition of organic matter. It is an irritant and causes confusion in low concentrations. It is considered to be immediately dangerous to life and health (IDLH) at concentrations of 100 parts per million (PPM) or greater.

Hydrogen sulfide is commonly found in all aspects of the oil and gas industry. It may result from a man-made reaction or as a naturally occurring gas.

Xodus Industries will ensure that employees are trained prior to working in H2S environments. All Employees will attend an H2S approved training course. H2S training is required to have a refresher training annually.

Any of the following operations could have a potential of exposure to Hydrogen Sulfide:

- Drilling Operations
- Recycled Drilling Mud
- Water from sour crude wells
- Blowouts
- Tank Gauging (tanks at producing, pipeline & refining operations)
- Field Maintenance
- Tank batteries and wells

Odor shall not be used as the only warning for the presence of H2S. (NEVER rely on the sense of smell to detect H2S at ANY concentration).

- Smells like rotten eggs at low concentrations.
- Readily breaks out of fluids with a drop in pressure, agitation, or rise in temperature. (example: piped produced water reaching a storage tank at the SWD)
- Can be trapped in scale on interior tank or vessel walls.
- Heavier than air (1.19 vapor density at 32oF (0oC), air = 1.0) and accumulates in low areas and confined areas. Mixtures of H2S with other gases or substances may be lighter than air.
- Colorless gas.
- Flammable range of 4.3% to 46% vapor by volume.
- Burns with a blue flame.
- Produces sulfur dioxide (SO2) when burned.
- Auto-ignition at 500°F (260°C).
- Flash point = -76.4oF (-60,2oC).
- Melting point = -117.2oF (-82.9oC).
- Soluble in water and oil; solubility decreases as temperature of the liquid increases.
- Combustibility – burns with a blue flame to produce sulfur dioxide (SO2), a very irritating gas with a pungent odor. Sulfur dioxide is a colorless gas appreciable heavier than air, with a vapor density = 2.26 at 32oF (0oC).
- Causes eye, nose and throat irritations.
- Causes dizziness and adversely affects the ability to concentrate or Xodus on the job.
- Causes hydrogen embrittlement and corrosion in tubular goods.
- Causes metallic taste in mouth.
- Paralyzes the respiratory center

Typical Effects

- <1 PPM Minimal perceptibility, can smell odor.
- 10 PPM Permissible Exposure Limit (PEL). Obvious and unpleasant odor.
- Personal or area monitors should alarm when PEL exceeds the preset level of 10 PPM
- 15 PPM Short Term Exposure Limit (STEL).
- 50-100 PPM 2-15 minutes Olfactory nerve is paralyzed, kills sense of smell.
- 100 PPM Immediately Dangerous to Life and Health (IDLH).
- 100-300 PPM Conjunctivitis and respiratory tract irritation after 1 hour exposure.
- 500-700 PPM Loss of consciousness and possibly death in 30 minutes to 1 hour
- 700- 1000 PPM Rapid unconsciousness, cessation of respiration and death
- 1000-2000 PPM Unconsciousness at once, with early cessation of respiration and death in a few minutes. Death may occur even if individual is removed to fresh air at once.

Precautions

- Do not rely on your sense of smell to detect H2S.
- H2S is a colorless gas and is highly flammable.
- H2S is heavier than air and may accumulate in low places.
- Use monitors when working in an area where there is a possibility of H2S, especially in enclosed or below grade areas.

Work Practices

- All personnel who work in areas that contain H2S greater than or equal to 10 PPM shall receive H2S training.
- All personnel in areas where H2S gas concentrations have been detected at concentration of 10 PPM or greater shall use personal monitors.
    - Monitors must be bump tested at a minimum as required by the manufacturer, if the monitor fails a bump test a full calibration is required in according to manufacturer's recommendations.
- Area/location monitors should be used on production facilities with H2S levels at or above 100 PPM. Alarms settings recommended 10 PPM and 15 PPM.
    - When monitor alarms sound vacate the area and do not re-enter. Notify or contact necessary personnel, and do not return to work area until clearance is given for re-entry.
- Area/location monitors should be used on Drilling & Workover locations when operating in known H2S areas Alarm settings recommended at 10 & 15 PPM
- Personnel performing work in H2S areas where the concentration is 10 PPM or greater in the breathing zone shall wear supplied air respiratory equipment (positive pressure).
- Warning signs and wind direction indicators shall be displayed warning of the potential presence of H2S in areas where the concentrations have been detected at 10 PPM or greater.
- In atmospheres immediately dangerous to life and health (IDLH) level (100 PPM or greater), a standby person, with a SCBA shall be available for purposes of rescue (Canadian operations require standby person when performing maintenance operations in H2S areas at 20 PPM or higher).
- Never attempt to rescue a H2S victim without proper respiratory protection in the form of a SCBA or an approved hose line unit (SABA).
- All supplied air respirators will be positive pressure units.
- Personnel working in H2S areas where respiratory protection is required to be worn are required to be clean-shaven where the respirator seal contacts the face to maintain a proper respirator mask-to-face seal.
- Iron Sulfide deposits may be found in tanks, vessels and piping where H2S is present. Iron Sulfide scale open to air should always be kept wet to prevent ignition.
- All Xodus employees will be trained on and be aware of all evacuation procedures.

INJURY REPORTING & TREATMENT INFORMATION

Reporting Accidents, Injuries and Illnesses. Accidents or incidents are typically defined as an unintended happening or mishap. Most often an accident is any unplanned event that results in personal injury or in property damage. The failure of people, equipment, supplies, or surroundings to behave or react as expected causes most accidents. XODUS INDUSTRIES asks that all incidents resulting in an injury to a XODUS INDUSTRIES employee or damage to XODUS INDUSTRIES property be reported and a documented investigation be completed. If a XODUS INDUSTRIES employee is injured or becomes ill from a work-related incident, Xodus Industries requires reporting and forms to be completed. All

corrective action to prevent any incident and/or accident in the future will be passed on to all Xodus Industries employees by way of Safety meeting, revising JSA's if needed and sending out Safety memorandums.

All incidents must be reported and investigated. Report all incidents to OSHA within 8 hours and to the Safety Manager and onsite personnel (client) within 24 hours.

As a reminder, supervisors or other management personnel completing incident investigation reports should be trained as to help with determining an initial or apparent cause to the accident and ensure correct action is taken as appropriate to prevent others from being injured in the same manner. Listed below are steps involved in completing an accident investigation.

1. Ensure medical treatment is provided if necessary. Call 911 if it is a medical emergency.
2. Secure the scene if there is a serious accident and contact XODUS INDUSTRIES's Safety Manager.
3. Collect and preserve any evidence.
4. Identify what occurred by interviewing the employee and/or any witnesses.
5. Identify what happened (who, what, where, why).
6. Identify an apparent cause of the accident.
7. Complete the Supervisor's Investigation Form.

