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## **JOB SAFETY ANALYSIS PROCEDURE**

### **PURPOSE**

This program is designed to provide information on establishing an effective job safety analysis procedure to identify job sequence, hazards associated with job sequence and control of hazards.

### **SCOPE**

The JSA identifies the sequence of steps required to complete a specific job, the potential or real hazards or incidents associated with each step and the recommended controls. The JSA is also used as a training tool to communicate known job hazards to new employees. The JSA is an evergreen document, which should be retained and updated whenever the same or a similar job is repeated or the process changes.

**Authority:** 30 CFR 250.1911 (SEMS II), API RP 75 (SEMP)

### **DEFINITIONS**

**Job Supervisor/Submitted by:** Refers to the person/s initiating the JSA.

**Accepted by:** Refers to the person/s that will be completing the list of job tasks on the JSA. Note: you can use a separate sign in sheet for the Accepted by signatures. Refer to Appendix B

**UWA/PIC/Reviewed by:** Refers to the person/s overseeing all safety/operations at the platform/facility where work is being performed. (Normally a Lead operator and/or Safety Coordinator)

**Emergency Contact:** Who will be notified if an emergency situation arises? Examples of emergency contacts are Mercy air, facility rescue personal, EMS, DCOR, LLC emergency number, etc.

**Sequence of job steps:** Breaks down the job into basic steps, e.g., what is done first, what is done next, and so on?

**Hazards:** For each step, what accidents/incidents could happen to the employee completing the job task? Refer to Appendix A

**Controls:** For each hazard, what safeguards should be provided for the employee to avoid an accident?

## **RESPONSIBILITIES**

**Job Supervisor/Submitted by:** This person is responsible for completing the JSA, Listing job steps, potential hazards and controls for the hazards. This person is normally the supervisor responsible for completing the work. Example: #2 Operators, crew supervisor.

**Accepted by:** This person is responsible for completing the work. This person/s will review the JSA and comply with the job steps and controls within the JSA. Example: #3 Operators

**UWA/PIC/Reviewed by:** This person is responsible for reviewing the overall completeness, compliance with regulations, policies and procedures. Example: Foreman, Lead operator, Safety Coordinator

**Management:** Management is responsible for supporting the JSA Policy/Procedure.

### **What jobs require a JSA? New, Non-Routine or Job Change:**

Since these jobs are new or different, there's a greater likelihood for an incident because of the unknown variables. Examples are but not limited to:

1. All contractor work
2. Confined Space Entry
3. Welding, Cutting, Brazing, Hot Taps
4. Excavating, Trenching and Digging
5. Hazardous Material Handling and Disposal
6. Electrical
7. Critical Crane Lifts
8. Pigging operations
9. Working over water
10. Working on scaffolding
11. Working in a Spider basket or man basket
12. Changing pumps (fire water)
13. Energy isolation (pneumatic, hydraulic, electrical, mechanical, kinetic)
14. Forklift operations
15. All mechanical lifting devices (scissor lifts, man lifts)
16. Dumping/transferring chemical using the crane
17. All Well workover / Drilling and Completions work

**Note:** The companies' ultimate goal is to have a JSA for every job task. This policy is used to train new, transferred and reassigned employees.

## **RECORD KEEPING**

All completed JSA's shall be kept on the facility for 30 days. After the 30 days the JSA's need to be filed for auditing purposes for 2 years. Operations must scan all completed JSA into the company S:Drive

## **JOB SAFETY ANALYSIS (J.S.A.)**

### **INSTRUCTIONAL DIRECTIVE**

#### **I. Select the job to be analyzed/ what jobs need a JSA.**

An effective JSA program selects and prioritizes the jobs to be analyzed. Rank each job by the greatest numbers of potential hazards. The most hazardous jobs are analyzed first. The following factors need to be considered when ranking the jobs at your facility.

