

Job Hazard Analysis

Vector Control

Santa Clara County

Occupational Safety and Environmental Compliance

David Krack

November 9, 2010

Job Hazard Analysis

- What is a Hazard?
- What is Job Hazard Analysis?
- Why Perform JHA?
- Where do I begin?
 - Hazard Identification
 - Hierarchy of Controls.
 - Job Training.
 - Industrial Hygiene and Medical Monitoring.
- When should a JHA be performed?
- How can the JHA be used in an Accident Investigation?
- How can the JHA be used as a Training Aid?



What is a hazard?

A hazard is the potential for harm.

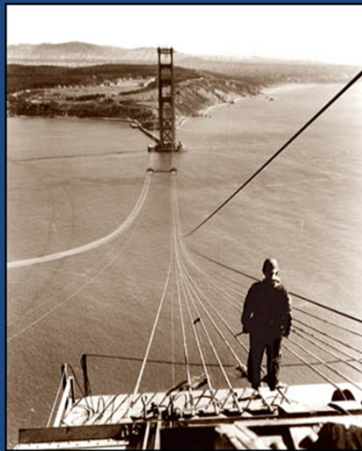
- A condition or activity that, if left uncontrolled, can result in an injury or illness.



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What is a hazard?



- Chemicals – Toxics
- Flammable Materials
- Electric Shock
- Slip, Trip and Falls
- Ergonomic Sprains and Strains
- Noise
- Radiation
- Biological Agents

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Hazard Control Strategy

- Identify the Hazard.
- Eliminate or Control the Hazard as soon as possible before injury or illnesses take place.



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Hazards

- Water on the floor.
The floor is slippery.
- Mop it up before someone slips and falls!!!



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Inherent Hazards

Main Entry: **in·her·ent**

Function: *adjective*

Etymology: Latin *inhaerent-*, *inhaerens*, present participle of *inhaerEre*

- : the essential character of something
- : belonging by nature or habit
- : INTRINSIC
- : in·her·ent·ly *adverb*

Inherent Hazards

- Lead is *inherently* toxic.
- There is nothing that can be done to eliminate the toxic properties of lead.

Inherent Hazards

The toxic properties of lead can be controlled by

- ❑ Use exhaust ventilation to control inhalation hazard.
- ❑ Warning and training employees.
- ❑ PPE – Personal Protective Equipment.

What is a Job Hazard Analysis?

A JHA is a technique that focuses on job tasks as a way

- ❑ to identify hazards before injury or illness occurs.



Job Hazard Analysis

Examine the Relationships between

- Man - Worker
- Methods
- Materials
- Machines

JHA is a management system.

Method to prevent workplace injuries and illnesses by

- looking at your workplace operations,
- establishing proper job procedures, and
- ensuring that all employees are trained properly.



What is the value of a JHA?

Eliminate and control hazards.

- ❑ Reduce worker's compensation costs.
- ❑ Increase productivity.
- ❑ Train new employees in the steps required to work safely.
- ❑ Method of Continuous Improvement.

What is the value of a JHA?

Regulatory Requirements.

- ❑ Injury and Illness Prevention Program.
- ❑ Hazard Communication Standard requires that employees have the "right to know" about hazards in the workplace.
- ❑ CCR T8 General Industry Safety Orders §3380. Personal Protective Devices. .

What is the value of a JHA?

It is morally just and
the right thing to do!!

How do I go about performing a JHA?

Perform a JHA for all jobs that...

- have airborne exposure hazards.
- require training for specific hazards.
- require medical surveillance for specific hazards.
- require Personal Protective Equipment.

Where do I begin?

- Outline the steps or tasks in the job.

- Identify workplace hazards.

Examine the Relationships between

- Man - Worker
- Methods
- Materials
- Machines

Involve all employees!!!

Work together so that everyone is a part of the JHA process.

- Instills ownership of the process.

- Instills trust in management's commitment towards their safety and well being.

Job Hazard Analysis Data Collection Form					County of Santa Clara. Occupational Safety and Environmental Compliance 1735 North First Street San Jose, CA 95112				
JHA ID Number: 123			JHA Date: 9/22/2005						
Job Name: Mail Room Carrier			JHA Preparer: Chuck Isaacson						
Department Number: MR 456			JHA Interviewees: Vern, Louie, Joe and Mary						
Department Name: Mail Room			Personal Protective Equipment Code: Safety Glasses, Safety Shoes						
Process Location: Room 335									
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Hazard Controls may include:		Job Training may include:		IH Monitoring may include:		Medical Monitoring may include:			
1. Eliminate 2. Engineer Out 3. Warnings 4. Training 5. PPE		1. Haz Cons - Chemical Safety, 2. Noise, 3. Respiratory Protection, 4. Lockout, Confined Space, 5. Mobile Equipment		1. Air monitoring for dusts, mists, fumes and vapors. 2. Noise 3. Ergonomic Job Evaluation, 4. Surface Wipe for Metals.		1. Blood sample for Pb, chemicals 2. Hearing 3. Respiratory Spirometry.			
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Personal Protective Equipment

PPE Code	PPE Description
A	Eye Protection
B	Safety Glasses, Gloves
C	Eye Protection, Gloves, Apron
D	Face Shield, Gloves, Apron
E	Safety Glasses, Gloves, Respiratory Protection (Dust)
F	Safety Glasses, Gloves, Apron, Respiratory Protection (Dust)
G	Safety Glasses, Gloves, Respiratory Protection (Organic Vapor)
H	Splash Goggles, Gloves, Apron, Respiratory Protection (Organic Vapor)
I	Safety Glasses, Gloves, Respiratory Protection (Dust & Organic Vapor)
J	Splash Goggles, Gloves, Apron, Respiratory Protection (Dust & Organic Vapor)
K	Air Line Hood/Mask, Gloves, Full Suit, Boots
X	Ask your Supervisor for Guidance.

