

# HAZARD IDENTIFICATION & RISK ASSESSMENT



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## 1. Introduction

- a. **H2 Enterprises, LLC.** is committed to providing a safe and hazard free workplace and has adopted this policy for Hazard Identification & Risk Assessment from industry standards and best available practices.
- b. Director of HSE, is the assigned Company Supervisor responsible for ensuring the following procedures, practices, and rules are implemented and enforced. Project Safety Representative will administrate and review regularly scheduled facility-wide or area-specific analysis/inspections of all jobsites and facilities for hazards on a weekly or as needed basis that will also include spot-checks and random inspections.
  - i. Assessment/inspections will be documented for review by the Company Safety Committee. Hazard assessments include inspection of the area as well as safe work practices. Hazard assessments will be appropriately documented using the appropriate form found at the end of this section.
  - ii. During inspection, when a job hazard is identified it is immediately corrected if possible. If the hazard is not immediately correctable, all appropriate personnel are notified and the hazard is clearly identified by signs, barricades, or other warnings.
  - iii. **H2 Enterprises, LLC.** employees and/or subcontractors are actively involved in the hazard identification process and hazards are reviewed with all employees concerned.
  - iv. The hazard identification process is used for routine and non-routine activities as well as new process, changes in operation, products, or services as applicable.
  - v. Project Safety Rep. will identify hazards base on hazard assessments and report s. Hazards will be addressed and mitigated. This will be accomplished by dedicated assignment, appropriate documentation of completion, and implemented controls.
  - vi. The **H2 Enterprises, LLC.** Hazard Identification & Risk Assessment Program will ensure employees will be trained in the hazard identification process, including the proper use and care of Personal Protective Equipment.
  - vii. The **H2 Enterprises, LLC.** Safety Committee will review all Hazard Assessments to avoid creating new hazards derived from the corrective measures.

## 2. Hazard Identification & Risk Assessment Plan

### a. What is a Job Hazard?

- i. A Job hazard is the potential for harm. In practical terms, a job hazard is often associated with a condition or activity that, if left uncontrolled, can result in an

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injury or illness. Identifying job hazards and eliminating or controlling them as early as possible will help prevent injuries and illnesses.

## **b. A Job Hazard Assessment**

- i. A Job Hazard Assessment is a technique that focuses on job tasks to identify hazards before they occur. It focuses on the relationship between the worker, the task, the tools, and the work environment. Ideally, after identifying uncontrolled hazards, steps will be taken to eliminate or reduce them to an acceptable risk level.

## **c. The Importance of a Job Hazard Assessment**

- i. Many workers are injured and killed at the workplace every day in the United States. Safety and health adds value to business, your job, and your life. Workplace injuries and illnesses can be prevented by looking at workplace operations, establishing proper job procedures, and ensuring that all employees are trained properly.
- ii. One of the best ways to determine and establish proper work procedures is to conduct a Job Hazard Assessment.

## **d. The Value of a Job Hazard Assessment**

- i. Supervisors can use the findings of a Job Hazard Assessment to eliminate and prevent hazards in their workplaces. This is likely to result in fewer worker injuries and illnesses; safer, more effective work methods; reduced Workers' Compensation costs, and increased worker productivity. The assessment also can be a valuable tool for training new employees in the steps required to perform their jobs safely.
- ii. For a Job Hazard Assessment to be effective, managers and supervisors must demonstrate their commitment to safety and health and follow through to correct any uncontrolled hazards identified. Otherwise, management will lose credibility and employees may hesitate to go to supervisors when dangerous conditions threaten them.

## **e. Jobs Appropriate for Hazard Assessment**

- i. Job Hazard Identification & Risk Assessment will be conducted on jobs in our workplace. Hazards are classified/prioritized and addressed based on the risk associated with the task (Risk analysis matrix outlining severity and probability on page 8).
- ii. Priority will go to the following job types:
  1. Jobs with the highest injury or illness rates.
  2. Jobs with the potential to cause severe or disabling injuries or illness, even if there is no history of previous accidents.

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3. Jobs in which one simple human error could lead to a severe accident or injury.
4. Jobs that are new to your operation or have undergone changes in processes and procedures.
5. Jobs complex enough to require written instructions.

