



WHITE PAPER

# SIF: Serious Injury or Fatality Incident

Determination and Reporting Guidelines



Safety and health in the United States have come a long way since the creation of the Occupational Safety and Health Administration (OSHA) in the 1970s. Back then, workers and lawmakers were fighting for the right to work in a safe and healthy environment free from recognizable hazards.

Today, modern organizations have pushed past the initial intention of OSHA and are working toward eliminating workplace accidents altogether. These leaders no longer just focus their efforts on reducing OSHA-recordable injuries but have shifted their attention toward incidents and near misses with the potential to turn into serious events, referred to as SIFs.

**A Serious Injury or Fatality (SIF) event is an incident or near miss that has the potential to, or actually does, result in a fatal or life-altering injury or illness.** By identifying SIFs, companies can focus injury prevention initiatives where they matter most, expand their understanding of workforce threats, and potentially prevent the next fatality.

This paper will help guide you through defining and reporting SIF incidents to help your organization take advantage of this powerful approach toward injury prevention. We hope these guidelines help you get closer to your workplace safety goals and ensure each worker goes home safely at the end of the day.



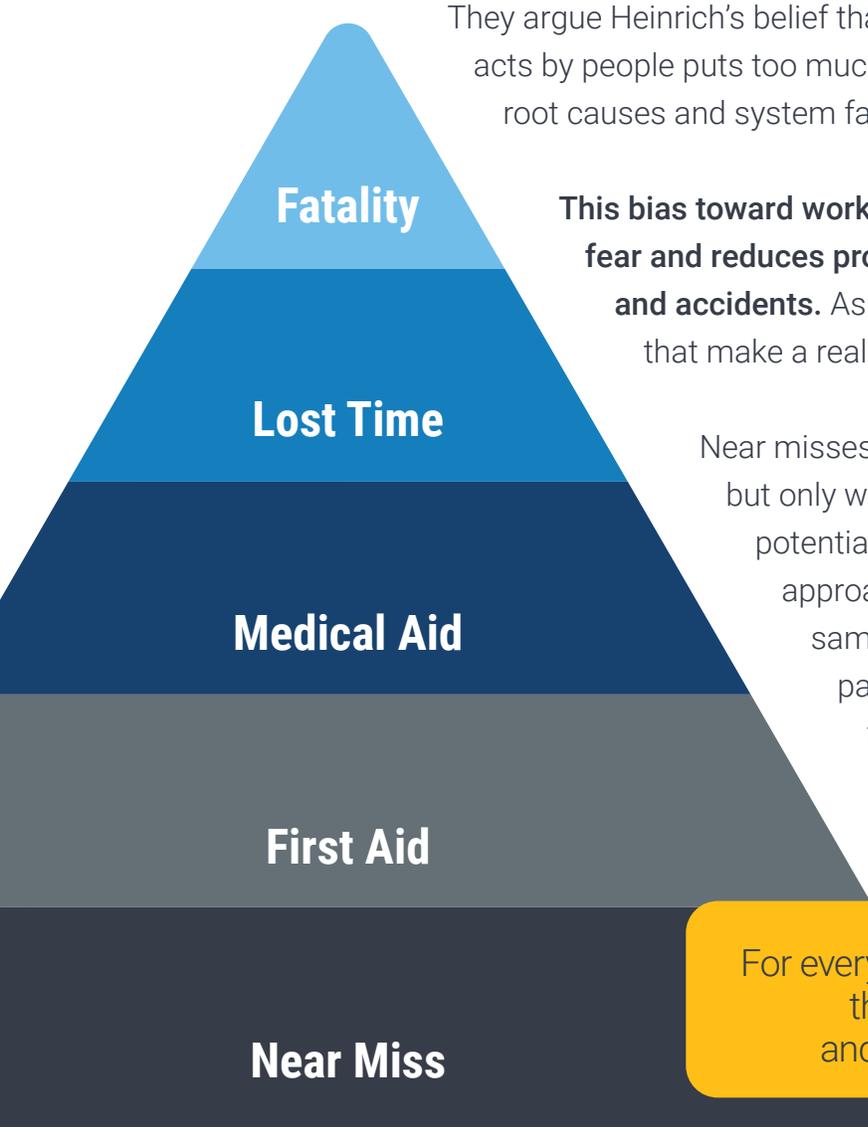
## **Serious Injury or Fatality (SIF):**