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Hazard Identification and Descriptions

- Nature of Injury
 - Body Part
 - Source of Injury
- Potentially Hazardous
- Conditions,
 - Materials,
 - Machines,
 - Methods.
- Ergonomic Hazards
 - Strain
 - Back
 - Lifting 50# Sacks
 - Health Hazards
 - Airborne Exposure
 - Respiratory System
 - Dusts

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Hierarchy of Hazard Controls

- ❑ **Elimination or Substitution** of the hazard with a less hazardous method or material.
- ❑ **Engineered Controls**, such as mechanical exhaust ventilation, machine guarding, and interlocks.
- ❑ **Hazard Warnings**, such as odorants in natural gas, signs, labels, horns, beepers and the like.
- ❑ **Training and Administrative Controls**, such as job procedures, rotation of workers, lockout procedures, confined space entry procedures and medical surveillance.
- ❑ **Personal Protective Equipment**, such as safety glasses, respiratory protection, back-belts, ear plugs and the like.

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Job Training

On the Job Training

- How to...
 - Operate Processes
 - Operate machinery and equipment.

Regulatory Compliance Hazard Awareness Training

- Hazard Communication
- Blood Borne Pathogens
- Ergonomic Awareness
- Noise and Hearing Conservation
- Mobile Equipment
- Lockout
- Confined Space Entry
- Toxic Chemicals
- Respiratory Protection

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Industrial Hygiene and Medical Monitoring

Monitor the work environment.

- Noise
- Work Surface Contaminants
- Airborne Contaminants
 - Dusts
 - Mists
 - Vapors
 - Gases
 - Fumes
- Ergonomic Job Evaluations

Monitor the health of the employee.

- Lead in the blood.
- Hearing Tests
- Liver function tests for exposures to solvents.
- Pulmonary Function Tests for wearing a respirator.

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Job Hazard Analysis Report						JHA NO: 1				
County of Santa Clara - Vector Control										
Job Code:		ABC		PPE J Splash Goggles, Gloves, Apron, Respiratory Protection (Dust & Organic Vapor)						
Job Description:		Animal Necropsy								
Dept Code:		VCD1		No. Employees in Job:		10				
Dept Description:		Field Services		JHA Interviewees:		Mike, MaryAnn, Joe				
Job Location:		1234 Berger		JHA Prepared By:		Mike Phillips				
JHA Job Elements										
JHA NO	Step NO	Step DS	NatInjury	BodyPart	HazSOURCE	HazCONTROL	Chem Name	Training REQ	IH REQ	Med REQ
1	1	Set-up	Laceration	Fingers	Sharps	PPE, Training	None	PPE, BioSafety	None	Annual Physical Exam
1	2	Clean-up	Skin Contact	Hands, Body	Sanitizing Solution	PPE, Training	Sanizol	PPE, Hazard Communication	None	Annual Physical Exam
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Analysis of Risk

- Risk is the probability of something undesirable happening.
- The determination of a relative risk for each job element is desirable to help prioritize and focus resources on problem areas.

Severity of Risk

- All physical and chemical hazards are identified and assigned a severity of risk.
- The severity of the risks may be characterized according to the table below.

Type of Risk	Characteristics of Risk
A	Serious and permanent physical harm, death, reproductive effects.
B	Serious but likely not permanent physical harm.
C	Other than serious effect

Probability of Risk

- ❑ Once the severity of the risk is identified, the probability of the harm of that risk is identified.
- ❑ In determining the probability, the evaluator will consider the number of employees exposed, the duration of their exposure, and the frequency of exposure.
- ❑ The table below assigns a level of exposure to each risk.

Level of Exposure	Characteristics of Exposure
1	Large number of people exposed and/or long duration and/or high frequency of exposure. (e.g., > 25)
2	Medium number exposed and/or medium duration and/or medium frequency of exposure (e.g., 5-25)
3	Small number exposed and/or short duration and/or infrequent exposure (e.g., < 5)

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Priority of Intervention and Surveillance.

- ❑ Once an identified risk is assigned both a type of risk number and a level of exposure number, the two numbers are combined to determine the priority.

Combination	Priority
1A, 2A, 3A	Priority No. 1
1B, 2B, 1C	Priority No. 2
3B, 2C, 3C	Priority No. 3

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When should a JHA be performed and reviewed?

- ❑ New processes.
- ❑ Changes to processes.
- ❑ After an accident.
- ❑ Periodically.

How can the JHA be used during an accident investigation?

- ❑ Excellent tool for accident and injury investigation.
 - Were the job instructions in the JHA followed?
 - Were the controls adequate?
 - Did employees received the necessary training as prescribed in the JHA?
 - Is this a newly discovered hazard?
- ❑ *Revise the JHA after the accident investigation to include lessons learned and new countermeasures.*

How can the JHA be used as an employee training aid?

Every employee should review the JHA for their job...

- ❑ at the time of job placement,
- ❑ at the time of changes in the job,
- ❑ periodically as a refresher training.



Why JHA?

- ❑ Identifies and eliminates inherent hazards.
- ❑ Reduces accidents and injury.
- ❑ Job Training Aid.
- ❑ Accident Investigation Tool.
- ❑ Corporate Requirements.
- ❑ Regulatory Requirements.
- ❑ *It is the right thing to do!!!*



The End

David Krack MS, CIH, CSP