

WELCOME – STEP 1

Welcome to the March Safety Toolkit – *Line of Fire*. You play an important role in the health and safety across the company, and we thank you for your contribution! Without your focus and dedication to making safety a priority, our people would suffer, our clients would suffer, and our families would suffer. We hope you find the safety tools provided in this Toolkit and in Toolkits like this in the coming months as just some of the many resources afforded to you to communicate *Line of Fire* safety. As always, the work you do matters, and we are so grateful to have you on the team!

HOW TO USE THIS SAFETY TOOLKIT

1. Supervisor/Lead Script – Start Here! Way to go! Now keep reading and you'll be all set. This script sets you up for success.
2. Supervisor/Lead PowerPoint – Use this as a training moment for your team. Everything you need to know and communicate for each slide is contained in this script! Skip ahead if you are ready to give this training to your team. It's always a good time to learn about *Line of Fire* safety. The presentation should last about 1 hour and 10 minutes depending on group participation.
3. Teaching Tool– We have included a Line of Fire Practice Quiz and Answer Key to test your knowledge.
4. Site Communication Poster – A PDF version of the monthly infographic if you would like to display it at your workplace.
5. Sign-In Sheets – Please complete this form when completing *Line of Fire* safety and turn-in to the appropriate point of contact as a record of training.
6. What's next? – Use this QR code for yourself AND share it amongst everyone on your team for additional safety resources based on the theme *Line of Fire*. Look for Interactive resources, recommendations for phone apps, checklists, handouts, and more. Check it out!



SUPERVISOR/LEAD POWERPOINT SCRIPT – STEP 2

NOTES ON THESE SLIDES:

- KLP: Key Learning Point (objective of the slide)
- F: Facilitator

Slide 1: Title Page (30 Seconds)

KLP: You set the tone. If you believe safety is important, the audience will believe safety is important.

The facilitator opens the session by welcoming everybody to the training and noting the monthly focus – *Line of Fire*.

F: Today's task is to attend training on *Line of Fire* safety. Cell phones should be turned off or silenced during this training. If you need to take a call, please go to (designated area), take the call, and return as soon as possible. {Address any other important announcements or business now.}

Slide 2: Housekeeping (1 Minutes)

KLP: Opportunity for a HSE (Health Safety and Environmental) Moment

F: Prior to training, determine if any fire drills are planned and the response expected from the facility and muster points if alarms should go off. It is important to remind employees that should they need to leave the location at any time, they should inform the Facilitator because, in the event of a fire incident, we need to know their whereabouts. This is an opportunity right at the start of the day to brief the employees on HSE procedures in general for the running of the training course. [If your job site is outdoors, do not overlook this safety moment. Adjust the plan in the event of a job site fire.]

F: Hello Team, I have verified with the HSE department and have confirmed that there are no Fire Drills or Emergency Drills scheduled for today. If we hear an alarm, we will follow site protocol for emergency response.

F: {Point out the fire exits and muster point}

F: Once we are at the muster points, we will do a role call to account for all attendees.

Slide 3: Presenter (2 Minutes) & Introductions (5 Minutes)

F: {This is your moment! This is a chance to visibly "Walk the Talk"}

Share:

- Your personal experience of safety and impact on the company
- Importance of making the most of this opportunity to think about the importance of HSE and discuss with employees
- Appreciate that you are a leader and that you make an impact
- Importance of taking personal responsibility to make a positive impact
- You get out of this training what you put into it
- HSE matters to our company
- The safety program is going to help people feel empowered and take the initiative to improve their own HSE performance through proactive attitudes and behaviors.

You may wish to share:

- A story of your experience in the safety program and how it has changed the way in which you behave.
- Some lessons learned from an incident when you have been involved in the investigation, highlighting the devastating impact that accidents have on people's lives, or you can describe your experience of being involved in an environmental incident. How did this affect the company, and more importantly, affect the lives of others not working for the company.

F: Go around the room and ask everyone to give their name and what their position is. {Wait for their responses, smile, and nod as they participate. Be careful about timing here---if you ask an additional intro question of the participants and give a long-winded answer yourself, your participants will follow with long stories/explanations, and you can accidentally take up a lot of time.}

Slide 4: Why am I here? (1 Minute)

F: Each one of us is the last line of defense to protect workers from injury or the environment from damage, should management systems and collective protections fail. Supervisors and workers are the KEY to HSE. We can promote or destroy the HSE climate through our own behavior and how other workers perceive it.

F: Supervisors and workers are responsible for enforcing safety rules. Regardless of our position, employment status, or background, everyone is responsible for HSE, and everyone can be a HSE leader by demonstrating positive attitudes and behavior.