### 3. Where to Begin

- a. **Involve employees and subcontractors.** It is very important to involve employees and subcontractors in the hazard assessment process. They have a unique understanding of the job, and this knowledge is invaluable for finding hazards. Involving employees will help minimize oversights, ensure a quality assessment, and get workers to "buy in" to the solutions because they will share ownership in their safety and health program.
- b. **Review accident history.** Review with employees our workplace's history of accidents and occupational illnesses that needed treatment, losses that required repair or replacement, and any "near misses" - events in which an accident or loss did not occur, but could have. These events are indicators that the existing hazard controls (if any) may not be adequate and deserve more scrutiny.
- c. **Conduct a preliminary job review.** Discuss with employees and subs the hazards they know exist in their current work and surroundings. Brainstorm with them for ideas to eliminate or control those hazards.
- d. **If any hazards exist that pose an immediate danger to an employee's life or health, take immediate action to protect the worker.** Any problems that can be corrected easily should be corrected as soon as possible. Do not wait to complete your Job Hazard Assessment. This demonstrates our commitment to safety and health and enables us to focus on the hazards and jobs that need more study because of their complexity. For those hazards determined to present unacceptable risks, evaluate types of hazard controls.
- e. **List, rank, and set priorities for hazardous jobs.** List jobs with hazards that present unacceptable risks, based on those most likely to occur, and with the most severe consequences. These jobs are priority for assessment.
- f. **Outline the steps or tasks.** Nearly every job can be broken down into job tasks or steps. When beginning a Job Hazard Assessment, watch the employee perform the job and list each step as the worker takes it. Be sure to record enough information to describe each job action without getting overly detailed. Avoid making the breakdown of steps so detailed that it becomes unnecessarily long or so broad that it does not include basic steps. It is valuable to get input from other workers who have performed the same job. Later, review the job steps with the employee to make sure something was not omitted. Point out that the job itself is being evaluated, not the employee's job performance. Include the employee in all phases of the assessment - from reviewing the

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job steps and procedures to discussing uncontrolled hazards and recommended solutions.

- g. Sometimes, in conducting a Job Hazard Assessment, it may be helpful to photograph or videotape the worker performing the job. These visual records can be handy references when doing a more detailed assessment of the work.

#### 4. Identifying Workplace Hazards

- a. A Job Hazard Assessment is an exercise in detective work. The goal is to discover the following:
  - i. What can go wrong?
  - ii. What are the consequences?
  - iii. How could it arise?
  - iv. What are other contributing factors?
  - v. How likely is it that the hazard will occur?
- b. To make our Job Hazard Assessment useful, document the answers to these questions in a consistent manner. Describing a hazard in this way helps to ensure that our efforts to eliminate the hazard and implement hazard controls help target the most important contributors to the hazard.
- c. Good hazard scenarios describe:
  - i. Where it is happening? (environment)
  - ii. Who or what it is happening to? (exposure)
  - iii. What precipitates the hazard? (trigger)
  - iv. The outcome that would occur should it happen? (consequence)
  - v. Any other contributing factors.

Rarely is a hazard a simple case of one singular cause resulting in one singular effect. More frequently, many contributing factors tend to line up in a certain way to create the hazard.

- d. Here is an example of a hazard scenario:

In the metal shop (environment), while clearing a snag (trigger), a worker's hand (exposure) meets a rotating pulley. It pulls his hand into the machine and quickly severs his fingers (consequences).

To perform a. Job Hazard Assessment, you would ask:

- i. What can go wrong? The worker's hand could meet a rotating object that "catches" it and pulls it into the machine.

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- ii. What are the consequences? The worker could receive a severe injury and lose fingers and hands.
- iii. How could it happen? The accident could happen because of the worker trying to clear a snag during operations or as part of a maintenance activity while the pulley is operating. Obviously, this hazard scenario could not occur if the pulley is not rotating.
- iv. What are other contributing factors? This hazard occurs very quickly. It does not give the worker much opportunity to recover or prevent it once his hand meets the pulley. This is an important factor, because it helps determine the severity and likelihood of an accident when selecting appropriate hazard controls. Unfortunately, experience has shown that training is not very effective in hazard control when triggering events happen quickly because humans can react only so quickly.

