Lewis Energy Group®

STANDARD OPERATING PRACTICE

Job Safety Analysis (JSA)

Lewis Energy Group
Version 1.2
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1.0 Purpose & Policy Statement

The objective of a Job Safety Analysis (JSA) process is to provide information, to Team Members and Contractors that systematically carries out the basic strategy of accident prevention, which includes the identification, evaluation, and control of hazards.

LEG Policy Statement

A job safety analysis (JSA) is a process of systematically identifying workplace hazards by breaking down a particular job into a series of relatively simple steps and eliminating hazards and risks before accidents occur. JSAs focus on the relationship between the worker, the tools and the work environment. All Lewis Energy Group (LEG) Team Members and contractors shall perform a Job Safety Analysis (JSA) prior to the start of work.

2.0 Applicability

The Job Safety Analysis process applies to all LEG Team Members and Contractors conducting work at LEG locations and facilities and is based on the following principles:

- That a specific job or work assignment can be separated into a series of relatively simple steps
- That hazards associated with each step can be identified
- That solutions can be developed to control each hazard

3.0 Requirements

A Job Safety Analysis (JSA) is a method for reviewing a job to identify hazards which can cause incidents to occur. 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 LEG's accident prevention program. JSA can be applied to any job no matter how simple or complex. In practice, JSA is applied but not limited to the following:

- High risk jobs
- New jobs
- Jobs associated with accident history
- Jobs involving the unplanned release of energy or hazardous materials

Separation into Steps

Once a job has been selected for JSA, the next task is to separate the job into its basic steps. Any job, regardless of its complexity, can be separated in this manner. Each step or activity should briefly describe what is done and should be recorded in the order in which it is performed. Each step tells generally what must be done; no mention is made of how to do the operation. Care should be taken to avoid steps that are too detailed. It is common that most jobs will separate into 5 to 10 steps. The important thing is that the breakdown has enough steps to accurately describe the work, but no more than are actually needed.

Hazard Identification

After the basic steps of the job have been determined, each step is carefully examined to identify hazards or potential accident sources. This will include hazards associated with equipment, tools, job procedures, and work environment. The following questions may serve as a guide in identifying specific hazards:

- Can the Team Member/contractor come in contact with any energy source or hazardous materials?
- Can the Team Member/contractor be struck by anything?
- Can the Team Member/contractor strike against anything?
- Can the Team Member/contractor be caught in, on, or between anything?
- Can the Team Member slip, trip, fall?
- Is there a possibility of overexertion?

Hazard Evaluation

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

Sometimes Business Units use pre-written JSAs. This practice is acceptable, as long as the pre-written JSA is reviewed and additional information specific to the job is discussed and communicated prior to beginning work. Discussion points should include:

- Are there any language barriers?
- Are conditions the same or is something different?
- Does the crew have experience performing this task?
- What unsafe conditions need to be eliminated or monitored?
- Are there any equipment related problems?
- Have additional risks been identified?

Hazard Control

Once all hazards have been identified and evaluated for each job step, the next task is to develop solutions designed to eliminate or otherwise control them. For every known hazard associated with a job step, there should be a solution that offsets that hazard. The solution will normally be from one of the following 4 categories:

Environment change

Hazard control through a change in the environment involves changing a part of the worker's physical energy or hazardous materials in the workplace. Where the desired reduction is not possible, the Team Member should be protected from the source of energy or hazardous materials. For example, protective equipment in the form of shields, barricades, cabins, and canopies are often used to protect both people and property should an unplanned release of energy or hazardous material occur. In addition, change in

such things as tools, equipment, materials, lighting, atmospheric conditions, work area layout, or job location should be considered within this category.

Job Frequency Reduction

A reduced job frequency solution involves reducing the number of times a job is performed during a given period of time. Prime examples of solutions are in the area of maintenance and service jobs. Machine parts, for example, may wear out and require frequent replacement, or debris may accumulate while working and must be removed.

Job Procedures

Job procedures are often used as a means to control hazards. This type of hazard control involves prescribing safe procedures that the worker must follow to avoid injury while performing each job step. Normally this requires describing how to do the work in specific terms. In addition, the time that a Team Member is exposed to a hazard can usually be controlled by prescribing the correct job procedure.