MEDICAL CASE MANAGEMENT

GOAL:

The goal of medical case management services is to enhance access to and retention in medical care through a range of client centered services. This is a human service approach that supports engagement and retention into medical care. This approach emphasizes community linkages to biopsychosocial supports for reducing real or perceived barriers to medical care.

The objectives are to:

- Decrease barriers to medical and support services;
- Increase consumer's awareness of treatment options;
- Build/strengthen relationships between the consumer and case manager;
- Foster consumer self-sufficiency through specific advocacy and services;

MEDICAL CASE MANAGEMENT DEFINITION:

Medical Case management services (including treatment adherence) are a range of client-centered services that link clients with health care, psychosocial, and other services. Medical case management services are involved in the coordination and follow-up of medical treatments. These services ensure timely and coordinated access to medically appropriate levels of health and support services and continuity of care, through ongoing assessment of the client's and other key family members' needs and personal support systems.

Key activities include:

1. initial assessment of service needs;
2. development of a comprehensive, individualized service plan;
3. coordination of services required to implement the plan;
4. client monitoring to assess the efficacy of the plan; and
5. periodic re-evaluation and adaptation of the plan as necessary over the life of the client. It includes client-specific advocacy and/or review of utilization of services. This includes all types of case management including face-to-face, phone contact, written correspondence and other forms of communication.

EMERGENCY RESPONSE

The following emergency response guide was prepared to aid Supervisors and employees in how to properly respond to potential emergencies, disasters, accidents, and injuries. If you have questions concerning a unique situation not covered in this reference, or need additional emergency information, please contact Xodus Industries.

EMERGENCY ACTION PLAN

The emergency action plan should be reviewed and available to all employees. In the event of 10 employees or less, the EAP can be communicated orally.

THE EPA SHOULD ADDRESS:

- Alerting systems and how it pertains to personnel for emergencies.
- Emergency evacuation/escape procedures and route assignments.
- Accounting for employees.
- Rescue and medical duties.
- Procedures for reporting fires and other emergencies.
- Additional information resources.

All Xodus Industries Employees must be aware of the Emergency Action Plans on the work sites that they are operating in. If any additional information pertaining to the plan or to the employee's respective duties is needed, contact the Safe Manager.

HAZARDOUS MATERIALS INCIDENT

Only Trained Authorized Personnel Are Permitted to Respond to Hazardous Materials Incidents.

A hazardous materials incident is considered a spill of any of the following: Chemicals (liquid and solids; Hazardous waste or; Oils (diesel and gasoline).

FOR A MAJOR SPILL OR LEAK

- Immediately evacuate the area,
- Notify Dispatch and/or work site personnel.
- DO NOT attempt to clean up the spill yourself.
- Provide clean-up/response personnel with appropriate pertinent information.
- Alert people in the immediate area of the spill.
- Wear proper personal protective equipment (PPE) and attempt to contain the spill.

- Avoid breathing vapors from the spill. Confine spill to a small area.

CHEMICAL SPILL ON BODY

- Flood exposed area with running water from faucet or safety shower for at least 15 minutes.
- Remove contaminated clothing at once. Put in a plastic bag and seal. Avoid contact with eyes.
- Make sure chemical has not accumulated in shoes or under jewelry.
- If no visible burn, check SDS to determine if delayed effects may be expected.

OBTAIN MEDICAL ATTENTION IF NEEDED

A TORNADO WATCH

Means that conditions are favorable for tornados and severe thunderstorms in and close to the watch area. A TORNADO WARNING is an URGENT announcement that a tornado has been reported and warns you to take immediate action to protect life and property.

INDOORS

- STAY INDOORS, do not exit the building. Locate an interior room.
- GO directly to an enclosed, windowless area in the center of the building, corners or building support columns are best. Avoid middle of exterior walls.
- STAY AWAY from all windows and large glass objects.
- CROUCH DOWN and cover your head.
- AVOID being underneath heavier objects such as lights, wall hangings and other items, which may fall.
- REMAIN INSIDE until Tornado has passed or cleared to leave.
- Do not use matches or lighters, in case of leaking natural gas pipes or fuel tanks nearby.

OUTDOORS

- MOVE AWAY From trees, buildings, walls, and power lines.
- SEEK the lowest possible ground, i.e. ditch, small trench. Lying flat in a ditch or low-lying area may be the only thing available. Note: Never enter an opening or trench where a “Cave in or Flooding” may be possible.
- STAY AWAY from power lines and puddles with wires in them, they may be “Live”.
- DO NOT USE matches or lighters, in case of leaking gas pipes or fuel tanks.
- REMAIN in position until “noise and high winds” have stopped.
- DO NOT ENTER any building that is deemed or looks UNSAFE.

THUNDERSTORMS and MICROBURSTS

INDOORS

- STAY INDOORS, do not exit buildings.
- STAY AWAY from all windows and large glass objects.
- CROUCH DOWN and cover your head.
- AVOID being underneath heavier objects such as lights, wall hangings and other items, which may fall.

- REMAIN INSIDE until storm has passed or cleared to leave.
- Do not use matches or lighters, in case of leaking natural gas pipes or fuel tanks nearby.

OUTDOORS

- MOVE AWAY From trees, buildings, walls, and power lines.
- SEEK the lowest possible ground, i.e. ditch, small trench. Lying flat in a ditch or low-lying area may be the only thing available. Note: Never enter an opening or trench where a "Cave in or Flooding" maybe possible.
- STAY AWAY from power lines and puddles with wires in them, they may be "Live".
- DO NOT USE matches or lighters, in case of leaking gas pipes or fuel tanks.
- REMAIN in position until "noise and high winds" have stopped.
- DO NOT ENTER any building that is deemed or looks UNSAFE.

HAIL

- SEEK protective SHELTER immediately.
- DO NOT drive through hail, stop vehicle immediately.
- REMAIN indoors or under protective shelter until hail has stopped, usually 5-10 minutes.

LIGHTENING

- SEEK protective SHELTER immediately.
- If OUTDOORS, DO NOT STAND underneath tall isolated objects. Avoid projecting above the surrounding landscape. Seek shelter in a low area under a thick growth of small trees. Open areas, SEEK LOW AREAS such as a ravine or valley.
- GET OFF or AWAY from OPEN WATER as well as metal equipment or small metal vehicles such as motorcycles, bicycles, golf carts, etc. Stay away from wire fences, clotheslines, metal pipes, and rails. If you are in a group in the open, spread out, keeping people several yards apart.
- REMEMBER – lightning may strike some miles from the parent cloud. If you feel your hair stand on end, lightning may be about to strike you. DROP TO YOUR KNEES and BEND FORWARD, putting your hands on your knees. Do not lie flat on the ground.

MEDICAL EMERGENCY

CALL 911

- Before proceeding with the following emergency responses on all medical emergencies!
- The guidelines below are for ADULT rescue.

