

**Techniques for Hazard Recognition  
for  
Construction, General Industry  
and Office Workplaces**

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**David F. Coble, MS, CSP  
President, CTJ Safety Associates**

- 35 years of safety and health experience (12 yrs with NC OSHA, 23 yrs in consulting)
- Master's in Safety Management from University of Arizona
- Visited over 2500 facilities on 3 continents to assist with hazard recognition management systems
- Published numerous articles, co-author of best selling book on lab safety
- Member, ASSE Standards Development Committee
- Chair of the ANSI B15.1 Committee on Mechanical Power Transmission Apparatus
- Director, Board of Certified Safety Professionals

**Goals**

- Improve your and your employees' ability to recognize hazards
- Practice numerous hazard recognition techniques
- Improve your and your employees' ability to do your job right

**Write Down All of the Hazard  
Recognition Techniques Used  
Where You Work**

**If There is a Magic Formula or Secret  
to Controlling Hazards, It is NOT...**

- Safety Management Systems
- Management Commitment and Leadership
- Employee Involvement
- Behavior Based Safety

**The Secret to Controlling Hazards...**

**PLANNING!!**  
**Every job, every task,  
every activity must be  
planned.**

### **Why Do Injuries and Illnesses Occur in the Workplace?**

- Can not be prevented (some call this “Acts of God or Acts of Nature”) – very few workplace injuries and illnesses truly fall into this category
- Deliberate employee misconduct – very few
- Acceptable risks – very few
- **Failures in the management systems – at least 95% of injuries and illnesses are due to this reason**

### **What Do We Mean by Failures in the Management Systems?**

- Inadequate management leadership and action
- Inadequate employee involvement in safety and health
- Inadequate training and education
- Unsafe equipment and conditions
- Failure to hold others accountable
- *Failure to recognize and control hazards*

### **Hazard Recognition**

#### **The Importance of Codes and Standards to Hazard Recognition**

### **Codes and Standards**

- Provide a resource to identify hazards.
- Provide clues as to where hazards may exist.
- Provide understanding why an action or condition is a hazard.

### **Fundamentals of Hazard Recognition**

### **Fundamentals of Hazard Recognition**

- Hazard recognition is a management and employee responsibility
- Hazard recognition is a key element of “Doing the Job Right”
- Accidents are caused by both unsafe actions and unsafe conditions

### **Examples of Unsafe Conditions**

- Inadequate Guards and Devices
- Poor Housekeeping
- Projection and Impaling Hazards
- Congestion and Close Clearances
- Hazardous Atmospheres
- Hazardous Personal Attire (Hair, Jewelry, Clothes)
- Inadequate Fall Protection
- Improper Placement and Storage
- Poor Illumination and Loud Noise
- Unidentified Chemicals

### **Examples of Unsafe Actions**

- Operating Equipment Without Authority
- Failure to Make Secure
- Operating at an Unsafe Speed
- Overriding Safety Devices
- Using Defective Tools and Equipment
- Taking an Unsafe Position
- Horseplay
- Being in the Line of Fire
- Not Keeping Eyes on the Task
- Taking Shortcuts
- Failure to Warn or Signal

### **Three Opportunities to Recognize Hazards**

- **Planning (Pre-Exposure)**
- **Auditing (During Exposure)**
- **Incident Investigation (Post Exposure)**

### **Three Opportunities to Recognize Hazards**

#### **1. Planning (Pre-Exposure)**

- Last Minute Safety Checks
- Issuing Work Permits
- Pre-Use Analysis (New Equipment, New Chemicals)
- Blueprint Reviews
- S/H/E Project Reviews
- Management of Change
- Turnaround, Outage Planning
- Employee Suggestion Boxes
- Safety by Design

### **Three Opportunities to Recognize Hazards**

#### **2. Auditing (During Exposure)**

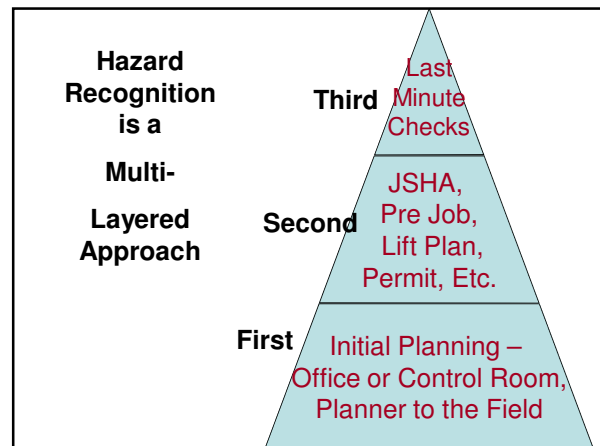
- Job Hazard Analysis
- Hazops / What-If Analysis
- Walkthrough Inspections and Audits
- Equipment Inspections
- Management System Audits
- Perception Surveys
- IH Surveys
- Housekeeping Reviews

### **Three Opportunities to Recognize Hazards**

#### **3. Incident Investigation (Post Exposure)**

- Root Cause Analysis
- Action Critiques such as Emergency Response, Rescues, New Process Startups
- Demolition Audits
- Documentation Audits

## Techniques for Hazard Recognition



### Pre-Exposure Techniques

Formal...

- Job Safety Analysis
- Pre Job Safety Reviews
- Management of Change
- Pre Use Analysis (Equipment and Chemicals)
- Blue Print Reviews
- SHE Project Reviews

### Job Safety Analysis

- List each step (limit to about 5 steps and only those steps that create a hazard)
- List the hazards for each step
- List the controls for each step

### Pre-Exposure Techniques

Informal...

- Last Minute Safety Check
- The Ten Second Drill
- Out of Plain View Observations
- Looking for Differences
- Pre Use Equipment Reviews

### Last Minute Safety Check

- Every job, every task, every operation must be planned
- One simple field technique is a short multi-step process with the following 4 questions:
  1. What am I about to do?
  2. What do I need to do this job and how will I do it?
  3. How could I or someone else get hurt?
  4. What am I going to do to prevent injury?

### **Numerous Names for This Technique**

- SCAN – Survey, Consider, Analyze, Notify (ExxonMobil)
- 3C Personal Risk Manager – URS Washington Division
- First Things First – Hazardous Energy Controlled, PPE, Housekeeping, Emergency Preparedness
- 10 Foot Circle -- Weyerhaeuser
- Dr. Pepper – 10, 2 and 4

### **The Ten Second Drill**

- Take 10 seconds to look at what is going on around you.
- How will your task impact others?
- Take 10 seconds to ask – Is there a trip or fall hazard? Is the emergency equipment accessible? Can I get out? Is there a “gotcha” nearby?

### **Out-of-View Audits**

- Many hazards lurk behind closed doors, on the other side of the wall, above us, below us.
- It's easy to spot issues within plain view.
- Take the time to look for out-of-plain-view hazards

### **Is there anything different?**

- Different based on your education, your life experiences, your expectations of the workplace.
- When you see something different and you don't know if a hazard exists, ask someone who would know.

### **Finally,**

**Please go back to your initial list.**

**Can you add techniques?  
Are there techniques that  
need improvement?**

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*Thank you.*

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