Personal Protective Equipment (PPE)

Sometimes the nature of the hazard is such that the potential for an accident cannot be controlled to an acceptable degree through changes in the job environment or job procedures. This type hazard control solution will involve personal protective equipment. Personal protective equipment may include: special clothing, safety boots/shoes, goggles, gloves, respirators, safety glasses, etc.

Hierarchy of Health and Safety Controls

Substitution or Elimination

- Substitute for a hazardous material
- Reduce energy, speed, pressure, voltage, sound level, force, etc.
- Change process to eliminate noise
- Automated material handling

Engineering Controls

- Local exhaust ventilation systems
- Installation of machine guards or interlocks
- Installation of noise control
- Installation of tool balancers

Warnings

- Labels
- Signs
- Backup alarms
- Process control (computer) warnings

Training, Procedures, and Administrative Controls

- HAZCOM training
- Lockout/Tagout (LOTO) training
- Worker rotation
- Safe work practices
- Responsibilities and accountability

Personal Protective Equipment (PPE)

- Respiratory protection
- Gloves
- Hearing protection
- Safety harnesses and lanyards
- Personal protective clothing

4.0 Responsibilities

Each Business Unit will conduct JSA's prior to conducting work tasks that have the potential for serious injury. These work tasks include, but are not limited to:

- New jobs
- Jobs that have changed
- Jobs involving new rules, regulations, standards
- Infrequently performed jobs

A JSA is required for all jobs with an unacceptable risk of personal injury.

Note: This requirement applies to "routine" jobs**.**

At a <u>minimum</u>, a JSA is required for tasks involving the following:

- The use of fall protection
- Crane and overhead hoist operations
- Hot work (including the use of non-intrinsically safe tools in classified areas)
- Handling of hazardous chemicals
- LOTO
- Confined Space Entry
- Well Control
- Tripping pipe
- Running casing
- Cementing
- Frac work
- Perforating
- Lifting objects greater than 30 lbs
- The use of power tools and hammers

- Removal or replacement of any component in pressurized service 5 psi or greater. (i.e. plugs, valves, fittings, transmitters, tubing)

When performing any work task, the JSA will help Team Members and Contractors focus on the immediate work task that will be performed, as well as help them take ownership of safety. JSA's help prevent incidents by:

- Identifying and assessing hazards and risks, so control measures can be implemented.
- Verifying that tools and equipment are in safe condition
- Team Members and contractors are aware of the hazards and risks associated with work and they follow established safe work practices, such as "Stop Work Authority"
- Team Members and Contractors are trained to perform specified work tasks

5.0 Definitions

Accident **–** Any unplanned event that results in personal injury and property damage.

Administrative Controls – Administrative solutions involve changing the method or procedures in performing specific tasks within a system to reduce accident potential. In addition, administrative controls include:

- Procedures for personnel selection, assignment, and training
- Developing and implementing Standard Operating Procedures (SOP)
- Developing and implementing procedures for housekeeping, maintenance, inspection
- Positive reinforcement
- Correction of unsafe performance
- Enforcement through a clearly communicated disciplinary system

Engineering Controls – Because Engineering solutions are relatively permanent, they are the most desirable type of hazard control. This type control normally involves altering the system's machines, materials, or environment. Examples of Engineering Controls include:

- Minimizing hazards through design
- Fixed or automatic protective devices
- Warning devices that detect a hazardous condition and generate a warning signal
- Reduction of the amount of energy or hazardous material in a system
- Equipment such as shields, barricades, cabs, and canopies are often used to protect people and property
- Changes in tools, lighting, atmospheric conditions, work area layout, and job location

Hazard **–**A hazard is the potential for harm (physical or mental). In practical terms, a hazard often is associated with a condition or activity that, if left uncontrolled, can result in an injury or illness. Identifying hazards and eliminating or controlling them as early as possible will help prevent injuries and illnesses.

Hazardous material – Material that requires special handling because of its possible adverse effect on the human body.

