



Job Hazard Analysis - Program Setup and Worksheets

Job Hazard Analysis (JHA) is based on the following ideas:

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.

Job hazard analysis is a relatively simple process that involves the following four basic steps:

Select the job to be analyzed. In performing JHA, the term "job" is used to describe a single task or operation workers do as part of their occupation; it is a definite sequence of steps or separate activities that lead to the completion of a work goal.

- Separate the job into its basic steps.
- Identify the hazards associated with each step.
- Control each hazard.

Through this process, responsible officials can determine the safest, most efficient manner of performing a given job. Thus, JHA systematically carries out the basic strategy of accident prevention: The recognition, evaluation, and control of hazards.

Once a JHA has been developed, it is prepared in chart form, listing the basic job steps and the corresponding hazards and safe procedures for each step. A completed JHA chart can then be used as a training guide for employees; it provides a logical introduction to the work, its associated hazards, and the proper and safe procedures to be followed.

For experienced workers, a JHA chart is reviewed periodically to maintain a safety-awareness on the job and to keep abreast of current safety procedures. Review is also useful for employees assigned to new or infrequent tasks.

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Job Hazard Analysis Program Setup

How to Set Up a Job Hazard Analysis Program

Some hazards are obvious--any observer can tell that workers must exercise care and develop safety procedures. And many hazards will be uncovered as a result of a self-audit. Other hazards, however, are less obvious, and are uncovered only by conducting a systematic analysis of the jobs in your worksite, one by one, to identify potential hazards.

Job hazard analysis can be a very important part of your safety and health program. Because of its importance, OSHA has developed a system to help you. In some organizations the process is called Job Safety Analysis (JSA) or Job Safety Practices (JSPs). The material is adapted from OSHA Publication 3071. It explains what Job Hazard Analysis is and contains guidelines for conducting your own analysis on a step-by-step basis. Sample worksheets are included, showing typical completed analyses for different jobs.

What Is Job Hazard Analysis?

OSHA says that Job Hazard Analysis means "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. Improved job methods can reduce costs resulting from employee absenteeism and workers' compensation, and can often lead to increased productivity."

Important note: The jobs procedures in this section are for illustration only and do not necessarily include all steps, hazards, or protections for similar jobs in industry. In addition, standards issued by the Occupational Safety and Health Administration (OSHA) should be referred to as part of your overall Job Hazard Analysis. There are OSHA standards that apply to many job operations, and compliance with these standards is mandatory.

Selecting Jobs for Analysis

OSHA suggests that you follow this priority when determining which jobs to analyze first:

- All other jobs. Eventually, a Job Hazard Analysis should be conducted and made available to employees for all jobs in the workplace.
- Jobs where "close calls" have occurred
- Jobs where changes have been made in processes and procedures
- Jobs with the highest rates of accidents or lost-work-day injuries
- New jobs

Using OSHA's Violation Statistics

Another source of information about potential hazards is OSHA's list of citations and penalties which will alert you to problems that are common across the country. See the summary of most frequently violated standards on nearby pages.

Using Other External Sources

Look outside your organization for clues about what hazards you may face. Many industrial organizations, federal agencies, state health and safety organizations, and other groups assemble such information and make it available. Possibilities are:

- **Industry.** Most industrial groups have organizations that serve and represent them. Find out what materials are available.
- **Local, state, and federal agencies.** One example of a source is the list of the most frequently violated standards, compiled by federal OSHA.
- **Materials.** Be sure to check other organizations and groups which use the same materials that you use.
- **Process and equipment.** Likewise, look to others who use the same or similar equipment and manufacturing processes.

Using Internal Sources

Internally, you have another set of sources. Being closer to "the action," your internal sources should pinpoint many specific hazards.

- **Accident/illness records.** Keep careful track of accidents and use the records to identify areas where safety is neglected. Consider not only the actual accidents, but the people, departments, and areas involved. If you can track near misses, be sure to consider them, too.
- **Employees and Supervisors.** Your employees and supervisors should be encouraged to identify potential hazards. OSHA recommends:
 - Involve the employee in all phases of the analysis--from reviewing the job steps to discussing potential hazards and recommended solutions
 - Point out that you are studying the job itself, not checking up on the employee's job performance
 - Talk to other workers who have performed the job.
- **Inspection Activity.** Records of OSHA inspections, reports from loss control consultants, and other insurance inspection services can offer valuable input to potential danger areas on jobs.
- **Changes.** Changes, whether of operators, processes, or equipment, often cause problems. Be sure that whenever there is a change, you make a safety check.
- **Common sense.** Finally, keep your eyes open--don't wait for accidents to happen.

General Conditions

OSHA suggests several sample questions you might ask about the general conditions under which the job is performed. Note that these are just suggestions--you should add more questions of your own having to do with your particular environment.