**An incident or near miss that has the potential to, or actually does, result in a fatal or life-altering injury or illness**

# Heinrich's Safety Triangle

The Heinrich Safety Triangle has been a part of health and safety procedures since the 1930s when Herbert Heinrich initially introduced it. According to the pyramid, for every 300 accidents that result in no injury, there are 29 accidents with minor injuries, and one resulting in a significant injury. According to Heinrich's theory, if you reduce the total number of near misses, the number of severe injuries will decrease proportionately.

Even though it is still widely used, Heinrich's Safety Triangle often receives criticism from safety professionals for oversimplifying the complicated relationship between near misses and serious workplace accidents.



They argue Heinrich's belief that 88% of incidents result from unsafe acts by people puts too much blame on workers and not enough on root causes and system failures.

**This bias toward worker fault breeds a workplace culture of fear and reduces proper reporting of near misses, injuries, and accidents.** As a result, root causes and other factors that make a real difference in improving safety get lost.

Near misses and serious accidents are related, but only when the near miss in question has the potential for severe consequences. That's why approaching near misses as if they are all the same is ineffective. For example, eliminating paper cuts won't stop the next fatality, but focusing on eliminating near misses and incidents involving dropped objects could.

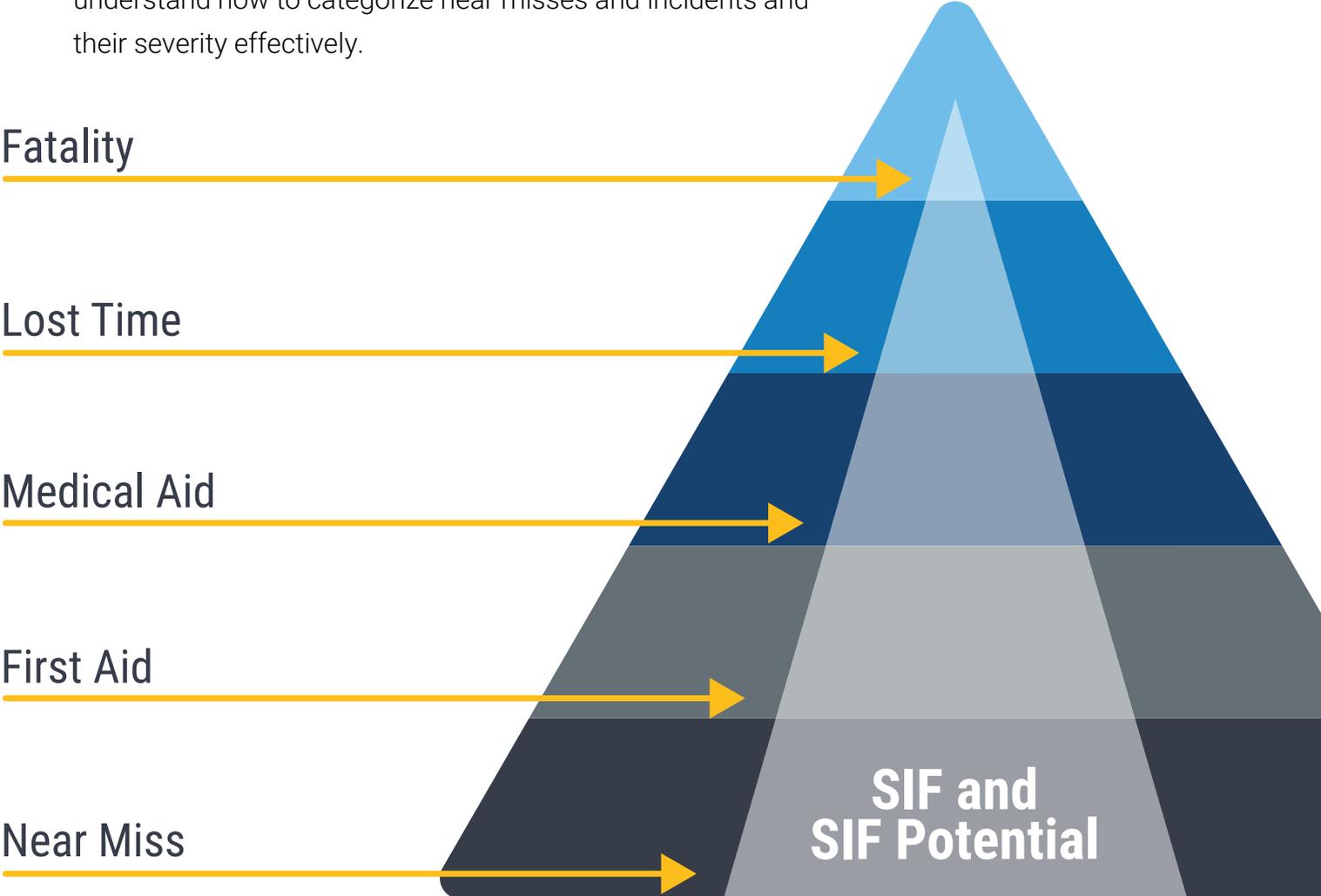
For every **300 accidents** resulting in no injury, there are **29 with minor injuries**, and **1 resulting in significant injury**.