## 5. How to Correct or Prevent Hazards

- a. An err reviewing the list of hazards with the employee, consider what control methods will eliminate or reduce them. The most effective controls are engineering controls that physically change a machine or work environment to prevent employee exposure to the hazard. The more reliable or less likely a hazard control can be circumvented, the better. If this is not feasible, administrative controls may be appropriate.
- b. This may involve changing how employees do their jobs. Discuss recommendations with all employees who perform the job and consider their responses carefully. If it is planned to introduce new or modified job procedures, be sure they understand what they are required to do and the reasons for the changes.

## 6. Before Starting a Job Hazard Assessment

- a. The job procedures discussed are for illustration only and do not necessarily include all the steps, hazards, and protections that apply. When conducting a job safety assessment, be sure to consult OSHA standards. Compliance with these standards is mandatory, and by incorporating their requirements into the Job Hazard Assessment, we can be sure that our Safety & Health Program meets Federal Standards.

## 7. Review the Job Hazard Assessment

- a. Periodically reviewing the Job Hazard Assessment ensures that it remains current and continues to help reduce workplace accidents and injuries. Even if the job has not changed, it is possible that during the review process you will identify hazards that were not identified in the initial assessment. It is particularly important to review the Job Hazard Assessment if an illness or injury occurs on a specific job.

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- b. Based on the circumstances, it may be determined that changes are needed in the job procedure to prevent similar incidents in the future. If an employee's failure to follow proper job procedures results in a "close call or near miss," discuss the situation with all employees who perform the job and remind them of proper procedures. Any time a Job Hazard Assessment is revised, it is important to train all employees affected by the changes in the new job methods, procedures, or protective measures adopted.

## **8. When to Hire a Professional**

- a. If our employees are involved in many different or complex processes, we may need professional help conducting a Job Hazard Assessment. Even if we receive outside help, it is important that our employees remain involved in the process of identifying and correcting hazards because they are at the workplace every day and most likely to encounter these hazards. New circumstances and a recombination of existing circumstances may cause old hazards to reappear and new hazards to appear. In addition, we and our employees must be ready and able to implement whatever hazard elimination or control measures a professional consultant recommends.

## **9. Hazard Control Measures**

- a. Information obtained from a Job Hazard Assessment is useless unless hazard control measures recommended in the assessment are incorporated into the tasks. Managers and supervisors must recognize that not all hazard controls are equal. Some are more effective than others at reducing the risk.
- b. The order of precedence and effectiveness of hazard control is the following:
  - i. Engineering controls.
  - ii. Administrative controls.
  - iii. Personal protective equipment.

## **10. Engineering controls include the following:**

- a. Elimination/minimization of the hazard - Designing the facility, equipment, or process to remove the hazard, or substituting processes, equipment, materials, or other factors to lessen the hazard.
- b. Enclosure of the hazard using enclosed cabs, enclosures for noisy equipment, or other means.
- c. Isolation of the hazard with interlocks, machine guards, blast shields, welding curtains, or other means.
- d. Removal or redirection of the hazard such as with local and exhaust ventilation.

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## 11. Administrative controls

- a. Written operating procedures, work permits, and safe work practices.
- b. Exposure time limitations (used most commonly to control temperature extremes and ergonomic hazards).
- c. Monitoring the use of highly hazardous materials.
- d. Alarms, signs, and warnings.
- e. The "Buddy" system.
- f. Training.

## 12. Personal Protective Equipment

- a. Protective equipment such as respirators, hearing protection, protective clothing, safety glasses, and hardhats is acceptable as a control method in the following circumstances:
  - i. When engineering controls are not feasible or do not eliminate the hazard.
  - ii. While engineering controls are being developed.
  - iii. When safe work practices do not provide sufficient additional protection.
  - iv. During emergencies when engineering controls may not be feasible.
- b. Use of one hazard control method over another higher in the control precedence may be appropriate for providing interim protection until the hazard is abated permanently. If the hazard cannot be eliminated entirely, the adopted control measures will likely be a combination of all three items instituted simultaneously.