MONTHLY REFRESHER TRAINING
JOB HAZARD ASSESSMENT

April Week 1

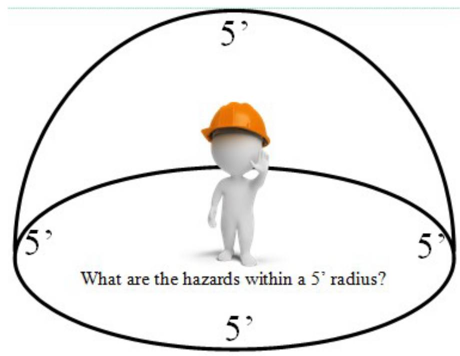
WHY IS JOB HAZARD ASSESSMENT IMPORTANT?

Job Hazard Analysis (JHA) is a way to help us focus on accident prevention by writing down the steps, possible hazards, and controls for any specific job.
The JHA will help us find hazards before they turn into accidents.

GOAL OF A JOB HAZARD ASSESSMENT

Preventing Incidents by understanding:

- What can go wrong?
- How could an injury happen?
- What would cause an accident happen?
- How likely could this hazard occur?



HOW TO COMPLETE A JOB HAZARD ASSESSMENT

	Working At Heights Hazards
1	Climbing (fall from ladders, stairs, scaffolding, levees, etc)
2	Falling Objects (overhead workers, overhead lifts)
3	Floor coverings are in place over holes/openings/pits
	Hand Hazards
4	Cuts/Punctures/Pinch/Line-of-Fire
	Eye Hazards
5	Potential Damage to Sight (Chemicals, Debris, Flying Objects, etc)
	Body Hazards
6	Ergonomics (body position, repetitive motion, bending, lifting, etc)
	Chemical / Material Hazards
7	Chemical Inhalation (respiratory equipment needed)
8	Chemical Splash (chemical protective PPE needed)
9	Open-ended flanges, bleed points, double-block and bleeds
	Walking Hazards
10	Slippery Surfaces (algae/ice/sand/water/pellets, etc)
11	Trip (hoses, welding leads, electrical cords, etc)
12	Uneven Surfaces (sloped surfaces, steps, sticking out of ground)
	Burn Hazards
13	Hot Surfaces (exposed steam lines, scalding, burns)
14	Hot Work (torch cut, welding, grinding, soldering)
	Equipment Hazards
15	Powered Industrial—Traffic, Blind spots (roll-over, crushed/struck by)
16	Equipment Line-of-Fire, troubleshooting
17	Overhead Loads/Work Crews (material dropping)
	Work Area Hazards
18	Adjacent Work Crews (hazards they may cause your area)
19	Clutter/Product spill in Work Area (trash, hoses, temporary pipe, etc)
20	Congested Areas/Tight Quarters (crowded work spaces)
21	Excavation (underground lines, cave in)
22	Excessive Noise (single or double hearing protection)
23	Head Knockers/Body Knocking (pipe, valve stems)
24	Insects/Animals (allergic reactions)
25	Lighting Inadequate (poor work practice)
26	Sensitive Equipment (tubing, flow meters, probes, PVC pipe, etc)
27	Material Tipping Hazards (drum handling, rigging, equipment, etc)
28	Water Hazards (drowning, underwater objects, etc)
	Weather Hazards
29	Heat or Cold Stress (work/rest schedule, cooling, water, etc)
30	Storms (wind, lightning, high water, hail, muddy areas, etc)
	Electrical Hazards
31	Electrical Hazards/Classified Area (frayed cords, loose wiring)
32	Transfer of Flammable Liquid
33	Motor Control Center (MCC) (Arc flash)
	Other Hazards
34	

For each step of the task, potential hazards should be identified that are in your work area. Address the potential for the following hazard types:

- Struck Against or Struck By
- Contact With or Contact By
- Caught In, Caught On, or Caught Between
- Fall to Same Level or Fall to Below
- Overexertion or Exposure

Our JHA lists specific hazards that have proven common to our common work tasks. This is only half of the JHA.

For each hazard identified it is important to take the next step and place each hazard number within the circle and on the chart. If a hazard is not listed, write down the hazard in the "Other Hazard" section.

Hazards identified in the circle must be eliminated or controlled. As hazards are addressed, circle the hazard # within the circle and notate the control in the chart.

