

# Job Safety Analysis

HS02-021C(7-08)

## Goal

This program is designed to provide information on establishing an effective job safety analysis procedure to identify and eliminate hazards.

## Objective

Participants will be able to understand and conduct a Job Safety Analysis.

## Introduction

Most safety programs are considered reactive, an action in response to an incident (e.g., first aid is given following an injury). However, a job safety analysis (JSA) is considered an active approach to workplace safety. A JSA can be referred to as Job Hazard Analysis. A JSA is a tool used to improve job safety through:

- Identifying the hazards or potential hazards associated with each step of a job; and
- Finding effective control measures to prevent or eliminate exposure.

## Definition

The Occupational Safety and Health Administration (OSHA) defines JSA as a means of "...carefully studying and recording each step of a job, identifying existing or potential job hazards (both safety and health), and determining the best way to perform the job to reduce or eliminate these hazards."

## JSA Steps

Conducting a JSA involves five steps:

### 1. Select the job to be analyzed

- An effective JSA program selects and prioritizes the jobs to be analyzed. Rank each job by the greatest number of potential hazards. The most hazardous jobs are analyzed first. The following factors need to be considered when ranking the jobs.
- *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 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 employees will enable them to protect themselves and their coworkers.

### 2. 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.

### 3. 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 or injury?" Consider these conditions when evaluating each job step:

- Struck against—can the worker forcefully strike against anything (sharp edges, protruding objects, machinery, etc.)?

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



#### 4. 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:

- *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.

- *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.
- *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.
- *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.
- *Use of personal protective equipment* – Personal protective equipment should be used as a temporary and a last resort to protect employees from hazards.

#### 5. 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.

## Review

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1. Which of the following is not one of the five steps in developing a JSA?
  - a. Select job to be analyzed
  - b. Identify the hazards within each step
  - c. Revise the job safety analysis
  - d. Report the JSA to OSHA
2. What criteria are used to determine the priority of tasks to analyzed?
  - a. Accident frequency
  - b. Accident severity
  - c. Repetitive exposure
  - d. All of the above
3. Who should be involved in developing a JSA?
  - a. Experienced workers
  - b. Workers from other jobs
  - c. Company president
  - d. None of the above
4. After how many tasks should you break a job into more than one JSA?
  - a. 5
  - b. 15
  - c. 25
  - d. 20
5. What type of hazard control should be considered a last resort?
  - a. Change the job procedures
  - b. Use personal protective equipment
  - c. Change the physical conditions
  - d. None of the above

The Texas Department of Insurance,  
Division of Workers' Compensation (TDI, DWC)  
E-mail [resourcecenter@tdi.state.tx.us](mailto:resourcecenter@tdi.state.tx.us)  
or call 1-800-687-7080 for more information.

## Answers

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1. d
2. d
3. a
4. b
5. b

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## Resources

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The Texas Department of Insurance, Division of Workers' Compensation (TDI, DWC) Resource Center offers a workers' health and safety video tape library. Call (512) 804-4620 for more information or visit our web site at <http://www.tdi.state.tx.us/wc/safety/employers.html>

Disclaimer: Information contained in this training program is considered accurate at time of publication.

*Safety Violations Hotline*  
**1-800-452-9595**  
[safetyhotline@tdi.state.tx.us](mailto:safetyhotline@tdi.state.tx.us)

Date: \_\_\_\_\_ Job Site Inspection Program  
 Job #: \_\_\_\_\_ SECTION 8 – *Exhibit 2*  
 Client: \_\_\_\_\_

**JOB SAFETY ANALYSIS WORKSHEET**

Date Reviewed/Revised: \_\_\_\_\_ Analysis \_\_\_\_\_

By: \_\_\_\_\_

Product Description: \_\_\_\_\_

Work Description (Specified task to be performed): \_\_\_\_\_

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Basic Sequence:

Job Steps	Potential Hazards	Recommended Safe Job Positions

Additional Requirements: \_\_\_\_\_

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Comments: \_\_\_\_\_

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Approved By

Accepted By (Crew Leader)

Supervisor