Job – A definite sequence of steps or separate activities that together lead to the completion of a work assignment; a task or operation workers perform as part of their occupation.

Job Step – A single and separate activity that clearly advances a work assignment and is a logical portion of that assignment.

Job Safety Analysis (JSA) – is a systematic process used to separate a job into steps, to identify the hazards associated with each key step, and to develop controls for each identified hazard.

Personal Protective Equipment (PPE) - At times, a hazard cannot be controlled to an acceptable level through Engineering, or Administrative controls. For these hazards, the best course of action is to use personal protective equipment to protect personnel in case of an unplanned/unwanted event. PPE should not be viewed as the primary method of hazard control. Examples of Personal Protective Equipment:

- Hearing Protection
- Fire Retardant Clothing (FRC)
- Respiratory protection
- Safety toe footwear (leather and rubber)
- Safety Glasses, Face shield, Goggles
- Chemical resistant garments (aprons, disposable coveralls)
- Gloves (chemical resistant, leather, impact)
- Hardhat

6.0 Document Control Process

Version	Change Date	Change Description	Changed by	Approved by	Approval Date
1.0	8/20/19	• Change Business Objective to Purpose & Policy Statement • Add Policy Statement • Take out OSHA 3071 and Reference to CFR 1919 • Add JSA Form	Colin Clark	Ken Phillips	8/20/19
1.1	10/17/19	• Update Cover Page • Improve Spacing/Format	Colin Clark	Ken Phillips	10/17/19
1.2	6/20/24	• Review and update to JSA Form	Colin Clark		6/20/24

NOTE: Changes to this document shall be reviewed by the Sub-Committee and approved by the Executive Safety Committee (ESC). Any document revisions are to be noted on the Document Review Change Log. This form shall be kept current to maintain audit compliance.

Appendix A

Sample JSA Form

JOB SAFETY ANALYSIS:

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Pad Name:					**Operation:**	
Name of Job Task:		**Date:**	**Time:**		**Approved By:**	
		Weather:			**Revised:** ☐	
PPE Requirements:	☒ Hard Hat	☒ Safety Glasses	☒ Steel Toe Boots	☐ Work Gloves	☒ Impact Gloves	☐ Safety Goggles
	☐ Respirator	☐ Ear Plugs	☐ Face Shield	☐ Fire Extinguisher	☐ H_2S Monitor	☐ Rubber Boots
Fall Protection:	☒ Harness	☒ Lanyards	☒ Tagline	☒ Lifting Straps	☐ Other	

	JOB STEPS / WORK SEQUENCE	POTENTIAL HAZARDS / INJURIES	PREVENTATIVE MEASURES / PROCEDURES / PPE *What are we going to do to mitigate hazards?*
1.			
2.			
3.			
4.			
5.			
6.			

List Hazardous substances in use. Has the SDS been reviewed? ☐	

JOB SAFETY ANALYSIS:

Required Permits	☐ Hot Work Permit ☐ Confined Space Permit ☐ Other
Tools and Equipment	☐ Pre-Use inspection complete **List tools being used:** Back saver

La Salle County Sheriff Dept.	**(830) 879-1793**	**Emergency Operations Center (EOC)**	**(210) 384-5000**
Webb County Sheriff Dept.	**(956) 722-1793**	**Gas Control**	**(956) 948-5300**
Dimmit County Sheriff Dept.	**(830) 876-3508**	**Doctors Hospital Laredo**	**(956) 523-3000**
Texas DPS Laredo	**(956) 728-2200**	**LEG Safety Manager – Ken Phillips**	**(210) 307-0120**
Border Patrol	**(956) 764-3200**	**LEG Safety Supervisor - Albert Lee Doyal**	**(512) 422-8774**
One Call 811	**(800) 245-4545**	**LEG Safety Supervisor – Javier Balderas**	**(832)693-5394**
Poison Control	**(800) 222-1222**		

By signing this JSA Form, I acknowledge that I understand all proper steps related to the task and will help prevent any injuries.			
1.		8.	15.
2.		9.	16.
3.		10.	17.
4.		11.	18.
5.		12.	19.
6.		13.	20.
7.		14.	21.