Slide 5: "Line of Fire" – being in harm's way (1 Minute)

F: To put it simply, being caught in the line of fire is being in harm's way. This is essentially the zone within a work area where there is a risk of serious injury from machinery or equipment.

F: Line of fire injuries can occur when the path of a moving object or energy source intersects with an individual's body. Getting struck by objects or vehicles makes up the third most common cause of construction accidents, behind falls and transportation accidents.

F: Struck-by accidents include accidents where something falls onto a construction worker. They also include accidents where a truck, forklift, or other vehicle runs over a worker.

F: Today we are going to dive into the different categories of "line of fire" hazards, what causes them, and how to prevent them when possible.

Slide 6: "Line of Fire" - Video (3:22 Minute)

(Click play to play clip)

Slide 7: "Line of Fire" Categories (1 Minute)

F: Line of fire hazards can generally be categorized into three categories.

- Struck-by
- Caught-in or between
- Released energy

F: OSHA considers struck-by and caught-in or between as two areas of their "Construction Focus Four" topics as **16%** of construction deaths are from **struck-by** and **caught-between** accidents. We are going to use the next few slides to look at examples from each.

Slide 8: Struck-by Hazards (2 Minutes)

F: A struck-by accident occurs when a person is forcefully struck by an object, wherein the force of contact is provided by the object. When the impact alone causes the injury, the injury is classified as struck-by.

F: Struck by injuries can be caused by flying, falling, swinging or rolling objects. These can include instances when a piece of material separates from a tool, machine, or other equipment, striking a worker, resulting in injuries or fatality.

F: Struck-by hazards also exist if an object is ejected under power by a tool or equipment usually designed for that purpose, such as a nail from a nail gun.

F: Additionally, struck by hazards exist in areas where an employee can come into contact with heavy equipment (such as cranes, excavators, etc.) and motor vehicle (such as trucks, cars, etc.).

Slide 9: Struck-by Hazards (3 Minutes)

F: As mentioned on the previous slide, struck by hazards are caused by flying, falling, swinging, and/or rolling objects. Let's break down what each of these classifications are:

F: When something has been thrown, hurled or is being propelled across a space, it is considered a flying object. One example of a flying object would be a nail being shot from a nail gun.

F: Falling objects are materials or tools that fall from an elevated surface to a lower surface, creating the hazard of hitting the workers below. This is commonly seen in construction areas when tools or materials fall from an upper level down to a lower level when pushed off the side of the constructed surface or scaffolding system.

F: Swinging objects are materials, equipment, or other objects that are mechanically lifted. Once suspended in air, they have the potential to swing and strike workers. Objects being lifted and moved by cranes are typically extremely heavy and can cause serious bodily injuries when swinging too quickly.

F: When an object is rolling, moving, or sliding on the same level at which the worker is located, the rolling object becomes a hazard. Rolling objects can cause injury to an employee's ankles, legs, or even knock them off balance if hit with enough force.

Slide 10: Check on Learning (3 Minutes)

F: The following are examples of struck-by hazards. Which one is an example of a struck-by flying hazard?

F: The answer is: (Click the mouse to get answer)

A) Hit by a nail from a nail gun

Slide 11: Caught-in or -between Hazards (3 Minutes)

F: OSHA specifically defines caught-in or -between hazards as "injuries resulting from a person being squeezed, caught, crushed, pinched, or compressed between two or more objects or between parts of an object." When the injury is created as a result of crushing injuries between objects rather than the direct force of the object, the event is considered as caught-in or between.

F: Events classified as caught-in or -between include cave-ins from trenching, being pulled into or caught in machinery and equipment, and being compressed or crushed between rolling, sliding, or shifting objects.

F: You can protect yourself from caught-in or between hazards by:

- Using machinery that is properly guarded
- Making sure equipment is de-energized and cannot be started accidentally

- Always being aware of the equipment around you
- Never place yourself between moving materials
- Not working in an unprotected trench that is 5 ft deep or more

Slide 12: Caught-in or -between Hazards (1 Minutes)

F: When identifying caught-in or between hazards, you'll want to look for:

- Areas where body parts can be compressed or crushed between rolling, sliding, or shifting object or equipment.
- Any unguarded parts of machinery where a body part could be pulled into or caught by moving parts.
- Any sites with unprotected excavation and trenches where walls could collapse.