- Are all employees who operate vehicles and equipment properly trained and authorized?
- Are emergency exits clearly marked?
- Are employees wearing proper personal protective equipment for the jobs they are performing?
- Are motorized vehicles properly equipped with working brakes, overhead guards, backup signals, horns, steering gear, and identification, as necessary?
- Are there any electrical hazards that could be accidentally activated at the job site?
- Are there any explosive hazards associated with the job, or likely to develop?
- Are there materials on the floor that could trip a worker?
- Are there tools, including hand tools, machines, and equipment in need of repair?
- Have any employees complained of headaches, breathing problems, dizziness or strong odors?

- Have tests been made for oxygen deficiency and toxic fumes?
- Is fire protection equipment readily accessible and have employees been trained to use it?
- Is lighting adequate?
- Is there excessive noise in the work area, hindering worker communication?
- Is ventilation adequate, especially in confined spaces?

OSHA also mentions the possibility of taking pictures of a work site for use in making a more detailed analysis. The OSHA suggestions continue with "breaking down the job."

Breaking down the Job

"Nearly every job can be broken down into steps. In the first part of the Job Hazard Analysis, list each step of the job in order of occurrence as you watch the employee performing the job. Be sure to record enough information to describe each job action, but do not make the breakdown too detailed. Later, go over the job steps with the employee. Below is an illustration of a worker performing the basic job steps for grinding iron castings?"

Identifying Hazards

"After you have recorded the job steps, next examine each step to determine the hazards that exist or that might occur. Ask yourself these kinds of questions:"

- Is the worker wearing protective apparel and equipment, including safety belts or harnesses that are appropriate for the job?
- Are work positions, machinery, pits or holes, and hazardous operations adequately guarded?
- Are lockout procedures used for machinery deactivation during maintenance procedures?
- Is the worker wearing clothing or jewelry that could get caught in the machinery?
- Are there fixed objects that may cause injury, such as sharp machine edges?
- Is the flow of work improperly organized (e.g., is the worker required to make movements that are too rapid)?
- Can the worker get caught in or between machine parts?
- Can the worker be injured by reaching over moving machinery parts or materials?
- Is the worker at any time in an off-balance position?
- Is the worker positioned to the machine in a way that is potentially dangerous?
- Is the worker required to make movements that could cause hand or foot injuries, or strain from lifting?
- Can the worker be struck by an object or lean against or strike a machine part or object?
- Can the worker fall from one level to another?
- Can the worker be injured from lifting or pulling objects, or from carrying heavy objects?
- Do environmental hazards -- dust, chemicals, radiation, welding rays, heat or excessive noise -- result from the performance of the job?

"Repeat the job observation as often as necessary until all hazards have been identified.

Below is the same illustration of the basic job steps for grinding iron castings, with existing or potential hazards indicated."

Recommending Safe Procedures and Protection

"After you have listed each hazard or potential hazard and have reviewed them with the employee performing the job, determine whether the job could be performed in another way to eliminate the hazards, such as combining steps or changing the sequence, or whether safety equipment and precautions are needed to reduce the hazards.

If safer and better job steps can be used, list each new step, such as describing a new method for disposing of material. List exactly what the worker needs to know in order to perform the job using a new method. Do not make general statements about the procedure, such as "Be careful." Be as specific as you can in your recommendations.

You may wish to set up a training program using the Job Hazard Analysis in order to train your employees in the new procedures, especially if they are working with highly toxic substances or in dangerous situations. (Some OSHA standards require that formal training programs be established for employees.)

If no new procedure can be developed, determine whether any physical changes, such as redesigning equipment, changing tools, adding machine guards, personal protective equipment or ventilation, will eliminate or reduce the danger.

If hazards are still present, try to reduce the necessity for performing the job or the frequency of performing it.

Go over the recommendations with all employees performing the job. Their ideas about the hazards and proposed recommendations may be valuable. Be sure that they understand what they are required to do and the reasons for the changes in the job procedure.

Below is the same illustration of the basic job steps for grinding iron castings, with recommendations for new steps and protective measures."

Revising the Job Hazard Analysis

OSHA recommends that Job Hazard Analyses be reviewed and updated on a regular basis for three reasons.

- Periodically. Even when there is not an evident problem, periodic review can help. OSHA points out that hazards missed earlier may be discovered
- When an accident or injury occurs. Are changes needed in the procedures? If the problem was caused by an employee's failure to follow established safety procedures, discuss the incident with all employees performing the job.
- When the job changes. Any time there is a change in the job, be it method, materials, or machinery, the Job Hazard Analysis should be reviewed and appropriate changes made in training and procedures.

Worksheet 1 – Job Hazard Analysis (JHA)

Date of Analysis: _____

Job Title:		
Job Location/Department:		
Required Personal Protective Equipment:		
Basic Job Steps	Potential Hazards	Recommended Procedure

Code Description:

(SA) Struck Against	(CB) Caught Between
(SB) Struck By	(F) Fall
(SO) Strain On	

Worksheet 2 – Job Hazard Analysis (JHA)

Analyst: _____

Date: _____

Job location: _____

Department: _____

General job description: _____

Number of employees per shift: _____

Length of work shift: _____

Break schedule: _____

Work Task	Hazard	Risk Factor(s)	Preventive Measure(s)

Safe Job Procedure

[Describe a procedure for each task that incorporates preventive measures.]