- **Accident Frequency:** the number of times an accident or injury is repeated during the performance of a task will determine priority for analysis.
- **Accident Severity:** any incident that results in a lost time or required medical treatment will also determine priority for analysis.
- **New Jobs, Non-Routine Jobs, or Job Changes:** since these jobs are new or different, there is a greater likelihood for a high incident rate because of the unknown variables.
- **Repetitive Exposure:** repeated exposure to a hazard over a period of time may qualify the job for a JSA.

Remember that experienced workers can aid in the identification of the potential hazards associated with a job. They have knowledge of the job and procedures that you may not have, and involving the employee's will enable them to protect themselves and their coworkers.

#### **II. Separate the job into basic steps**

Once a job has been selected, a JSA is initiated. Each step of the job under consideration is listed in the first column of a JSA worksheet. The steps are listed in the order of occurrence accompanied by a brief description. The breakdown should not be so detailed that a large number of steps result, or so general that basic steps are omitted. If there are over fifteen steps, the job should be broken down into more than one JSA.

An experienced worker should assist in dividing the task into steps. At least one other person should observe the task being performed under normal conditions and work hours. These workers should be briefed on the purpose and mechanics of a JSA. Once the task is broken down into steps, the list should be reviewed and agreed upon by all participating parties.

### **III. Identify the hazards within each step**

Each step is analyzed for any real and potential hazards. The hazard is then listed in the second column of the worksheet corresponding to its job step. All logical possibilities should be considered when identifying hazards. The underlying question to ask in evaluating each step is, "Could this step cause an accident, injury or an environmental hazard?"

#### **Consider these conditions when evaluating each job step:**

1. Struck against – Can the worker forcefully strike against anything (sharp edges, protruding objects, machinery, etc.)?
2. Struck by – Can something move and strike the worker abruptly and /or forcefully?
3. Contact with – Can the worker come into contact with electrically charged equipment or chemical containers?
4. Contacted by – Can an agent such as hot solutions, fire, electrical arcs, steam, etc. come into contact with the worker?
5. Caught on – Can the worker be caught on any object which could pull them into moving machinery?
6. Caught between – Can any part of the body be caught between something moving and something stationary or between two moving objects?
7. Fall from same level – Can the worker slip or trip on anything, resulting in a fall?
8. Fall from different level – Can the worker fall from one level to another because of a slip or trip?
9. Overexertion – Can the worker be injured while lifting, pulling, pushing, bending, or any other motion resulting in a sprain?
10. Exposure – Can the worker be exposed to excessive noise extreme temperatures, poor air circulation, toxic gases, and/or chemicals or fumes?

#### **IV. Control Each Hazard**

This step identifies the control measures for each hazard and lists them in the next column. The control measure recommends a job procedure to eliminate or reduce potential accidents or hazards. Consider these five points for each hazard identified:

1. Change the way the job is performed – What needs to be considered is how to change the equipment and work area or provide additional tools or equipment to make the job safer. Perhaps engineering provisions or work-saving tools can be utilized to make the job or work area safe. The goal should be determined and the various ways analyzed to achieve the goal in the safest way possible.
2. Change the physical conditions – Physical conditions may include tools, materials, and equipment that may not be right for the job. Controls such as administrative or engineering can correct the problem. For example, purchasing a product in smaller packages if it requires heavy lifting force or redesigning the workspace to improve safety.
3. Change the job procedures – An example of changing job procedures, to avoid burns from a hot engine, service equipment prior to starting a shift instead of conducting the service at the end of a shift. Some changes in procedures may create other hazards. As a result, caution should be exercised when changing procedures.
4. Reduce the frequency – frequency refers to the length of time exposed to a hazard. Changes in administrative controls can reduce the frequency of exposure in hazardous situations. For example, a worker may be required to work for only two hours in the noisy environment instead of four hours.
5. Use of personal protective equipment – Personal protective equipment should be used as a temporary and a last resort to protect employees from hazards.

#### **V. Revise the Job Safety Analysis**

The JSA is only effective if it is reviewed periodically or after an accident occurs. Revising the JSA can find safety hazards that were missed during earlier analysis. The JSA should be reviewed immediately after an accident to determine if any new job procedures or protective measures are needed.