RESCUE BREATHS **- IF VICTIM IS NOT BREATHING**

- Tilt the victim's head back, lift the chin, pinch the nose shut
- Give 2 short 1 second breaths. (Breathe into victim until chest gently rises)
- Check for circulation. (Normal breathing, coughing, movement)
- If there are signs of circulation, but victim is still NOT BREATHING, give one slow breath every 5 seconds (10 to 12 breaths per minute)
- Re-check signs of circulation and breathing every minute. Continue rescue breathing as long as victim is not breathing or until medical assistance arrives
- If there are no signs of circulation and victim is still not breathing, initiate Cardio Pulmonary Resuscitation (CPR)

***CPR* - IF VICTIM IS NOT BREATHING AND NO SIGNS OF CIRCULATION**

- Find the notch where lower ribs meet the breastbone. Place the heel of your hand on the breastbone. Place your other hand on top of the first.
- Position shoulders over hands. Compress chest 30 times (1-1/2 to 2 inches) using a smooth, even rhythm. • Give 2 short 1 second breaths.
- Do five (5) more sets of (30) compressions and (2) breaths (approximately 100 compressions per minute).
- Check for signs of circulation.
- If there are signs of circulation, but victim is still NOT BREATHING, give one slow breath every 5 seconds (10 to 12 times per minute)
- If there are no signs of circulation and victim is not breathing, continue CPR.

***AUTOMATED EXTERNAL DEFIBRILLATOR (AED)* IF AVAILABLE**

- If the area is equipped with AEDs, retrieve the closest unit.
- If responder(s) are trained in the use of an AED, proceed with using unit.
- If responder(s) are not trained in the use of an AED, follow the 911 dispatcher's instructions.
- Do not use the AED on a patient who is lying in water or on any electrically conductive surface such as wet grass.
- Do not operate the AED in a potentially explosive environment.
- NOTE: The use of an AED is necessary to revive a victim of cardiac arrest. The unit is automated and will only shock when necessary.

MINOR CUTS & PUNCTURES

- Vigorously wash injury with soap and water for several minutes.

OBTAIN MEDICAL ATTENTION IF NEEDED

MATERIAL SPLASHED IN EYE

- Immediately rinse eye and inner surface of eyelid with water continuously for 15 minutes.
- Forcibly hold eye open to ensure effective wash behind eyelids.

OBTAIN MEDICAL ATTENTION IF NEEDED

FATIGUE

Everyone in the workplace has a responsibility to minimize any risks to health and safety at work that might be caused by fatigue. Fatigue is not only caused by work-related activities – it is affected by all activities carried out when a person is awake.

Fatigue is more than feeling tired and drowsy. In a work context, fatigue is a state of mental and/or physical exhaustion which reduces a person's ability to perform work safely and effectively.

It can occur because of prolonged mental or physical activity, sleep loss and/or disruption of the internal body clock.

Fatigue can be caused by factors which may be work related, nonwork related or a combination of both and can accumulate over time.

All employees should be trained on fatigue awareness and management.

The effects of fatigue on health and work performance can be short term and long term

SHORT TERM EFFECTS MAY INCLUDE A REDUCED ABILITY TO:

- concentrate and avoid distraction
- think laterally and analytically
- make decisions
- remember and recall events and their sequences
- maintain vigilance • control emotions
- appreciate complex situations
- recognize risks
- coordinate hand-eye movements, and
- communicate effectively.

FATIGUE CAN ALSO:

- increase error rates
- slow reaction times
- increase the likelihood of accidents and injuries, and
- cause micro-sleeps

LONG TERM EFFECTS MAY INCLUDE:

- heart disease
- diabetes
- high blood pressure
- gastrointestinal disorders
- depression, and
- anxiety.

THE FOLLOWING SIGNS OR SYMPTOMS MAY INDICATE A WORKER IS FATIGUED:

- excessive yawning or falling asleep at work
- short term memory problems and an inability to concentrate
- noticeably reduced capacity to engage in effective interpersonal communication
- impaired decision-making and judgment
- reduced hand-eye coordination or slow reflexes
- other changes in behavior, for example repeatedly arriving late for work
- increased rates of unplanned absence

Personnel who self-identify or who have been identified as having signs or symptoms of fatigue must take measures to avoid exposing themselves or other persons to hazardous situations or conditions. Personnel who are fatigued should notify their supervisor of their condition. Supervisor will limit the time an employee has to work and/or implement a different type of work schedule.

Personnel who are subject to PHMSA or DOT regulations shall comply with applicable fatigue management requirements.

HEAT RELATED ILLNESS

Supervisors will be trained on heat illness emergency response procedures "prior to" supervising employees. All Xodus Industries employees should have access to drinking water and shade at all times.

HEAT STRESS

Workers who are exposed to extreme heat or work in hot environments may be at risk of heat stress. Exposure to extreme heat can result in occupational illnesses and injuries. Heat stress can result in heat stroke, heat exhaustion, heat cramps, or heat rashes. Heat can also increase the risk of injuries in workers as it may result in sweaty palms, fogged-up safety glasses, and dizziness. Burns may also occur as a result of accidental contact with hot surfaces or steam.

Workers at risk of heat stress include outdoor workers and workers in hot environments such as firefighters, bakery workers, farmers, construction workers, miners, boiler room workers, factory workers, and others. Workers at greater risk of heat stress include those who are 65 years of age or older, are overweight, have heart disease or high blood pressure, or take medications that may be affected by extreme heat. Supervisors must take these personal factors into consideration before assigning a task to employees.

Prevention of heat stress in workers is important. Employers should provide training to workers so they understand what heat stress is, how it affects their health and safety, and how it can be prevented.

HEAT STROKE

Heat stroke is the most serious heat-related disorder. It occurs when the body becomes unable to control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. When heat stroke occurs, the body temperature can rise to 106 degrees Fahrenheit or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not given.

***SYMPTOMS OF HEAT STROKE INCLUDE*:**

- Hot, dry skin or profuse sweating
- Hallucinations
- Chills
- Throbbing headache
- High body temperature
- Confusion/dizziness

STEPS TO TREAT A WORKER WITH HEAT STROKE:

- Call 911 and notify their supervisor.

- Move the sick worker to a cool shaded area.
- Cool the worker using methods such as:
    - Soaking their clothes with water.
    - Spraying, sponging, or showering them with water.
    - Fanning their body.

HEAT EXHAUSTION

Heat exhaustion is the body's response to an excessive loss of the water and salt, usually through excessive sweating. Workers most prone to heat exhaustion are those that are elderly, have high blood pressure, and those working in a hot environment.

SYMPTOMS OF HEAT EXHAUSTION INCLUDE:

- Heavy sweating
- Extreme weakness or fatigue
- Dizziness, confusion
- Nausea
- Clammy, moist skin
- Pale or flushed complexion
- Muscle cramps
- Slightly elevated body temperature
- Fast and shallow breathing

STEPS TO TREAT A WORKER SUFFERING FROM HEAT EXHAUSTION WITH THE FOLLOWING:

- Have them rest in a cool, shaded or air-conditioned area.
- Have them drink plenty of water or other cool, nonalcoholic beverages.
- Have them take a cool shower, bath, or sponge bath

HEAT SYNCOPE

Heat syncope is a fainting (syncope) episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization

SYMPTOMS OF HEAT SYNCOPE INCLUDE:

- Light-headedness
- Dizziness
- Fainting

STEPS TO TREAT A WORKERS WITH HEAT SYNCOPE:

- Sit or lie down in a cool place when they begin to feel symptoms.
- Slowly drink water, clear juice, or a sports beverage.

