

JOB SAFETY ANALYSIS

A Job Safety Analysis should be performed on all jobs that have resulted in a trend, death, or a change in a job procedures or new equipment. JSA's are synonymous with many agencies' **Standard Operating Procedures** or **SOP's** and **apply primarily to hazardous operations or potentially hazardous operations**. JSA is a procedure used to review work methods and uncover hazards that might result in incidents/accidents. The job safety analysis will provide a framework for incident/accident analysis.

WHEN TO PERFORM A JOB SAFETY ANALYSIS:

A job safety analysis should be performed on all jobs that have resulted in a trend, death, or a change in a job procedure or equipment.

Step 1: Select the Job

In selecting jobs to be analyzed and in establishing the order of analysis, the following factors should be considered. They are listed in order of importance:

1. Production of injuries Jobs that have produced medical treatment or disabling injury during the past three years should be analyzed.
2. Frequency of Accidents Jobs that repeatedly produce accidents should be analyzed. The greater the number of accidents associated with the job, the greater its priority for a job safety analysis. Subsequent injuries indicate that preventive action taken prior to their occurrence was not successful.
3. Potential Severity Some jobs may not have a history of accidents but may have the potential for severe injury or property damage. The greater the potential severity, the greater its priority for a job safety analysis.
4. New Jobs or a Change in a Job: New operations created by changes in equipment or processes obviously have no history of accidents, but their accident potential should be fully appreciated. A job safety analysis should be made on every new job created. Analysis should not be delayed until an accident or a near miss occurs.
5. Death Any accident that caused the death of an employee **MUST** have a job safety analysis made as part of the investigation.

Step 2: Perform the Analysis

The supervisor or the safety officer responsible for the task should perform the job safety analysis using the Job Safety Analysis Worksheet. The supervisor or safety officer should conduct the job safety analysis with the help of employees who regularly perform the task. The job being analyzed should be broken down into a sequence of steps that describe the process in detail.

Avoid these two common errors:

1. Making the breakdown too detailed so that an unnecessarily large number of steps result; or
2. Making the job breakdown so general that the basic steps are not distinguishable. As a rule, the job safety analysis should contain less than 12 steps. If more steps are needed, the job should be broken into separate tasks.

1. Job safety analysis involve the following steps:
2. Selecting a qualified person to perform the analysis.
3. Briefing the employee demonstrating the task on the purpose of the analysis.
4. Observing the performance of the job and breaking it into basic steps.
5. Recording and describing each step in the breakdown.
6. Reviewing the breakdown and description with the person who performed the task.

Select an experienced, capable, and cooperative person who is willing to share ideas. They should be familiar with the purpose and method of a job safety analysis. Sometimes it is difficult for someone who is intimately familiar with a job to describe it in detail; therefore, reviewing a completed job safety analysis before conducting one will help illustrate the terminology and procedure to be followed.

Review the breakdown and analysis with the person who performed the job to ensure agreement of the sequence and description of the steps. Variations of routine procedures should be analyzed also.

The wording for each step should begin with an action word such as "remove", "open", or "lift".

Step 3: Identify Hazards

Hazards associated with each step are identified. To ensure a thorough analysis, answer the following questions about each step of the operation:

1. Is there a danger of striking against, being struck by, or otherwise making injurious contact with an object?
2. Can the employee be caught in, by or between the objects?
3. Is there a potential for a slip or trip? Can someone fall on the same level or to another?
4. Can an employee strain themselves by pushing, pulling, lifting, bending or twisting?

Using the Job Safety Analysis Form, document hazards associated with each step. Check with the employee who performed the job and others experienced in performing the job for additional ideas. A reliable list will be developed through observation and discussion.

Step 4: Develop Solutions

The final step in job safety analysis is to develop a safe, efficient job procedure to prevent accidents. The principal solutions for minimizing hazards that are identified in the analysis are as follows:

1. Find a new way to do the job. To find an entirely new way to perform a task, determine the goal of the operation and analyze the various ways of reaching this goal. Select the safest method. Consider work saving tools and equipment.
2. Change the physical conditions that create the hazard If a new way to perform the job cannot be developed, change the physical conditions such as tools, materials, equipment, layout, location) to eliminate or control the hazard.

3. Change the work procedure to eliminate the hazard. Investigate changes in the job procedure that would enable employees to perform the task without being exposed to the hazard.
4. Reduce the frequency of its performance. Often a repair of service job has to be repeated frequently because of another condition that needs correction. This is particular true in maintenance and material handling. To reduce the frequency of a repetitive job, eliminate the condition or practice which results in excessive repairs or service. If the condition cannot be eliminated, attempt to minimize the effect of the condition. Reducing the number of times a job is performed contributes to safer operations only because the frequency of exposure to the hazard is reduced. It is preferable to eliminate hazards and prevent exposure by changing physical conditions or revising the job procedure or both. In developing solutions, general precautions such as "be alert", "use caution", or "be careful" are useless. Solutions should precisely state what to do and how to do it. For example, "make certain the wrench does not slip or cause loss of balance" does not tell how to prevent the wrench from slipping. A good recommendation explains both "what" and "how". For example: "set wrench jaws securely on the bolt. Test its grip by exerting slight pressure on it. Brace yourself against something immovable, or take a solid stance with feet wide apart before exerting slow steady pressure". This recommendation reduces the possibility of a loss of balance if the wrench slips.

If a job or process is changed dramatically, it should be discussed with all personnel involved to determine the possible consequences of the changes. Such discussions check the accuracy of the job safety analysis and involve personnel in efforts to reduce job hazards.

Step 5: Conduct Follow-up Analysis

Each supervisor should observe employees as they perform at least one job for which a job safety analysis has been developed. The purpose of these observations is to determine whether or not the employees are doing the jobs in accordance with the safety procedures developed. The supervisor should review the job safety analysis before doing the follow-up review to reinforce the proper procedures that are to be follows.

Use of the Job Safety Analysis

The job safety analysis provides a learning opportunity for the supervisor and employee. Copies of the job safety analysis should be distributed to all employees who perform that job. The supervisors should explain the analysis to the employees and, if necessary, provide additional training.

New employees or employees asked to perform new tasks must be trained to use the safe and efficient procedures developed in the job safety analysis. The new employee should be taught the correct method to perform a task before dangerous habits develop, to recognize the hazard associated with each job step, and to use the necessary precautions to avoid injury or accidents.

Jobs that are performed infrequently require additional effort to minimize accident potential. Pre-job instruction addressing the points listed on the job safety analysis will serve as a refresher to employees who may have forgotten some of the hazards in performing the task and the proper procedure to be used to avoid these hazards.

Finally, the job safety analysis is an incident/accident investigation tool. When incidents/accidents occur involving a job for which a job safety analysis has been performed, the analysis should be

reviewed to determine if proper procedures were followed or if the procedures should be revised.

Record Keeping

Job safety analysis forms should be maintained in a notebook in the department creating the documents and should be readily accessible to employees. An index naming the task, date the job safety analysis was completed, and date the analysis was revised should be maintained in the front of each department's notebook.

Forms available for download in this Section:

Job Safety Analysis Worksheet