Hazards not eliminated or controlled must be listed individually in the space provided and discussed with your supervisor or Safety Contact.

HAZ #:	CONTROL:

Discuss the HAZARDS not eliminated or mitigated.

Any Changes?

Contact your Supervisor

Consider these ideas as a few examples of safety controls as well:

- Are safety handles and guards for tools and equipment available?
- Can you move the work to ground level?
- Are the right tools, materials and equipment being used?
- Is there a lift, or scaffold available instead of ladders?
- Are electrical or other power sources able to be switched off?

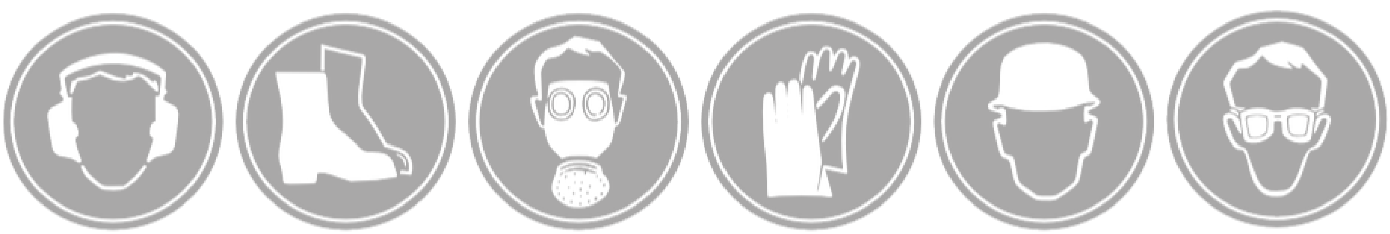
THE TRUE PURPOSE OF THE JHA

<u>The JHA is not just a checklist!</u>

The JHA is a tool for planning safety into every task and to reduce potential injury**.**

Remember the following when completing your JHA:

- The JHA is a way to help us focus on accident prevention.
- JHA - the basic idea is to find hazards and prevent injuries.
- The person most familiar with the planned task will usually be the best sources for identifying hazards in the work they perform.
- For each step in a task, the hazards should be identified, written down and addressed.
- Every hazard discovered must have a safety control or accident prevention method written down.
- A few minutes used to write a good JHA can save hours or days lost to injury



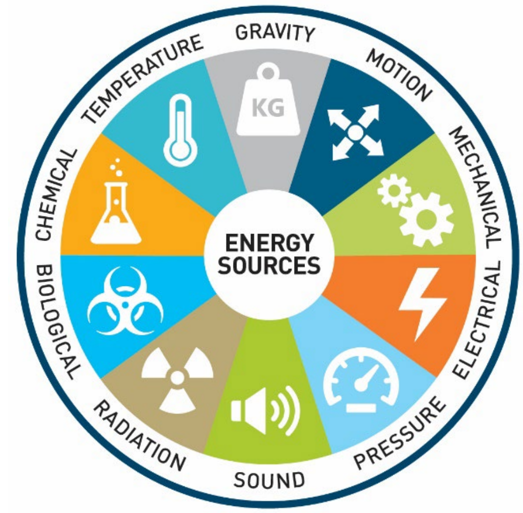
MONTHLY REFRESHER TRAINING
JOB HAZARD ASSESSMENT

April Week 2

HOW TO IDENTIFY POTENIAL HAZARDS

The Job Hazard Analysis (JHA) helps us focus on accident prevention by writing down the steps, possible hazards, and controls for any specific job.

Finding potential hazards is critical. Look for the following:



- Is there danger of striking against, being struck by, or otherwise making harmful contact with an object?
- Can the worker be caught in, by, or between objects?
- Is there potential for a slip or trip?
- Can the employee fall from one level to another or even on the same level?
- Can pushing, pulling, lifting, lowering, bending, or twisting cause strain?
- Is the work environment hazardous to safety or health?
- Are there concentrations of toxic gas, vapor, fumes, or dust?
- Are there potential exposures to heat, cold, noise, or ionizing radiation?
- Are there flammable, explosive, or electrical hazards?