HEAT CRAMPS

Heat cramps usually affect workers who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture levels. Low salt levels in muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion.

SYMPTOMS

Muscle pain or spasms usually in the abdomen, arms, or legs.

STEPS TO TREAT a Workers with heat cramps:

- Stop all activity, and sit in a cool place.
- Drink clear juice or a sports beverage.
- Do not return to strenuous work for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention if any of the following apply:
    - The worker has heart problems.
    - The worker is on a low-sodium diet.
    - The cramps do not subside within one hour.

HEAT RASH

Heat rash is a skin irritation caused by excessive sweating during hot, humid weather

SYMPTOMS

- Heat rash looks like a red cluster of pimples or small blisters.
- It is more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases.

STEPS TO TREAT A WORKERS EXPERIENCING HEAT RASH:

- Try to work in a cooler, less humid environment when possible.
- Keep the affected area dry.
- Dusting powder may be used to increase comfort.

Workers should avoid exposure to extreme heat, sun exposure, and high humidity when possible. When these exposures cannot be avoided, workers should take the following steps to prevent heat related Illness:

- Wear light-colored, loose-fitting, breathable clothing such as cotton.
- Avoid non-breathing synthetic clothing.
- Gradually build up to heavy work.
- Schedule heavy work during the coolest parts of day.
- Take more breaks in extreme heat and humidity.
- Take breaks in the shade or a cool area when possible.
- Drink water frequently. Drink enough water that you never become thirsty. Approximately 1 cup every 15-20 minutes.
- Avoid alcohol, and drinks with large amounts of caffeine or sugar.

- Be aware that protective clothing or personal protective equipment may increase the risk of heat stress.
- Supervisors and employees should monitor their physical condition and that of their coworkers

FIRE SAFETY & PREVENTION

INTRODUCTION

The XODUS INDUSTRIES Fire Prevention and Safety Plan objectives are, to provide one comprehensive fire prevention and safety document that provides references to safe practices, and ensure fire prevention measures implemented in each company operation.

All personnel will be trained on the type and use of approved fire extinguishers. Refresher training will take place annually thereafter.

RESPONSIBILITIES

- All personnel are responsible for ensuring all XODUS INDUSTRIES and department fire and safety policies and evacuation plans are followed, and all staff is aware and trained on the policies and evacuation plan.
- All fire extinguishers should be checked monthly and a maintenance check done annually.
- Oily waste or oil-soaked clothing, rags and combustible waste materials must be disposed of in approved metal containers.
- All assigned company vehicles should be equipped with an approved fire extinguisher.
- Know the locations of fire extinguishers in company vehicles.
- Evacuate the area if the fire cannot be extinguished rapidly.
- When operating a fire extinguisher, remember the key word PASS. Pull (safety pin) , Aim (at base of fire), Squeeze (lever), Sweep (from side to side).

FALL PROTECTION

One of the leading causes of work-related injuries is falls from elevations. In an effort to reduce these incidents, Occupational Health and Safety Administration (OSHA) implemented 29 CFR1926 Subpart M the “Fall Protection” standard for the construction industry requiring employers to ensure fall restrictive or limiting devices are used to prevent inadvertent falls. Any and all work above “six feet” (6’) requires some type of fall prevention or limiting device to reduce injuries.

REPORTING

In the event of any incident resulting in the near-miss, minor or serious injury of any person or property damage XODUS INDUSTRIES must be notified immediately.

Work areas and equipment associated with fall protection must be inspected prior to use and removed from service if damaged or defective. Walking and working surfaces must be inspected daily to identify, correct potential slip, trip and fall hazards.

INDUSTRIAL HYGIENE

PERSONAL PROTECTIVE EQUIPMENT

The Personal Protective Equipment (PPE) requirements at XODUS INDUSTRIES were developed to protect the employee from hazards that exist in the work environment. All PPE must meet the requirements for protection from work hazards, including physical hazards, chemical hazards or mechanical irritants. Personal Protective Equipment combined with administrative and engineering controls are intended to prevent injury or impairment to the function of any part of the body through absorption, inhalation or physical contact.

The intent of XODUS INDUSTRIES's Personal Protective Equipment requirements is to provide supervisors and employees with guidelines for managing a safe work environment through the use of Personal Protective Equipment.

All personnel who have the potential to be exposed to workplace hazards are required to wear the appropriate personal protective equipment (PPE). Xodus Industries will provide employees and visitors with approved PPE and with training in the proper use of PPE. The minimum required PPE for Xodus Industries is and will be an approved hard hat, safety glasses and safety shoes/boots. Retraining will be given if a supervisor and/or employee see it necessary through improper use and/or lack of PPE.

All personal protective equipment shall be of safe design, proper fit and constructed for the work to be performed. PPE will be clean, sanitary and maintained to ensure reliable condition of the equipment when needed for a job.

If employee-owned personal protective equipment is used it must first be inspected by the supervisor for damage and/or if the equipment is adequate for the job to be performed.

HAZARD ASSESSMENT

The supervisor or employee shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE).

Verification that the required workplace hazard assessment has been performed shall be by a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, which identifies the document as a certification of hazard assessment.

If the hazards are present, then personnel will:

- Select and use the necessary PPE
- Select PPE that properly fits each affected employee

DEFECTIVE AND DAMAGED EQUIPMENT

Defective and damaged personal protective equipment shall not be used. PPE that is defective or damaged shall be repaired, destroyed, or tagged out of service until it can be repaired/destroyed.

EYE AND HEAD PROTECTION

- Employees are responsible for ensuring proper eye protection is used in all areas where there is the potential for eye exposure to compressed air, chemicals or any operation that may pose eye injury hazards.
- Eye protection is required to be worn during any operation or activity. Employees may voluntarily wear eye protection during any operation or activity. However, XODUS INDUSTRIES is not required to provide prescription safety glasses. Employees may purchase prescription eye wear that meets ANSI Z87.1 and use that in place of standard safety glasses so long as the prescription eye wear has side shields.
- Hardhats are required to be worn in all areas, hardhats should be worn in all areas where there is a potential of falling objects, impact against fixed objects.
- Protective headgear must meet the most current ANSI Standard Z89.1-1986 (Protective Headgear for Industrial Workers) or provide an equivalent level of protection.
- Safety glasses and hardhats should be inspected daily to ensure they are not in need of replacement (not cracked, lenses have clear visibility).

FOOT PROTECTION

- Employees shall ensure approved foot protection is worn at all time when exposed to potential foot injury.
- Shoes/boots are required to be Steal Toe.