# New Safety Triangle

Not all injuries have SIF potential, so reducing injuries at the bottom of the triangle does not necessarily result in an equivalent reduction of work-related fatalities. The incidents that genuinely make a difference are a small cross-section of the pyramid.

Safety professionals must shift their focus toward near misses and incidents with SIF potential. **By focusing on identifying and understanding near misses with SIF potential, your organization can better prevent their occurrence and reduce incidents in a meaningful way, rather than reducing overall near misses.**

Telling the difference between a low-risk near miss and one with SIF potential doesn't have to be complicated. The following section will help you better understand how to categorize near misses and incidents and their severity effectively.



# Criteria for Determining if an Accident Has SIF Potential

Before determining SIF potential, it's essential to understand some key definitions.

## Life-Threatening Injury/Illness

An incident that, if not immediately addressed, is likely to lead to the death of the affected individual and usually requires the intervention of internal and/or external emergency response personnel to provide life-sustaining support.

Examples include, but are not limited to:

- Laceration or crushing injuries that result in significant blood loss
- Injury involving damage to the brain or spinal cord
- An event requiring the application of cardiopulmonary resuscitation or an external defibrillator
- Chest or abdominal trauma affecting vital organs

## Serious Injury or Fatality Incident (SIF)

An incident that results in:

- Fatality
- Life-threatening injury or illness that, if not immediately addressed, is likely to lead to an individual's death and usually requires intervention and/or external emergency response personnel to provide life-sustaining support
- Life-altering injury or illness that results in permanent loss of body function or a body part



## Life-Altering Injury/Illness

An incident that results in permanent impairment or loss of use of an internal organ, body function, or body part.

Examples include but are not limited to:

- Significant head injuries
- Spinal cord injuries
- Paralysis
- Amputations
- Serious bone fractures that result in permanent impairment or loss of function
- Serious burns
- Significant disfiguring lacerations

## SIF Potential Incident

Any incident or exposure that meets the defined automatic SIF potential determination criteria or was determined to have credible potential to be a fatality or a life-threatening or life-altering injury/illness. This includes:

- Reportable injuries
- First-aid cases
- Near misses
- Exposing conditions

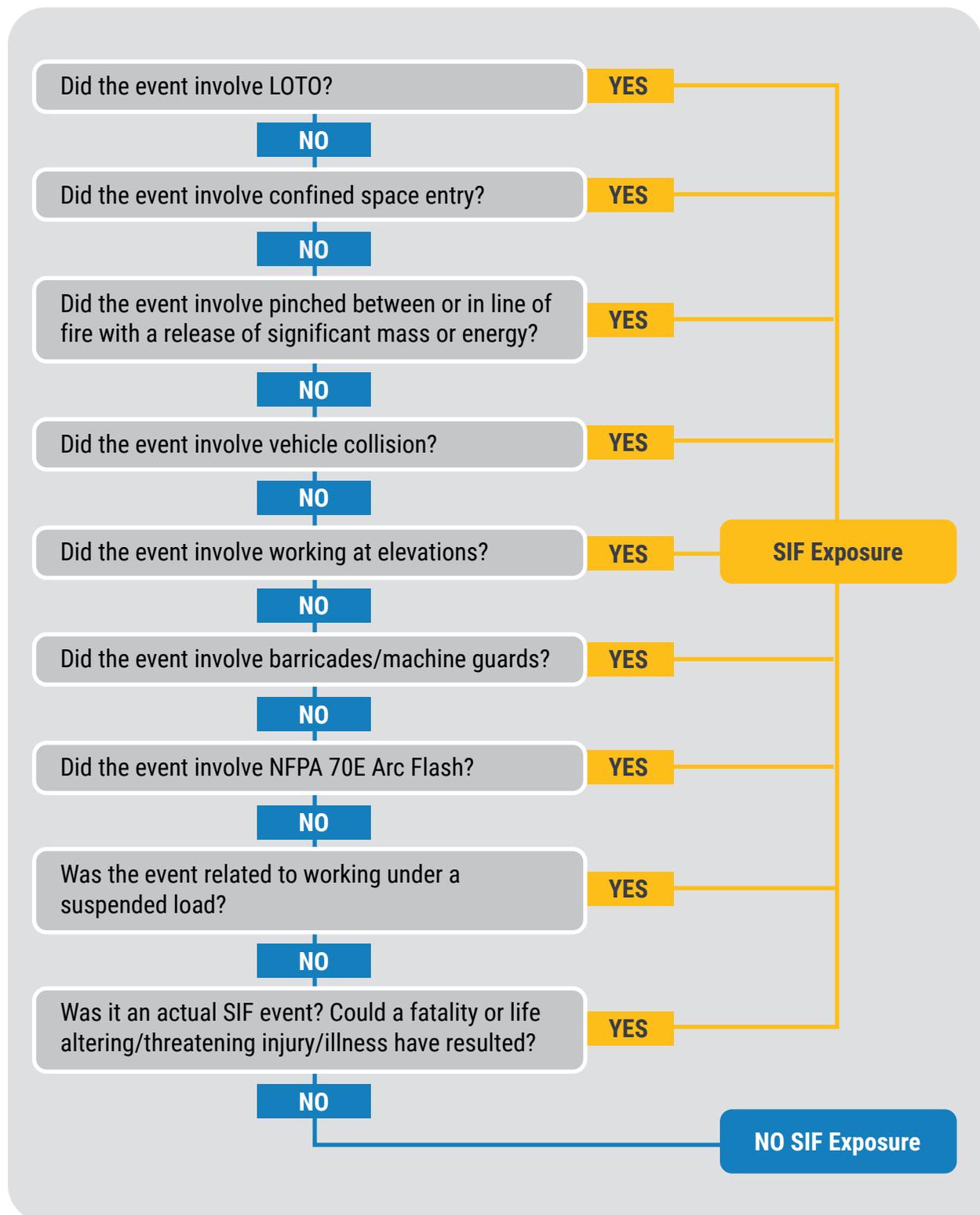


# Determining SIF Potential

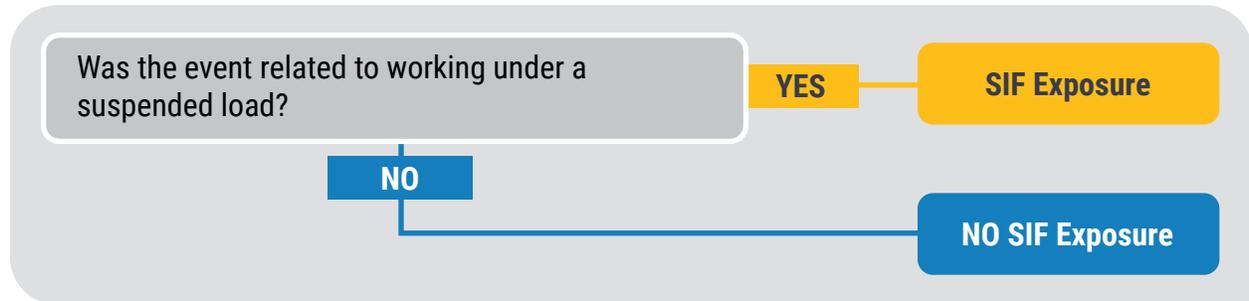
Someone who hurts their back from lifting a heavy object has less SIF exposure than someone who injures their back after falling off a roof. That's because hurting your back or an equivalent injury is likely the worst that could happen from lifting a heavy object. However, falling from a roof can result in a fatality or permanent impairment, much worse than the actual outcome of an injured back.