Slide 13: Line of Fire – Video (4 Minutes)

(Click play to play clip)

Slide 14: Check on Learning (3 Minutes)

F: To protect against caught-in or –between hazards, a worker should not only avoid wearing loose clothing or jewelry, but also a worker should avoid:

F: The answer is: (Click the mouse to get answer)

B) Working with equipment/machinery that has not been locked-out

Slide 15: Released Energy (4 Minutes)

F: Being caught in the line of fire doesn't apply only to the path of solid objects, but to hazardous energy as well. Machines can still contain stored energy even after they've been turned off. A moving part might be in mid-motion when a machine is turned off for maintenance. If that part isn't blocked so it can't move or if gravitational energy is still present, it could swing down and hit someone.

F: For example, when a worker uses a hydraulic press to flatten metal into sheets, part of the process involves removing each flattened sheet and inserting a new piece of metal stock. If the raised press isn't locked in place before removing the flattened sheet, the press can fall onto the worker's hands. Likewise, any spring-loaded door or gate can smash fingers, hands, legs or any other body parts that are in the wrong place at the wrong time.

F: Other examples of hazardous energy could be burning steam being released from a valve, the release of hazardous chemicals, or electrical shock.

F: If a machine needs maintenance, it should be turned off and de-energized, then locked and tagged until maintenance is complete so it can't harm workers. Only the authorized person who put the lock and tag on the machine should remove them.

Slide 16: Common Hazardous Areas (1 Minute)

F: While it is best practice to always stay alert for line of fire hazards, the likelihood of these hazards increases when working around heavy equipment and machinery, and in areas where employees are operating hand and power tools, and mobile equipment.

F: These hazards are also more likely in areas of manufacturing and assembly operations, or where materials are being handled.

Slide 17: How to Prevent Line of Fire Injuries (3 Minutes)

F: There are several ways to prevent and reduce the likelihood of line of fire injuries.

F: Eliminate hazards wherever possible, such as removing objects from elevated work areas that could fall and injure an employee below or taking equipment out of service when there is a recognized hazard.

F: Implementing engineering controls, such as physical barriers to keep employees out of dangerous areas or guards on moving equipment.

F: Personal protective equipment, or PPE, should be provided to and worn by all employees where there is a risk of injury. Safety glasses or goggles should be worn any time work operations present an eye hazard. Pedestrians should always wear highly visible personal protective equipment (PPE) such as hard hats and reflective vests in facilities where forklifts are present. Hard hats should be also worn anywhere there is a potential for objects falling from above or where there is risk of bumps to the head from fix objects.

Slide 18: How to Prevent Line of Fire Injuries (3 Minutes)

F: Elevated work surfaces, such as scaffold platforms should have toe-boards, guardrails, and mid-rails present at all times. Employees working from these high elevations should use safety harnesses or safety nets to prevent falling.

F: When working in trenches, it is extremely important to always have a safe way to exit. Additionally, all trenches deeper than 5 ft, but less than 20 ft deep must use one of three methods to prevent cave ins:

F: Sloping or benching. Sloping involves cutting back the sides of the trench to a safe angle, so it won't collapse. Benching is a variation that adds a series of benches (steps) that also approximate the safe sloping angle.

F: Trench box or shield. These are barriers that are not necessarily designed to prevent cave-ins, but they do protect workers within the structure if a cave-in occurs.

F: Shoring. Shoring structures are built of timber or can be mechanical or hydraulic systems that support the side of an excavation. Sheet piling is a type of shoring that keeps the earth in place.

F: All forklift and crane operators must be properly trained, certified and capable. They should not only be capable of operating the forklift or crane, but they should also be able to recognize the hazards related to the use of the equipment.

F: It is extremely important to never horseplay when operating major equipment or in the area where major equipment is being operated.

Slide 19: Preventing Struck-by Incidents – Image (4 minutes)

F: Let's take a look at what can be done in the field to prevent incidents:

(Point to and discuss image)

F: Properly set up work zones to warn motorists.

F: Use flaggers, barricades and signs to control the flow of traffic

F: Use tag lines or push sticks to keep loads under control, stay out of the crane's swing radius, never work underneath a suspended load and DO NOT exceed the crane's lifting capacity.

F: Hold a lift plan meeting before any work begins to discuss items that will be moved, crane set up, and weather conditions

F: For overhead work, secure tools with tethers and use protective measures such as toe boards or debris/safety nets to prevent, catch, or deflect falling objects

F: Use barricades to separate workers from vehicles, heavy equipment and falling objects

F: The signal person should use clear signals to communicate with the crane operator

Slide 20: Line of Fire – Video & Discussion (5 minutes)

(Click play to play clip)

F: What are some examples of line of fire hazards here at our workplace? (Pause and wait for answers)

F: What actions can we take to reduce the chance of being injured due to these hazards? (Pause and wait for answers)

Slide 21: Questions?