HAND PROTECTION

- Chemical resistant gloves will be worn when handling or managing chemicals.
- Latex or equivalent gloves will be worn by anyone administering first aid.
- All gloves should be inspected on a daily basis prior to use.

HEARING PROTECTION

- Hearing protection and devices such as earmuffs or earplugs may be necessary to maintain employee exposure to noise below permissible exposure limits.
- Hearing protection is required in areas and activities where the noise level is 84 dBA or greater.
- Any employee using hearing protection devices must comply with the XODUS INDUSTRIES Hearing Conservation Program.

FLAME RESISTANT CLOTHING (FRC)

NOTE: FRC in this section refers to garments that display a tag certifying it meets the latest NFPA 2112 standard (2007 or later), or has an ATPV rating of 6.0 or higher. FRC will be utilized in operations where a site-specific job exposure to flash burn injuries has been identified on a hazard assessment. FRC will be worn zipped or buttoned up with long sleeves rolled down. Short-sleeved FRC is not allowed. When other garments are worn in conjunction with FRC, the FRC must be worn as the outmost layer of clothing. Garments worn underneath FRC should be made of a material that does not melt when exposed to heat.

- Acceptable fabrics are cotton and other fabrics made of natural fibers that will burn to an ash instead of melting (some unacceptable fabrics that will melt are those containing high

percentage of nylon, polyester and/or acrylic). Personnel must understand the following concerning FRC:

- the capabilities and limitations of FRC use
- the possible hazards associated with the use of non-fire-resistant clothing in a flash-fire situation
- proper hydration requirements when wearing FRC
- Chlorine bleach and hydrogen peroxides found in some detergents can degrade the FR properties over time.
- Flammable materials and soils that build-up on the surface of the FRC.
- FRC should be removed from use when they have developed holes or tears that cannot be repaired, or when the fabric has thinned and become “thread bare.” FRC contaminated with flammable substances should also be removed from service if they cannot be adequately decontaminated.
- FR thread must be used when repairing FR clothing.

HEARING CONSERVATION PROGRAM

The XODUS INDUSTRIES Hearing Conservation Program is intended to provide proper personal protective and safety control devices for employee’s exposed to occupational noise; conserve employee hearing ability; and prevent occupational hearing loss. The purpose of this program is to establish procedures that ensure that all XODUS INDUSTRIES employees are trained and protected from noise exposure through engineering controls, PPE, and occupation noise hazard elimination.

This program shall apply to all XODUS INDUSTRIES employees whose noise exposures equals or exceeds an 8-hour time weighted average (TWA) sound level of 85 decibels (dB), otherwise known as the action level, while performing their work activities. Audiometric testing should be performed annually for individuals exposed to noise equal to or greater than 85 dBA, 8-hour time-weighted average. The baseline audiogram must be established within the first 6 months of exposure. Employees will be notified in writing within 21 days in the event of determination of a standard threshold shift (standard threshold shift: " a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear) at which time the hearing protection will be revaluated. All records for employees will be kept at the Xodus Industries Louisiana Office.

Noise sampling/monitoring must be performed by the supervisor to ensure the proper Hearing Protection is used for the job.

All XODUS INDUSTRIES employees with receive Hearing Conservation training upon hire and retrain annually thereafter.

HEARING PROTECTION

Hearing Protection will be provided by XODUS INDUSTRIES.

The primary means of reducing or eliminating personnel exposure to hazardous noise is through the application of engineering controls.

- Engineering controls are defined as any modification or replacement of equipment, or related physical change at the noise source or along the transmission path that reduces the noise level at the employee's ear.
- Administrative controls are defined as changes in the work schedule or operations which reduce noise exposure. If engineered solutions cannot reduce the noise, then administrative controls such as increasing the distance between the noise source and the worker or rotation of jobs between workers in the high noise area should be used if possible.
- The use of engineering and administrative controls should reduce noise exposure to the point where the hazard to hearing is eliminated or at least more manageable.
- Hearing protective devices (ear plugs, muffs, etc.) shall be the permanent solution only when engineering or administrative controls are considered to be infeasible or cost prohibitive.
- Hearing protective devices are defined as any device that can be worn to reduce the level of sound entering the ear.

EMPLOYEE RESPOSIBILIES:

- Use safe work practices;
- Wear and maintain appropriate hearing protective devices as instructed while performing job functions;
- Use only those brands/types of hearing protection devices which are appropriate for the noise exposure
- Report to their supervisor changes in the workplace or “noisy” conditions; and
- Wear and maintain hearing protective devices as instructed; and
- Report to their supervisor any changing conditions that may impact personal noise exposures.

RESPIRATORY PROTECTION PROGRAM

The purpose of the Respiratory Protection Program (RPP) establishes uniform procedures, in accordance with the Occupational Safety and Health Administration (OSHA) Standards, 29 CFR Part 1910.134, Respiratory Protection, for the appropriate selection, use, and care of respiratory protective equipment for all employees.

It is the policy to provide, at no cost to the employee, respiratory protection when: the best available engineering controls fail to adequately reduce employee exposure to respiratory hazards; substitution of respiratory hazards with less hazardous elements is not feasible; modifications in hazardous operations fail to reduce exposures to below regulated or acceptable levels; or, national guidelines for minimizing health care associated infections recommend respirator use. Respiratory protection shall be provided during interim periods when engineering controls are being implemented and no other means of worker protection is available. The Respiratory Protection provided by Xodus Industries shall be equivalent to or more protective than protection described in OSHA standards 29 CFR 1910.134. Industry best practices should be applied when practical, to reduce employee exposures.

DEFINITIONS

Air-Purifying Respirator- A respirator with an air-purifying filter, cartridge, or canister capable of removing specific air contaminants by passing ambient air through the air-purifying element.

Aerosol-Removing Respirators-A respirator that provides respiratory protection against airborne particulate matter, including dusts, mists, and fumes, but they do not protect against gases, vapors, or oxygen deficiency. It is a subset of an air purifying respirator.

Assigned Protection Factor (APF)-The minimum expected workplace level of respiratory protection provided by a properly functioning respirator.

Respirator Cartridge-A container with a filter, sorbent medium, or combination of these items that removes specific contaminants (particulates, gases, and/or vapors) from air passed through the container.

Dust Mask-A mask that is not designed as a filtering face piece and is not certified by NIOSH for use as a respirator.

Employee Exposure-Exposure to a concentration of an airborne contaminant that would occur if the employee were not using a respirator.

End-Of-Service-Life Indicator (ESLI)-A system that warns a respirator user of the approach of the end of adequate respiratory protection (i.e., a sorbent media is approaching saturation).

Filter-A respirator component used to remove particulates from inspired air.

Fit Factor-A quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

Fit Test-A qualitative or quantitative evaluation of the air seal between the respirator and an individual's face.

Full-Face Respirator-A face-piece that covers from roughly the hairline to below the chin. On average they provide the greatest- protection, usually seal most reliably, and provide some eye protection.