The Job Safety Analysis process takes time to develop and implement. For some tasks, the JSA process may take more than one day. A JSA should be planned ahead of time and be done during a normal work period.

There are many advantages to using the JSA. One of the most important advantages is training new employees on recommended safe job procedures and how to apply these procedures to their work. Safety training is provided before the new employee performs the tasks.

A JSA is an accident prevention approach to creating a safe work environment. The JSA can be implemented for every job or task in the workplace. Improved job methods can reduce costs resulting from employee absenteeism and workers compensation due to on-the-job injuries, and can often lead to increased productivity.

## Appendix A – Job Safety Analysis – Hazards Checklist

### JOB PLANNING FOR SAFETY

### HAZARDS CHECKLIST

#### Fires & Explosions

##### Fuel Source:

- Gas
- Liquid
- Solid
- Leaks, Spills, Releases
- Heavy Vapors
- Light Vapors

##### Ignition Sources:

- Flame
- Electrical
- Sparks
- Friction/Static

#### Monitoring Atmospheres

- Calibrated
- Personal Monitors
- Stationary Mounted
- Oxygen
- Hydrogen Sulfide
- Flammable Vapors
- Other \_\_\_\_\_
- Wind Socks

#### Tools & Equipment

- Proper Size & Type
- Good Condition
- Guards in Place

#### Outside Parties

- Affected – Yes  No
- Contacted & Understand
- Responsibilities Delegate

#### Dangerous Atmospheres, Conditions, & Chemicals

- Hydrogen Sulfide
- Carbon Monoxide
- Carbon Dioxide
- Hydrocarbons
- Oxygen Deficient
- Oxygen Enriched
- Other Toxins \_\_\_\_\_
- Route of Entry \_\_\_\_\_
- MSDS Available
- Environmental Data Sheet
- High Voltage > 600 volts
- Low Voltage < 600 volts
- Steam
- Hot Water, Oil, Gas, Fluid
- High Pressure Systems  
i.e. oil, water, gas, chemicals
- Blinds
- Relief's & Rupture Disc
- Acid (low pH)
- Caustic (high pH)
- High Temperature >150 dF
- Low Temperature <32 dF

- Confined Spaces
- Electrical Clearance
- Climbing Space
- Pole Condition & Size
- Overhead Obstructions
- Underground Obstruction  
i.e. electrical, piping systems
- Lifting Devices
- Sufficient Size
- Angle & Position
- Outriggers
- Wheel Chocks

#### Personal Protective Equip.

- Hard Hats
- Safety Glasses
- Face Shields
- Chemical Goggles
- Hearing Protection
- Safety Toe Footwear
- Chemical Resistant Boots
- Eyewash Station
- Safety Shower
- Loose Clothing
- Jewelry, Rings, Watches
- Protective Clothing
- Hand Protection Below:
- Impact Resistant Gloves
- Leather Impact Resistant Gloves
- Chemical Resistant Impact  
Gloves
- Thermal Gloves
- Voltage Rated
- Safety Harness & Lanyards
- Insulating Blankets
- Line Covers
- Signs & Barricades
- Fire Extinguishers, Hoses
- Fire Watch
- Respirators Below:
- SCBA
- Airline Work Unit
- Cartridge Mask
- Disposable Mask
- Escape Capsule
- Mechanical Ventilation
- Grounding
- Bonding Leads
- Purge Gas
- Dry Ice
- Slings, Ropes, Chains
- Sufficient Size, Strength
- Type & Condition
- Tag Lines

#### Permits & Plans

- Material Safety Data Sheet
- Environmental Data Sheet
- Hot Work Permit
- Confined Space Entry
- Excavation Permit
- Other Permits – Describe  
\_\_\_\_\_
- Purge Plan
- Lifting Plan
- Lock Out, Tag Out, Relieve
- Blinding Log
- Emergency Plan
- Other Plans – Describe  
\_\_\_\_\_

