



CONSTRUCTION
SAFETY RESEARCH ALLIANCE

A Guide To High-Quality Incident Information Collection From Interviews





Importance of Incident Information

This Guidance is grounded in the belief that incidents can be used by organizations for learning and continuous improvement. Incident investigation is part of the learning process, which is defined as the discovery of information that expands our understanding of the events. This definition directs those involved in the investigation process to search for new information that can help inform and improve organizational processes and procedures.

Learning from incidents is vital in aiding organizations in the elimination of Serious Injuries and Fatalities (SIFs). This approach enables organizations to learn from incidents and make appropriate changes to ensure they won't happen again.

The incident investigation process follows a number of defined steps, as shown in Figure 1.



Figure 1 - The incident investigation process.

Attention is often paid to the analysis of the information collected and many academic and commercial tools are available to aid in this process. Within these tools there is often a presumption that the information collected is of high quality, however, that is not always the case. The collection of high-quality information has received a lack of attention in both research and practice. The quality of this information is critical to the entire process; poor quality information will result in poor analysis, inform poor organizational learning, and limit positive change.

The research behind this guide involved a deep dive into the information collection process, as shown in Figure 2.



Figure 2 - The research behind this guide

Although some information is typically objective (e.g., photographs, work plans, risk documentation), we also rely on subjective information obtained from injured parties, witnesses, or other colleagues. This information is vulnerable to judgements, opinions, and biases. Bias can affect the information collection process which adversely impacts the quality of the information collected. Being aware of our biases and asking the right questions to get the right information is often the biggest pain point in the investigative process.

Therefore, this guidance focuses on the information collection stage for incident learning, specifically information elicited from people during interviews. It is compatible with other incident investigative tools, analytical techniques, and the implementation of organizational learning. It should be used as a companion guide to complement these other processes. The focus on best practices in collecting information means this tool can be used for incidents that result in SIFs as well as those that had the potential to have been SIFs (pSIFs).

The overall aim of this guidance is to ensure the interview process yields high-quality information that can be analyzed and used by an organization to support the best possible learning from the exercise.

Terminology

<div style="background-color: #334d5c; color: white; padding: 5px; text-align: center; font-weight: bold;">Incident</div> <div style="background-color: #334d5c; color: white; padding: 10px; text-align: center;"> <p>An occurrence that resulted in harm or had the potential to cause harm.</p> </div>	<div style="background-color: #334d5c; color: white; padding: 5px; text-align: center; font-weight: bold;">SIF</div> <div style="background-color: #334d5c; color: white; padding: 10px; text-align: center;"> <p>Incident resulting in Serious Injury or Fatality.</p> </div>	<div style="background-color: #334d5c; color: white; padding: 5px; text-align: center; font-weight: bold;">pSIF</div> <div style="background-color: #334d5c; color: white; padding: 10px; text-align: center;"> <p>Incident with the potential to result in Serious Injury or Fatality.</p> </div>	<div style="background-color: #334d5c; color: white; padding: 5px; text-align: center; font-weight: bold;">Bias</div> <div style="background-color: #334d5c; color: white; padding: 10px; text-align: center;"> <p>Irrationality or prejudice in our way of thinking.</p> </div>
<div style="background-color: #334d5c; color: white; padding: 5px; text-align: center; font-weight: bold; margin-bottom: 5px;">Investigator</div> <div style="background-color: #334d5c; color: white; padding: 10px;"> <p>An individual given the responsibility of investigating an incident. This can include collecting all relevant information, including carrying out interviews, analyzing the resultant data, and eventually drawing conclusions as to causality.</p> </div>			

The Fundamentals



Critical concepts that influence the quality of the information collected during interviews incorporate the following:

1. Trust

Trust is paramount in the process – workers won't share information if they don't trust. Establishing trust can be hard, but being fair, transparent, and honest about the goals of the interview help in obtaining high-quality information.

Trust is also the foundation for psychological safety. Psychological safety means workers can open up about safety without fear of negative consequences, which is critical in effective incident investigations and for the collection of high-quality information.

2. Blame and No-Blame

Research suggests that organizational learning from incidents is limited by blame, which hinders open information sharing and reporting of incidents. Employee fear of blame and/or repercussions can create a negative atmosphere where employee participation in the investigation process is guarded.

The purpose of interviewing relevant personnel is to elicit valid information. It should be made clear that the interview is a fact-finding process to support organizational learning and continuous improvement. No-blame is therefore a fair principle to adopt at the interview stage – discipline or consequences of the incident should not be discussed during the interview process.

However, our research shows that a strict no-blame approach can inadvertently bias an interview by avoiding questions around worker actions or behaviors, which can be more sensitive and suggest blame. A no-blame approach can direct lines of questioning to things that can be blamed without problem, such as safe work plans, resources and processes, production pressures, supervision, and even the organization itself. These attributes can be causal factors in an incident, but the information gained is limited as it does not illuminate how the workers fit into this bigger picture.