Gas/Vapor-Removing Respirators-Air purifying respirators that protect against certain gases and vapors by using various chemical cartridges (usually activated charcoal) to purify inhaled air. They are a subset of air-purifying respirators.

Half-Face Respirator-A face-piece that fits over the nose and under the chin and does not protect the eyes.

Immediately Dangerous to Life or Health (IDLH)-Any atmosphere that poses an immediate hazard to life or poses immediate irreversible debilitating effects on health.

Negative Pressure Respirator-A respirator in which the air pressure inside the face-piece is negative during inhalation with respect to the ambient air pressure outside the respirator.

NIOSH Approved-A respirator that has been tested by the National Institute for Occupational Health and Safety and assigned a NIOSH approval number.

Positive Pressure Airline Suits (PPASs)-A biological/chemical protective suite where the air pressure inside the suit maintains positive at all times. Breathing air is supplied through a supply hose via a compressor or compressed air cylinders.

Powered Air-Purifying Respirator (PAPR)-An air-purifying respirator that uses a blower to force ambient air through an air-purifying cartridge or filter and into the face-piece.

Qualitative Fit Test (QLFT)-A pass/fail evaluation of the seal between the respirator and the individual's face that relies on the individual's ability for sensory response to detect a challenge agent (e.g., sweet taste).

Quantitative Fit Test (QNFT)-A pass/fail evaluation of the seal between the respirator and the individual's face that used an instrument to measure the differential between a level of a challenge agent.

Self-Contained Breathing Apparatus (SCBA)-A respirator that provides breathing gas from a source independent of the surrounding atmosphere instead of purifying the atmosphere. The user carries the gas tank on his/her back.

Service Life-The period of time a cartridge or filter provides adequate protection to the wearer.

Single Use Respirator (SUR)-A NIOSH approved disposable negative pressure respirator with a filter as an integral part of the facepiece or with the entire face-piece composed of the filtering medium (e.g. N-95). SURs require full participation in the NIH RPP when use is required by the employer.

Tight-Fitting Face-piece-A respiratory face-piece that forms a complete seal with the face. It could be a half-face respirator or full-face respirator.

User Seal Check-A self-test conducted by a respirator user to determine if a respirator is properly seated to the face prior to its use in the workplace.

RESPONSIBILITIES

- **SUPERVISOR**-The supervisor shall have a comprehensive knowledge of the potential respiratory hazards and respiratory protective requirements for their areas of responsibility. Supervisors shall seek guidance from the RPPM on proper respirator selection. Supervisors shall ensure that employees complete their interval medical clearance, attend annual fit testing, and complete their training in a timely manner.
- **EMPLOYEE**-Employees shall remain informed of potential respiratory health hazards and the respiratory protective requirements for their work areas. Employees shall complete a mandatory initial medical clearance, and will complete annual training and fit testing. Employees shall perform a positive/negative fit check with their respirator before each use and follow manufacturer, supervisory, and manufacturer guidelines for use, maintenance, and disposal of their respirator and its components.

All employees who may be potentially exposed to airborne contaminants must wear respiratory protection

RESPIRATORY HAZARD ASSESSMENT, RESPIRATOR SELECTION, AND MEDICAL EVALUATION

A respiratory hazard assessment will be conducted for any potential aerosol or airborne hazards (i.e. chemical, biological, radiological, or physical). Potential respiratory hazards may be reported. Upon notification, a comprehensive respiratory hazard assessment will be completed to determine the degree of risk, the exposure potential during the specific operation, and the need for respiratory protective

equipment based on the type of respiratory hazards that are present. The assessment must take into account any hazardous properties of the potential respiratory hazard, as well as the work area characteristics and job description. Oxygen deficient atmospheres, physical and chemical properties of the hazard, adverse physiological interactions and health effects, actual airborne concentrations of the contaminant generated during work activities, and relevant occupational exposure limits (OEL) shall be considered. The location, operation or process characteristics, materials used or produced during the process, the employee's duties and actions, and any abnormal situations or characteristics which may affect respirator selection shall also be considered.

RESPIRATOR SELECTION

Only approved respirators are authorized for mandatory use. Several respirators of differing size and type shall be made available to employees to ensure that wearer acceptability plays a role in selection.

MEDICAL EVALUATION

The Physician must medically clear all employees for respirator use prior to any use of a respirator.

RESPIRATOR TRAINING AND FIT TESTING

Upon completion of training, employees shall be able to demonstrate a working knowledge of the potential respiratory hazards and respirator requirements for their work areas. Employees shall demonstrate proficiency in the proper use, inspection, maintenance, and storage of a respirator. Employees shall understand the respirator's limitations and capabilities, as well as any physical or medical conditions that may limit or prevent the effective use of a respirator.

Employees shall be fit tested with the same make, model, style, and size respirators to be used during work. If the employee doesn't fit the make, model, style, and size of respirator available at their workplace, a recommended respirator if it passes the Respirator Fit Test will be supplied.

Respirator fit testing shall be performed for an employee who is using a respirator for the first time and annually thereafter.

It is required that employees wearing mandatory respiratory protection have no hair interfering with the respirator's seal. Hair/Facial hair must not interfere with the seal of a respirator in any way during employee use of the respirator (not merely during the fit test, but also on the job). The entire function of respirators is to protect the worker, and respirators do not function correctly if the seal between the respirator and the employee's skin is broken. The use of respirators with tight-fitting facepieces by employees with facial hair is prohibited. Facial hair that lies along the sealing area of a respirator, such as beards, sideburns, or mustaches will interfere with respirators that rely on a tight facepiece fit to achieve maximum protection. The areas of the skin, which contact the face or neck seal and nose-cup seal, must be completely free of any hair. Even after the fit test, facial hair in and near sealing areas must continue to be removed to ensure the seal continues to work. Failure to remove facial hair that interferes with the respirator seal will likely result in employee exposure to hazards at their workplace and possibly negative health outcome(s). If corrective glasses, goggles, or other personal protective equipment are required, the employee will receive specific instruction to ensure that interference with the seal of the face-piece does not occur.

EMPLOYEES SHALL PERFORM A NEGATIVE/POSITIVE PRESSURE SEAL CHECK PRIOR TO EACH USE.

RESPIRATORY MAINTENANCE AND CARE

RESPIRATOR CLEANING AND DISINFECTION

Employees shall clean and disinfect their respirators using procedures. Respirators shall be cleaned and disinfected:

- As often as necessary to be maintained in a sanitary condition for respirators that have been issued for the exclusive use of an employee.
- After each use for respirators intended for emergency use.
- After each use for respirators intended for fit testing and training use.

RESPIRATOR STORAGE

Respirators must be individually sealed in plastic bags or other suitable airtight containers and placed in locations that protect them from dust, sunlight, extreme temperatures, excessive moisture, or damaging chemicals. They must be stored in such a way that the face-piece and other respirator parts are not distorted. Respirators shall not be stored in areas, such as tool boxes or in lockers, without being placed in a secondary container to prevent face-piece distortion. Store respirators per the manufacturer's directions and email/contact the manufacturer if uncertain.