**When determining SIF exposure, you always need to consider the kind of activity that is happening.** For example, does the event involve high-risk activities like confined space entry or lockout/tagout? If the answer is yes, there is likely SIF potential.

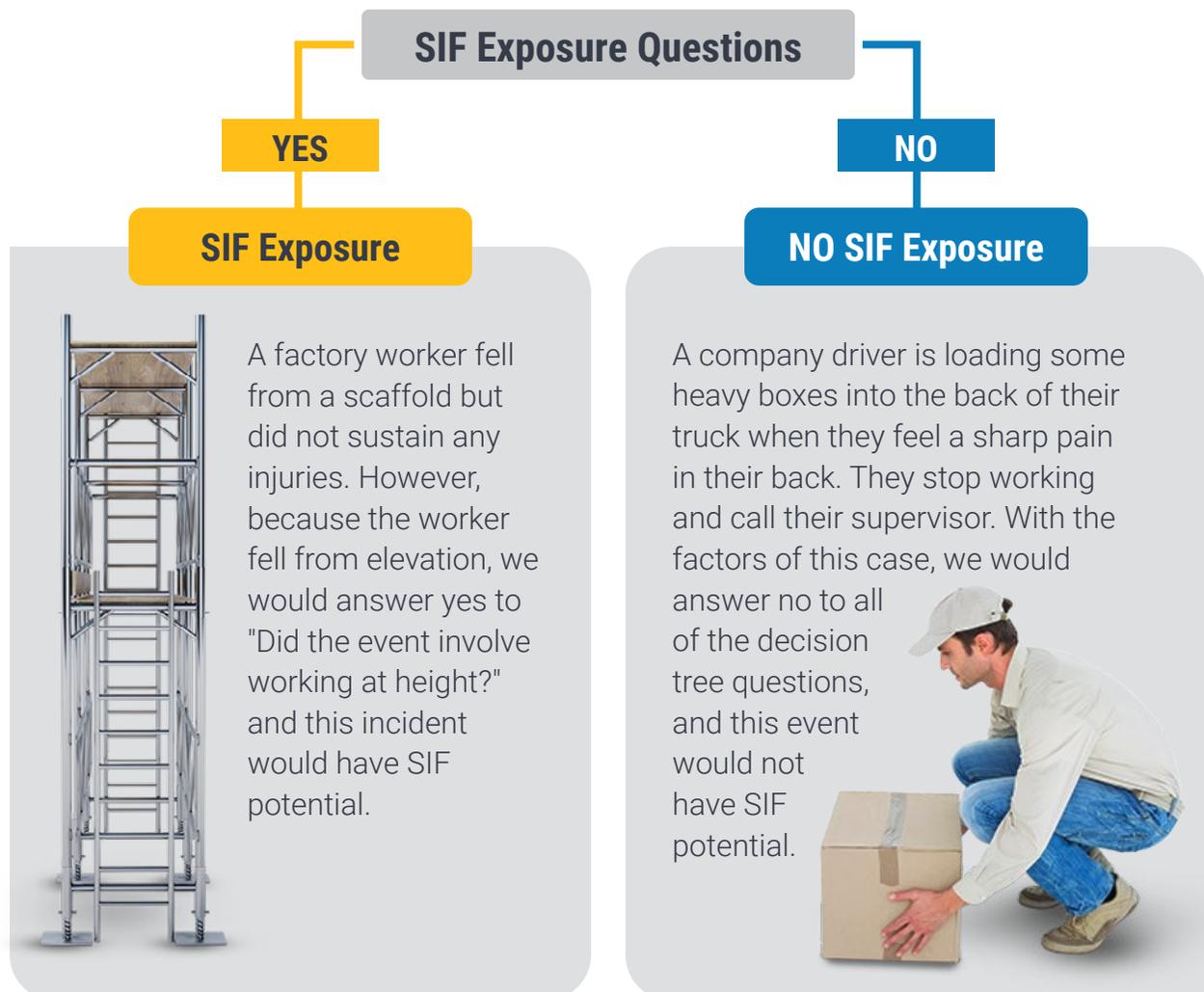
The following is a sample SIF Decision Tree that can help you determine if a reportable injury/illness incident, first-aid incident, near miss, or exposing condition should be classified as having SIF potential.