#### Man Power

- Quantity
- Knowledge & Skills
- Training Requirements
- Communication
- Language

#### Describe Other Considerations Below

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

#### Work Environment

- Housekeeping
- Walk, Work, Surfaces
- Lighting
- Line of Fire
- Pinch Points & Obstructions
- Eyes on Path & Work
- Climbing

#### Tools and Equipment

- Use and Selection
- Condition
- Heavy Equipment

#### Ergonomics & Posture

- Break From Repetition
- Lifting or Lowering
- Twisting or Turning
- Over Reaching
- Hyper-extending
- Wrist & Hand Position
- Push, Pull Excessive Force
- Lower Back & Hip Position

#### Vehicles

- Aim High in Steering
- Get the Big Picture
- Keep Your Eyes Moving
- Leave Yourself An Out
- Make Sure They See You
- Rules of the Road
- Parking and Exiting
- Lease Operations
- Condition of Vehicle



**Appendix C Job Safety Analysis**

Date:		<b>Page 1 of</b>
Location:	Submitted By / Date:	Accepted By /
	Reviewed By /	Accepted By /
Contractor:	Reviewed By /	Accepted By /
Task Description:	Reviewed By /	Accepted By /
	Emergency Contact:	
<b>Sequence of Job Steps</b>	<b>List all Hazards &amp; Potential Accidents / Injuries</b>	<b>Recommended Controls &amp; Safe Behaviors</b>

**APPENDIX D JSA GUIDANCE TOOL**

Date:		<b>Page 1 of</b>
Location:	Submitted By / Date:	Accepted By /
	Reviewed By /	Accepted By /
Contractor:	Reviewed By /	Accepted By /
Task Description:	Reviewed By /	Accepted By /
	Emergency Contact:	
<b>Sequence of Job Steps</b>	<b>List all Hazards &amp; Potential Accidents / Injuries</b>	<b>Recommended Controls &amp; Safe Behaviors</b>
<p>Break down the job into basic steps, e.g., what is done first, what is done next, and so on. You can do this by:</p> <ol style="list-style-type: none"> <li>1. Observing the Job</li> <li>2. Discussing it with the operator</li> <li>3. Drawing on your knowledge of job</li> <li>4. A combination of the three</li> </ol> <p>Record the steps in their normal order of occurrence. Describe what is done, not the details of how it is done. Usually three or four words are sufficient to describe each basic job step.</p> <p>For example, the first basic job step in using a pressurized water fire extinguisher would be:</p> <ol style="list-style-type: none"> <li>1. Remove the extinguisher from the wall bracket.</li> </ol>	<p>For each step, ask yourself what accidents could happen to the employee doing the job. You can get the answers by:</p> <ol style="list-style-type: none"> <li>1. Observing the job.</li> <li>2. Discussing it with the operator</li> <li>3. Recalling past accidents.</li> <li>4. A combination of the three.</li> </ol> <p>Ask yourself; can he/she be struck by or contacted by anything; could they strike against or come in contact with anything; could the employee be caught in, on, or between anything; can they fall; be over exerted; or be exposed to anything injurious such as gas, radiation welding rays, etc..?</p> <p>For example, acid burns, fumes, H2S.</p>	<p>For each potential accident or hazard, ask yourself what safeguards should be provided for the employee and how should the employee do the job step to avoid the potential accident, or what should they do or not do to avoid the accident. You can get your answers by:</p> <ol style="list-style-type: none"> <li>1. Observing the job for leads</li> <li>2. Discussing precautions with experienced job operators</li> <li>3. Drawing on you experience</li> <li>4. A combination of the three.</li> </ol> <p>Be sure to describe specifically the provided safeguards and precautions an employee must use. Don't leave out important details. Number each separate recommended precaution with the same number you gave the potential accident (see center column) that the precaution seeks to avoid. Use simple do or don't statements to explain recommended precautions as if you were talking to the employee.</p> <p>For example: "Lift with your legs, not your back". Avoid generalities such as, "Be Careful", "Be Alert", "Take caution", etc...</p>