HOW TO PREVENT OR CORRECT HAZARDS

We must choose the best control to eliminate or reduce potential hazards.
The most effective measures are **engineering controls.**

1. **Engineering controls** - Strategies to eliminate or remove the hazard primarily through equipment replacement, substitution, redesign, or other engineering methods. If you can get rid of the hazards in a job the potential for injury is gone as well.

2. **Management controls** (Also called administrative or work practice controls) – Strategies to eliminate or reduce exposure. You do this primarily by changing work practices, procedures, and schedules. Developing effective management controls is what the JHA is all about!

3. **Interim (temporary) measures.** Cones, guards, tape, etc., can all serve to temporarily protect employees from hazards until permanent control strategies can be used. You may need to temporarily protect employees while working toward a permanent solution.

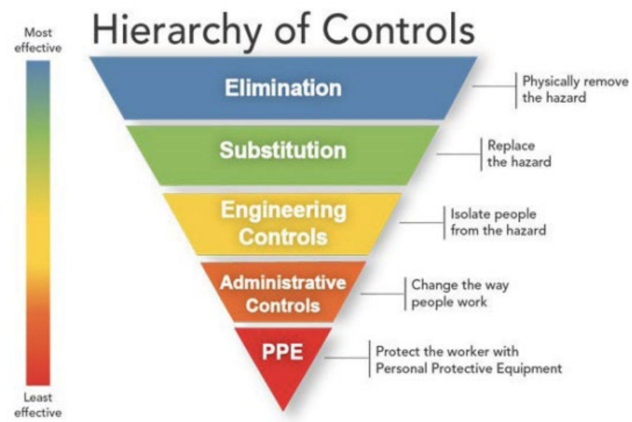
4. **Personal Protective Equipment (PPE)** – Using PPE is considered a safe work practice and can be expected to be a part of most JHAs. PPE establishes a barrier between the hazard and the worker. PPE is most always used in conjunction with management and engineering controls. PPE can and does fail. This should be one of our last options for protection.

REVIEW AND UPDATE THE JHA PERIODICALLY

The JHA should be reviewed when:

- The task is complete.
- The method of performing the task has changed.
- New employees are performing the task.
- Further hazards have been identified.
- The task is undertaken again.

By taking a few extra minutes prior to performing a task and completing a JHA on that task we can all create a safer workplace, reduce accidents and have a “Zero Injury” work environment.



Centurion Safety Education

MONTHLY REFRESHER TRAINING
LINE OF FIRE

April Week 3

WHAT IS THE LINE OF FIRE?

A simple definition is being in harm's way. Line of fire injuries occur when the path of a moving object, or the release of hazardous energy, intersects with an individual's body.

- ***Caught-in or between***: A construction worker is standing between a wall and an excavator. When the excavator spins around the counterweight pins the worker against the wall. Another example would be a worker placing his hand too close to a rotating gear and gets it pulled into the gear.
- ***Released energy***: A pipe releasing hot steam from a valve that is being removed or a flame shooting out of a malfunctioning engine are examples of released energy. Working next to objects in tension like come-a-longs, chain falls, and load bindings are all objects under tension we work around every day.
- ***Struck by***: A pedestrian struck by a moving vehicle or an object falling from a higher level striking a worker below are examples of struck by incidents. Stuck by hazards occur when we let ourselves be in the path of falling objects or moving projectiles.

AVOIDING LINE OF FIRE INCIDENTS

Looking for hazards before you start a task

A line of fire is the path a moving object will travel. If you are in this path, you are a t risk of sustaining an injury. Avoid this risk by asking simple questions before you start a task such as:

- What objects are moving or could potentially move as they are currently under tension or pressure?
- If the object were to move, am I likely to be in the line of movement?
- What sudden movement or action could happen around me that could instigate an object being released or put me in the line of fire?

Eliminating or reducing a risk

Once you become aware of a line of fire hazard you can then take steps to potentially eliminate or reduce the risk of harm. The best-case scenario is to eliminate any risk completely by removing it, for example by removing a source of tensile or pneumatic pressure from an object. If that object is no longer under pressure, it cannot move with the amount of force required to cause an injury to you or others.

Use best practices to minimize risks

If an object under pressure cannot be completely eliminated the object would likely require a guard to provide a physical barrier should an object under pressure be released being careful to ensure that the barrier can sustain any force released without failing.