RESPIRATOR INSPECTION

Employees shall inspect respirators prior to each use and during cleaning. If the respirator it is found to be defective during inspection, the supervisor will be noticed. Respirator inspection items should include:

- Tightness of connections and contact points.
- Condition of face-piece, straps, and all other parts and filter and cartridge elements.
- Condition of the exhalation and inhalation valves. (If the sides of the exhalation valve do not seal, even slightly, it must be replaced with a new valve).
- Pliability and flexibility of rubber parts. Deteriorated rubber parts must be replaced. Unused rubber parts should be worked, stretched and manipulated with a massaging action, according to manufacturer's specifications.
- If using a full-face respirator, the condition of lenses should be checked. Lenses must be tight in the face-piece. Scratched or damaged lenses must be replaced. Random inspections may be conducted by the supervisor to assure that respirators are properly selected, fitted, used, cleaned, maintained, and stored.

MANUAL LIFTING

The purpose of the Xodus Industries Manual Lifting Program is to apply ergonomic principles and sound decision-making to the workplace in an effort to reduce the number of manual lifts thus decreasing workplace injuries and, where possible, increasing productivity, quality and efficiency. A proactive manual lifting approach focuses on making changes when risk factors have been identified, as well as incorporating new material handling tools into the design phase of equipment, tools and scheduling changes.

All employees are required to be trained and to follow the minimum procedures outlined in this program. Any deviations from this program must be immediately brought to the attention of the Safety Manager.

Xodus Industries strives to provide all employees with a safe and healthy workplace by helping with manual lifting equipment and other engineering controls to complete the tasks safely. The Safety Manager is responsible for the program's implementation, management and recordkeeping requirements.

RESPONSIBILITES

Safety Manager: The Safety Manager will report directly to upper management and be responsible for this program. All evaluations, controls and training will be coordinated under the direction of the Safety Manager in collaboration with management. The Safety Manager will monitor the results of the program and determine additional areas of Xodus as needed. The Program Administrator will also:

- Ensure that those performing worksite evaluations and training are properly trained
- Ensure that control measures are implemented in a timely manner
- Schedule manager, supervisor and employee training and maintain records to include date, name of instructor, topic and materials used
- Follow-up with any material handling strategy and/or solutions
- Monitor the program on a quarterly basis and provide an annual review
- Assist in selection of appropriate material handling equipment and tools

Managers and Supervisors will:

- Remain accountable for the health and safety of all employees within their departments through the active support of this program
- Ensure that employees in their areas have received the appropriate training
- Ensure that safe lifting practices and principles are considered daily and when conducting worksite evaluations
- Ensure that recommended controls are implemented and/or used appropriately through active follow-up
- Provide employees with and ensure the proper use of appropriate tools, equipment, parts and materials
- Maintain clear communication with managers and employees
- Periodically evaluate current worksites and employees' work techniques to assess the potential for and prevention of injuries

Employees: Every employee of Xodus Industries is responsible for conducting himself/herself in accordance with this policy and program. All employees will:

- Handel equipment in the manner established by managers and supervisors
- Ensure that equipment is properly maintained in good condition and when not, report it immediately
- Provide feedback to managers and supervisors regarding the effectiveness of design changes, new tools or equipment

- Attend training as required and apply the knowledge and skills acquired during training to their jobs, tasks, processes, and work activities
- Use proper lifting and material handling techniques as outlined in this policy
- Limit manual lifting or handling tasks to objects less than 50 pounds
- Get assistance whenever lifting equipment is impractical
- Report injuries within 24 hours of their occurrence

Employee involvement is an essential element to the success of this program. Employees are encouraged to provide their input and assistance with worksite evaluations, identifying risk factors, development and implementation of controls, and training. Employees that identify lifting hazards or other safety hazards will immediately notify their supervisor. If a supervisor is not available, they are to contact the Safety Manager.

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:

- Work with someone of similar build and height, if possible
- Choose one person to direct the lift (e.g., "lift on the count of three")
- Lift with your legs and raise the load to the desired level at the same time
- Always keep the load at the same level while carrying
- Move smoothly and in unison
- Set the load down together

HAZARD ASSESSMENT

Hazard Assessments of the workplace shall be conducted to determine if any lifting hazards are present, or are likely to be present.

REPORTING

In the event of any lifting incident resulting in minor or serious injury of any person must be reported immediately. All incident will be investigated and a report made as per the Incident Reporting section in this manual. This is to ensure correct action is taken as appropriate to prevent others from being injured in the same manner.

GENERAL WASTE MANAGEMENT

The purpose of this waste management strategy was developed to provide guidance and requirements necessary for efficient, effective and compliant waste management before and during all operations.

This procedure applies to all Xodus Industries employees. When work is performed on a non-owned or operated site, the operator's program shall take precedence, however, this document covers Xodus Industries employees and contractors and shall be used on owned premises.

PROCEDURE

The Xodus Industries Safety Manager or other designated person in his or her absence is accountable for managing waste and disposition of wastes generated at the work site. All employees will be informed of the waste handling procedures before any work is done.

WASTE SEGREGATION

- Do not mix waste streams
- Only place waste in the designated container, satellite accumulation area (SAA), recyclable accumulation area (RAA), universal waste accumulation area (UWAA) or designated dumpster.

RECYCLING

Wastes should be recycled whenever practicable. The supervisor will encourage proper segregation of waste materials to ensure opportunities for reuse or recycling occurs at each work site. The collection of recycled material will reduce the total load on the environment. Bins of sufficient size must be lined with a plastic bag and clearly labeled for use. Posters from Xodus Industries will be posted throughout the work site to encourage recycling. Collection bins will also be placed in administrative areas will follow the following color guiding:

- Blue – Paper
- Green - Aluminum cans
- Yellow - Plastic

Cardboard will be flattened, staples and excess shipping tape removed. No cardboard shall be placed in the dumpster used for the landfill.

WASTE HANDLING MATRIX

Each work site will develop a Waste Handling Matrix that will:

- Address safe practices related to the immediate storage and handling of waste, scrap or leftover material.
- The handling, organization and storage of waste and scrap materials to minimize potential impact to the environment. Waste materials shall be properly stored and handled to minimize the potential for a spill or impact to the environment. During outdoor activities receptacles must be covered to prevent dispersion of waste materials and to control the potential for runoff.

STORAGE REQUIREMENTS

Xodus Industries must ensure project related wastes are stored and maintained in an organized fashion to encourage proper disposal and minimize risks to employees. Proper waste receptacles must be provided for trash and materials that may be reused or recycled during a project.

PPE

For each site waste management plan the supervisor shall determine a PPE matrix that includes gloves, hand protection, eye and face protection and/or other necessary PPE.