To use the decision tree, look at the facts of your injury or incident and then systematically work through each question and answer yes or no. If you come to a question that is a yes, the incident has SIF potential. In contrast, if you answer no to every question, there is likely no SIF potential.



### Some examples:



**Note:** the decision tree is an example that includes some commonly agreed upon potential SIF incidents, however the list is not exhaustive. You will want to modify this decision tree to include other SIF potential incidents that are relevant to your worksite, for example, incidents involving water in barge/ship operations, vehicle-specific incidents in transportation work, etc.



Accidents, injuries, and near-miss events are diverse and sometimes won't fit perfectly into this decision tree format. Thankfully, the last question leaves room for that. Always review the facts of the incident carefully when determining SIF potential.

## Incident Reporting and Investigation

Unfortunately, many organizations will never achieve their safety and health goals because their workplace safety culture will not allow it. They have not built the trust necessary for their employees to feel comfortable reporting incidents and near misses. As a result, these businesses will not be able to take advantage of the approach to injury reduction discussed here because it leans on near misses and injury reporting.

You can't fix what you don't know, and without increased visibility into your operations from employee reporting of near misses and accidents, you are operating blind. **Therefore, companies serious about preventing their next major injury must look hard at their safety culture to see if it allows the open, honest conversations necessary for improvement.**

When you build trust with employees and demonstrate time and time again that you are not trying to place blame, but rather create a safer work environment for everyone, then you can start to gain some traction. Ultimately, proper reporting will make this possible, so promoting reporting is vital to improving overall safety results and reducing SIF potential.

Once you have established injury and near-miss reporting across all levels and functional areas of the organization, the next step is bringing consistency to your organization's incident investigation process. Well-managed investigations allow organizations to slice incidents down to their most crucial parts. **Investigations are essential because, despite Heinrich's theories, accidents are not primarily the result of human failures but a complex group of intertwined factors.**