Centurion Safety Education

MONTHLY REFRESHER TRAINING
LINE OF FIRE

APRIL Week 4

LINE OF FIRE – STRUCK BY HAZARDS

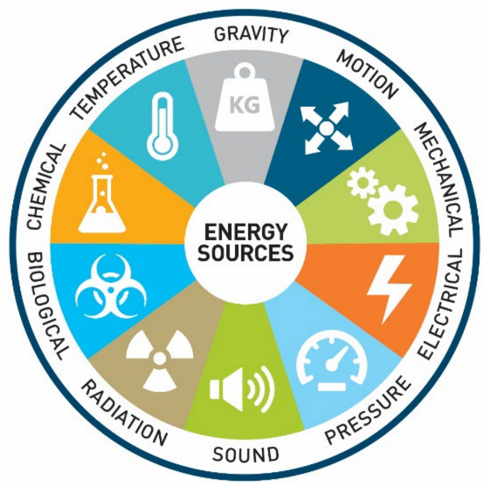
Struck By Hazards are the most frequent Line of Fire risk you face. These are hazards that strike you or that you strike against.

Awareness is the first defense

Am I in Danger? Be alert for conditions that may change where the Line of Fire zone exists including wind gusts, falling objects, and flying debris during cutting or welding activities.

1. Stop – Do I understand the work?
2. Think – How do I perform this task Safely?
3. Assess hazards - Are there objects I can be hit by or is there something I might hit? Is there a source of energy I could come in contact with? If something went wrong, would I be caught in the Line of Fire and be hurt?

LINE OF FIRE – STORED ENERGY



Energy sources are always present in our work areas. Stored energy is energy that could be released suddenly without warning.

<u>Gravity</u> – Enables objects to fall, structures to collapse, and people to trip and fall.

<u>Motion</u> – The movement of vehicles, vessels, materials, liquids, or gases.

<u>Mechanical</u> – Rotating equipment, drive belts, conveyors, motors or springs.

<u>Electrical</u> – Power lines, transformers, static charges, lightning, and battery power.

<u>Pressure</u> - Piping, compressed cylinders, tanks, hoses, pneumatic and hydraulic.

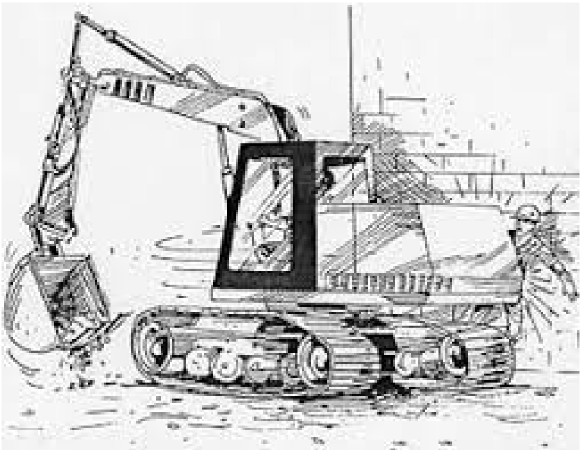
<u>Temperature</u> – Ignition sources, hot surfaces, steam, friction.

<u>Chemical</u> – Vapors, corrosives, fumes and dusts.

<u>Radiation</u> – Solar rays, microwaves, welding arcs.

Consider what we can do the protect ourselves from the release of stored energy. Evaluate your work area for energy potential. Stage your work far enough away to be out of the path from unexpected release of stored energy. Note of these steps on your JHA

LINE OF FIRE – CRUSHING HAZARDS



Crushing potential is present anytime a body part could get caught in, on, or between moving objects. Pinch point is a crushing hazard potential common to work activities. Injuries from crushing can be the most severe of the injury types.

HOW CAN YOU PROTECT YOURSELF?

Look for possible pinch points before you start a task.

Take the time to plan out your actions and steps needed to work outside of the possible pinch points.

Give your work full attention, most accidents occur at the moment of distraction. Always take heed of warning signs posted on and near equipment.

Never reach into moving equipment or machines. Properly maintain and use guarding provided with the equipment you work around. Guards acts as barriers between potential moving parts and your body.

Never reach around, under or through a machine guard. If guards must be removed follow Lock Out Tag Out. Always use LOTO before adjusting, clearing, repairing or servicing machines or equipment.