THE OHIO STATE UNIVERSITY

Job Hazard Analysis

Safety Program

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Prepared by
The Ohio State University
Environmental Health and Safety
1314 Kinnear Road • Columbus OH 43212

614-292-1284
ehs.osu.edu

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1. Introduction

The Job Hazard Analysis (JHA) Program is an evaluation process that focuses on job tasks to identify hazards and develop controls to prevent injuries. It focuses on the relationship between the worker, the task, the tools and equipment, and the environment to reduce or eliminate the hazard. The program has been developed by Environmental Health and Safety (EHS) to ensure safety hazards encountered in the workplace are properly identified and workers are protected against the hazards. Hazards are described as an unsafe condition or practice that could cause injury, illness, or property damage.

2. Responsibilities

Environmental Health and Safety

Environmental Health and Safety (EHS) is responsible for maintaining the written JHA program. EHS maintains JHA reports for common job titles present throughout the University. EHS can perform a JHA upon request from departments or supervisors.

Supervisors

Supervisors are responsible for ensuring that hazards that their employees may be exposed to are identified and controls are developed. A JHA is one method that can help accomplish this responsibility. Supervisors should complete and document a JHA for job titles under their purview. They must also ensure that safety precautions and controls identified in the JHA are implemented and followed by their employees.

Employees

Employees are responsible for adhering to the safety controls identified in a JHA. For example, they must complete required trainings, follow standard operating procedures, and wear required personal protective equipment.

3. Identifying Hazards

Each JHA is documented to provide information including job titles, work tasks (mental or physical or both) that have been assigned to an employee as a responsibility, hazards associated with the task(s), and appropriate controls and training required to ensure the task is completed safely. Supervisors completing a JHA should use a similar format. EHS has developed a tool that can help assist with the completion of JHAs: https://ehs.osu.edu/sites/default/files/jha_template_2.0.pdf

At a minimum, the JHA should be performed as follows:

1) Perform a walk-through survey to identify potential hazard sources to which an employee may be exposed. Basic hazard categories and items to be considered during the walkthrough survey include but are not limited to the following:

    - Impact hazards
    - Slippery surfaces
    - Harmful dusts, mists and particles
    - Confined Spaces
    - Radiation from Light
    - Infectious materials/Bloodborne pathogens

- General material handling
- Chemical exposure
- Electrically energized equipment
- Radioactive materials
- Toxic gases/low oxygen
- Cold/Heat
- Sharps
- Machinery
- Elevated work surfaces requiring fall protection
- Hot Work
- Elevated sound levels

2) Within the hazard categories, specific hazard sources should be identified. Typical hazard sources include, but are not limited to, the following.

- Motions that may result in the employee hitting, or being hit by an object
- Repetitive motions, which may lead to injury
- Chemical exposures (inhalation, absorption, ingestion)
- Sources of high/low temperatures that could result in burns
- Dust sources
- Sources of light radiation (welding, high power lighting)
- Sharp objects
- Sources of rolling or pinch hazards
- Electrical hazards
- Biological hazards
- Dangerous machinery (power tools, material handling equipment)
- Environmental conditions, which may result in injury
- Elevated work surfaces where fall hazards exist
- Noise sources, which may expose worker to excessive sound levels

4. Hazard Mitigation

Once hazards are identified, control methods will be required to be put into place to reduce the likelihood of exposure and injury. The hierarchy of control methods, in the preferred order below, is a practical approach to reduce or eliminate exposures.

Elimination

This method involves completely removing a hazard from a process. This is the most effective and preferred way to remove potentially dangerous exposures because the hazard is no longer present in the workplace.

Substitution

Controlling exposures through the substitution method is completed by exchanging a less hazardous process or substance for the original one that was being used in a procedure. It must be noted that the replacement should be evaluated for any new hazards that process introduces.

Engineering Controls

Engineering controls create a barrier that isolates an individual from the hazard. Some common examples of engineering controls include chemical fume hoods, ventilation systems, glove boxes, and guards on machinery.