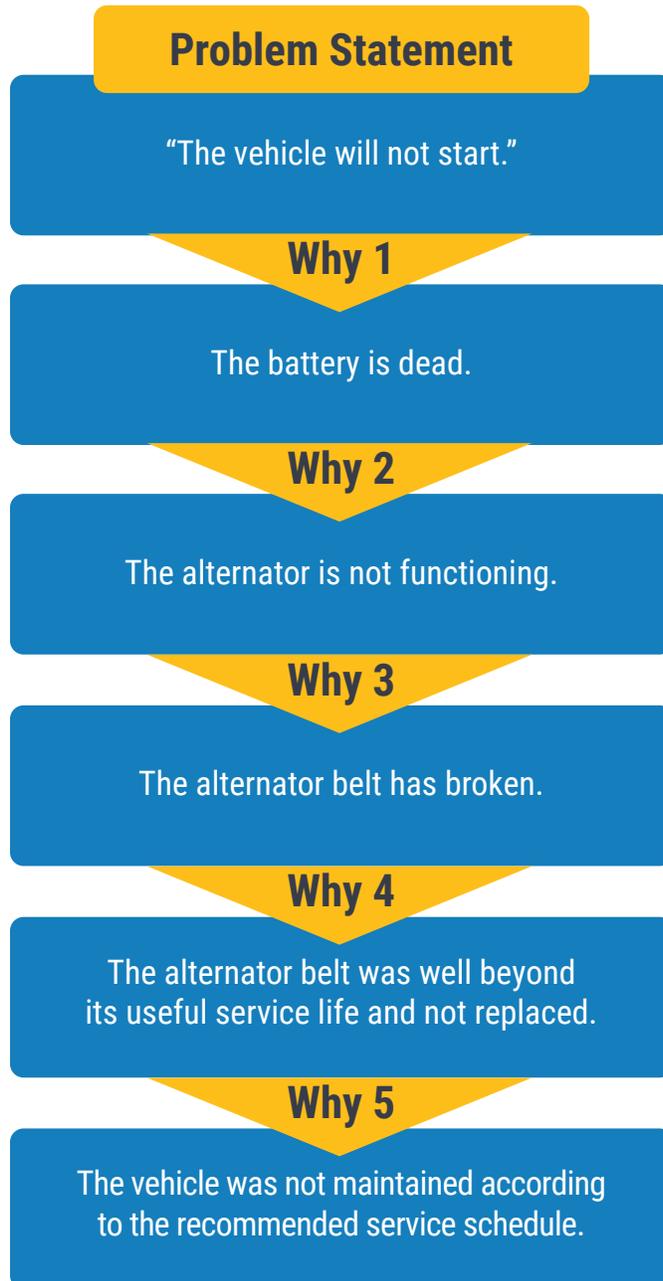
Therefore, organizations that want to prevent accidents must investigate all near misses with SIF potential, serious injuries, and fatalities. Doing so will help them better understand what caused these incidents, the contributing factors, and the root cause. They can use this information to make effective changes and prevent a recurrence.

Many root cause analysis options will help an organization determine accident cause. One of the easiest to implement is the 5 Whys, a simple and effective technique that explores the cause-and-effect relationships underlying a particular problem. 5 Whys forces investigative teams to thoughtfully answer the question of "Why?" five times until they get to the root of a problem.

When you build trust with employees and demonstrate time and time again that **you are not trying to place blame, but rather create a safer work environment for everyone**, then you can start to gain some traction.



## Here is an example of what that might look like:



However, while the 5 Whys may help you identify the root cause of a SIF event, that newfound knowledge doesn't help reduce accidents unless you take action. Therefore, all incident investigations should result in clear action items to prevent recurrence and eliminate any contributing factors. These actions must be tracked, managed, and monitored to ensure closure. If not, action items may fall through the cracks, and any issues they intend to solve will remain.

Increasing employee training focused on the root cause of an incident is often an effective way to prevent reoccurrence. After all, people's personal experiences shape their worldview, and if they have never encountered the risk, how can they be expected to avoid it? However, when you provide your workers with fundamental, actionable knowledge of the tasks and hazards they may encounter in their workday, you give them the tools to make better, safer choices.

# Conclusion

Heinrich's pyramid may be accurate, but only from a high level. Near misses don't necessarily mean a fatality is around the corner and reducing them doesn't mean you've prevented a fatality. **The real focus must be on near misses with SIF potential.** When you focus on eliminating those, your organization will be on its way toward eliminating workplace injuries.

**Contact us if you have any questions about HSI's Safety Training, Incident Reporting, and other modules that make up our comprehensive EHS Platform and Workplace Safety Solutions.**

## About HSI



HSI is your single-source partner for EHS, Compliance, and Professional Development solutions. HSI provides integrated e-learning content, training solutions, and cloud-based software designed to enable your business to improve safety, operations, and employee development. Across all industries, HSI helps safety managers, and technical employees, human resources, first responders, and operational leaders train and develop their workforce, keep workers safe, and meet regulatory and operational compliance requirements. HSI's focus is on training, software, and services for safety and compliance, workforce development, industrial skills, and emergency care. HSI is a unique partner that offers a suite of cloud-based software solutions including learning management, safety management, chemical SDS management, and more, integrated with content and training so businesses can not only monitor and manage multiple workflows in one system, but train employees via one partner.

For more information, visit [hsi.com](https://www.hsi.com)