EDUCATION AND TRAINING

Employees shall be instructed on managing waste generated at the work site and on the proper disposal method of wastes. Examples include:

- Instruction on the proper handling, storage and disposal of wastes and depending on the waste generated at the site to also include general instruction on disposal of non-hazardous wastes, trash or scrap materials. If wastes generated are classified as hazardous then employees shall be trained to ensure proper disposal and compliance with regulations.
- Minimization methods to reduce waste.
- Recycling methods and proper PPE to be utilized.

PROCESS SAFETY MANAGEMENT PROGRAM FOR CONTRACTORS

PURPOSE

This section contains requirements for Xodus Industries and our subcontractors for assisting our clients in preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals during our work.

Contractors and subcontractors under the Process Safety Management program are those who are involved in the providing services on client's facilities. All contractors and subcontractors, covered in this PSM Program will be provided necessary information concerning the scope of work and the potential hazards involved.

RESPONSIBILITIES

Management Responsibilities

- Ensure that Xodus Industries Employees are trained in work practices necessary to safely perform assigned work including "Permit to Work" procedures.
- Ensure that Xodus Industries Employees are instructed in the hazards related to processes, process equipment or hazardous materials associated with their assigned work and work locations.
- Ensure that Xodus Industries Employees are instructed in their responsibilities under the Emergency Response plans.
- Ensure that training and instruction documentation is maintained.
- Ensure that Xodus Employees are trained and follow the safety rules and safe work practices of the facilities which they are assigned to work.
- Inform the client of any unique hazards created by the execution of Xodus Industries work or hazards discovered by Xodus Industries employees not previously identified.

Supervisors

- Be familiar with and understand the requirements of this Process Safety Management Program.

- Arrange/facilitate training and instruction sessions required to ensure Xodus Industries Employees are trained in work practices necessary to safely perform assigned work including "Permit to Work" procedures
- Arrange/facilitate training and instruction sessions required to ensure Xodus Industries Employees are instructed in the hazards related to processes, process equipment or hazardous materials associated with their assigned work and work locations.
- Arrange/facilitate training and instruction sessions required to ensure Xodus Industries Employees are trained and follow the safety rules and safe work practices of the facilities which they are assigned to work.
- Identify and understand Xodus Industries and Xodus Industries Employees' duties and responsibilities under the Emergency Response plans.
- Arrange/facilitate training and instruction sessions required to ensure that
- Xodus Industries Employees are instructed in their responsibilities under the Emergency Response plans.
- Secure and maintain all required documentation under this Process Safety Management Program.
- Lead or participate in incident investigations.
- Inform the Xodus Industries Safety Manager is required during any incident investigations.
- Complete and provide the client with all required incident investigation documentation including all resolutions or corrective actions.

Employees Responsibilities

- Participate in and understand training in work practices necessary to safely perform your assigned work including "Permit to Work" procedures.
- Participate in and understand hazard instructions related to processes, process equipment or hazardous materials associated with your assigned work and work locations.
- Know and understand your responsibilities under the Emergency Response plans.
- Know, understand, and follow the safety rules and safe work practices of the facilities in which you are assigned to work.
- Inform your immediate supervisor of any unique hazards created by any work or hazards discovered, not previously identified.

GENERAL PROCEDURES

Client Procedures

Whenever Xodus Industries performs contract services for a client with a similar procedure or special requirements, the client's procedure may be applied as a substitute procedure if it meets or exceeds Xodus Industries procedure. An example of this may be Confine Space Work or Control of Hazardous Energy.

Contractor employees shall abide by employer's safe work practices during operations such as lockout/tagout, confined space entry, opening process equipment or piping and controls over entrance to facility.

Management of Change

The procedures shall assure that the following considerations are addressed prior to any change:

- the technical basis for the proposed change,
- impact of the change on safety and health
- modifications to operating procedures
- necessary time for the change and
- authorization requirements for the proposed change.

Employees involved in operating a process and maintenance whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start-up of the process or affected part of the process.

Client's Technology

• Xodus Industries personnel will not divulge any knowledge gained through the PSM process pertaining to the client's proprietary processes or trade secrets and will sign statements to that effect if required.

INCIDENT INVESTIGATION

- Xodus Industries will immediately report to the client all incidents involving Xodus Industries personnel or any Xodus Industries subcontract personnel. The onsite supervisor will either lead or participate in the incident investigation and will inform the Xodus Industries Safety Manager if he/she requires any assistance. The onsite supervisor will be responsible for completing and providing the client with all the required documentation including all resolutions or corrective actions. As a minimum, the supervisor shall follow Incident Reporting procedures established in this manual.
- The following shall apply:
- All incidents resulting in or that could have reasonably resulted in a catastrophic release of highly hazardous materials shall be investigated.
- An investigation shall be initiated on later than 24 hours following the incident.
- The investigation team shall include at least one person knowledgeable in the process, hazardous materials or equipment involved.

- A report shall be prepared following the investigation that includes the following minimum information:
    - Date of incident
    - Date investigation began
    - Description of the incident
    - Factors contributing to the incident
    - Recommendations resulting from the investigation

Xodus Industries shall maintain an injury and illness log related to the onsite work.

TRAINING

All Xodus Industries employees and subcontractors involved in providing services on, or the installation of, equipment at client's facilities shall be trained in the hazards and safe work procedures necessary to safely perform their assigned work.

JOB DISCRIPTIONS

All appropriate documentation will be required for all employees to ensure they meet the minimum qualifications for the job. Upon hire job specific training will be given to each employee on their roles and responsibilities to complete all tasks. All employees will be required to show job competency for their respected position before being allowed to work alone.

CORPORATE MANAGEMENT

Responsible for the overall operations of a company.

- Planning
- Budgeting
- Evaluating
- Facilitating

SAFETY MANAGER

- Advise on provisions to minimize safety risks
- Develop and enforce OSH policies (e.g. accident reporting process)
- Direct accident investigation procedures
- Keep records of safety-related incidents and propose corrective actions
- Organize and conduct OSH training plans
- Collaborate with managers to monitor compliance and identify safety issues
- Intervene in unsafe activities or operations
- Liaise with and report to official regulatory bodies on OSH matters

OPERATIONS MANAGER

- Ensuring that health and safety regulations are followed.
- Documenting procedures.
- Reviewing workloads and manpower to ensure targets are met.
- Support Corporate Management's vision and process ideals.
- Ensuring staff is happy and operating efficiently.
- Supporting all functions of the business to work together.

CORPORATE OFFICE MANAGER

- Serve as the point person for office manager duties including:
  - Maintenance
  - Mailing
  - Supplies
  - Equipment
  - Bills
  - Errands
  - Shopping
- Organize the office layout and order stationery and equipment
- Maintain the office condition and arrange necessary repairs
- Update and maintain office policies as necessary
- Organize office operations and procedures
- Coordinate with IT department on all office equipment
- Ensure that all items are invoiced and paid on time
- Ensure accurate and timely reporting
- Assist in the onboarding process for new hires
- Address employees' queries regarding office management issues