Administrative Controls

Administrative controls modify the way a certain process is completed. Some of these modifications can include rotation schedules to lessen exposure times, policies and procedures to outline how the process should be completed safely, and operating procedures such as training and good housekeeping.

Personal Protective Equipment

Personal protective equipment (PPE) is considered the last defense again workplace hazards. PPE includes equipment or garments worn by an individual to protect them from a hazard. Some of these devices include respirators, gloves, lab coats, and safety goggles. PPE should never be the only control method used in a facility to prevent possible exposures to individuals as PPE can fail with little or no warning. If PPE is the chosen method of protection, it must be selected, provided, and utilized as outlined in this program.

5. Personal Protective Equipment

Personal protective equipment (PPE) must be selected to ensure an appropriate level of protection is provided to employees to adequately guard against known hazards in the workplace. To properly select PPE, an assessment must be conducted and documents for each work task or job duty. This PPE assessment can be included in the JHA. Selected PPE must be appropriate for the identified hazard and must comply with any applicable American National Standards Institute (ANSI) requirements. PPE assessment guides and information can be found on the EHS website: https://ehs.osu.edu/resources?title=ppe

Once the appropriate PPE is selected, the supervisor must properly communicate the selection with employees, provide the PPE to the employee free of charge, document training, and ensure the PPE is properly worn. Documented training must include proper PPE use, care, maintenance, and limitations.

When selecting PPE for protection against a job hazard, the following categories should be considered.

Eye and Face Protection

Employees must be provided eye protection when there is a potential for eye/face injury from flying particles, toxic chemicals, thermal or radiation hazards, and lasers. PPE must be adequate to protect the worker from the hazard present and meet the ANSI Z87.1-1989 standard.

Hand Protection

When there is a potential for cuts, lacerations, punctures, chemical/thermal burns, temperature extremes, biological/infectious materials, and absorption through the skin by chemicals, the employee must be provided appropriate hand protection to prevent injury. Hand protection must be selected according to the hazard present and shall afford the appropriate level of protection to the employee.

Foot Protection

Employees working in areas where there is a danger of slipping, objects falling on or compression injuries, piercing the sole and where feet may be exposed to electrical or chemical hazard, the employer must provide foot protection. Foot protection shall provide adequate means of injury prevention from the hazards encountered in the workplace.

Hearing Conservation

Workers exposed to excessive noise as part of their job duties may be required to wear hearing protection. If worker is expected to be exposed to excessive sound levels, their supervisor must contact EHS to ensure sound level and dosimetry measurements are conducted or on file and the employee is enrolled in the hearing conservation program. This program can be found on the EHS website: https://ehs.osu.edu/resources?title=hearing

Respiratory Protection

Workers exposed to respiratory/inhalation hazards may be required to wear a respiratory as a means of protection against the hazard. Any employee required to wear a respirator must be enrolled in the Ohio State Respiratory Protection Program through EHS. EHS will ensure the proper respirator is chosen for the hazard present, ensure medical clearance is provided, conduct fit testing for the employee and provide training. Information about the Respiratory Protection Program can be found on the EHS website: https://ehs.osu.edu/resources?title=respiratory

Fall Protection

Workers exposed to fall hazards shall comply with the Ohio State Fall Protection Program. A competent person, assigned by the department, must be involved in decisions related to fall hazards. Additional information on fall protection can be found here: https://ehs.osu.edu/resources?title=fall

6. Recordkeeping and Training

Environmental Health and Safety retains records of all JHAs completed by EHS for identified job titles at Ohio State. JHAs conducted by supervisors or others in Ohio State departments should be forwarded to EHS for filing.

Training records are maintained by EHS and each department for their employees. Any new hazards or changes in operations resulting in additional workplace hazards should be documented through a formal JHA and maintained on file with the department and/or EHS.

Once hazards are identified through the walkthrough survey and the hazard is mitigated through elimination, engineering controls, administrative controls, and/or the selection of PPE, all affected employees must receive appropriate training relating to the hazards identified. Training can often be provided through the EHS website. Additional training may be provided by the department as necessary.