Appreciating *how* other factors influence worker behavior is critical to implementing effective organizational change. Avoiding questions that carry association with blame means that important information and learning may remain hidden. This can be as much of a problem as asking questions that actively seek to blame someone by default.

Blame should be treated very carefully throughout the process. Blame should not be ascribed during the interview, but equally promises should not be made that there will not be consequences. Any worker responsibility or accountability will be the outcome of the analysis of the information collected, not the interview itself. Strict adherence to a blame or no-blame philosophy should not direct or hinder the questioning process.

3. You Are Biased — We All Are!

We all use mental shortcuts (also called heuristics) to help us make decisions quickly and get through life. There is nothing wrong with these decisions, in fact these intuition-based decisions enable us to process information and respond quickly and efficiently as needed. Issues emerge when we over-rely on these shortcuts and fail to determine when they don't apply or cannot be generalized. Over-reliance can lead to systemic errors believed to be based in evidence, but which are not. These shortcuts are also known as biases. There are over 100 different biases known to psychology that can influence human interactions and determinations – including during incident investigations. Our research found that within the incident investigation process biases can seriously hinder the quality of the information collected during interviews.



Experience can both help and hinder investigators due to *Confirmation bias*.

Experience can help speed up an investigation when the type of incident and its typical causes are common, directing the investigator to quickly check those causes and seek out information to support them. However, if something other than what is assumed has happened, their experience can mean they miss or ignore certain information. Instead, an investigator may end up collecting information that suggest the wrong conclusion. In such cases, the investigator consciously or subconsciously focuses on questions (sometimes asking leading questions) that back up their preconceived ideas, rather than questions that explore other lines of inquiry. Even if an incident seems familiar, each situation and the people involved are unique and assumptions of what may happened should be avoided.

Stereotype Bias

Can result in making assumptions about people based on their individual characteristics. For example, people with tattoos are perceived to be more aggressive and louder than people without them. This may be true in many instances, but it is certainly not a generalizable rule. During incident investigations, stereotype bias can result in assumptions based on how someone is behaving in the interview. The assumption can then influence not only how the interviewer questions interviewees, but also the value placed on the responses. For example, a person can be perceived as arrogant simply because of their confident gait while walking into the room.

Anchoring Bias

Can result when investigators become fixated on one aspect of the incident and focus questioning solely around that aspect. For example, if the investigator fixates on the presence or absence of supervision, it dominates the discussion and excludes other lines of questioning. This biases can also limit routes of questioning and leave other factors and aspects of the incident unexplored.

Conservatism in Belief Revision

Is a person's hesitancy to change their mind. An investigator can be reluctant to change their mind if they have formulated an understanding of what occurred and new information does not align with the self-established narrative. Conservatism in belief revision can silo the information gathering process, limiting the quality of information collected.

Research also shows that the language used during the process can embed bias within the process. Consider the word 'investigation' which conjures associations with the police and punishment. Some firms are looking to minimize this bias by calling their investigations 'incident evaluations' instead.

Being aware of innate biases is the first step to mitigating their impact on the quality of the information collected. The nature of what is being investigated can influence the scope and magnitude of an investigation; complex or nuanced incidents may require the development of a team to be mindful of, recognize and mitigate potential biases throughout the process. Additionally, the online Check Yourself feature on the CSRA website provides further information about bias and suggests ways to overcome them. Check Yourself isn't a 'de-biasing' tool – de-biasing tools simply don't work – instead, it helps raise self-awareness and understanding.



Before The Interview

Preparation is needed before any interviews are carried out to optimize the quality of information produced. The following steps can further establish trust in the process and encourage learning from the start.

1. The Role of Management

Senior leadership and management need to be engaged, supportive, and avoid adding bias into the process. For example, if securing a quick resolution is a stated goal for the investigative process, undue pressure on the investigative team can result in mistakes and poor data collection.

Management must acknowledge and accept that a high-quality incident investigative process will take time and require resources to complete thoroughly and effectively. Management must ensure processes are in place, including defined roles and responsibilities within a trained and diverse investigative team, with supporting resources readily available.

2. Who's in the Team?

A broad team should be established with task experts, subject matter experts, safety experts, and relevant stakeholders. Credibility and expertise in the investigation team builds trust in the process, however, it may be useful to also include investigators unfamiliar with construction work. Non-construction team members won't have any preconceptions and can ask basic and fundamental questions, potentially revealing useful information and avoiding confirmation bias within the team.

The size and breadth of the investigation team often depends on the severity of the incident. Serious incidents may involve union representatives and legal representation in addition to the investigation team. Third party investigators, such as external consultants or people from other parts of the organization, may also be involved to ensure impartiality. In a large team, a facilitator/leadership role can ensure the right people are involved in the interviews.

Using a team fully remote from the incident may reassure interviewees of independence and neutrality but including familiar faces can enhance trust and honesty in the process. There is a balance to be struck. When establishing the team, be mindful that the presence of certain levels of management or Human Resources may cause interviewees to fear retribution and limit response.

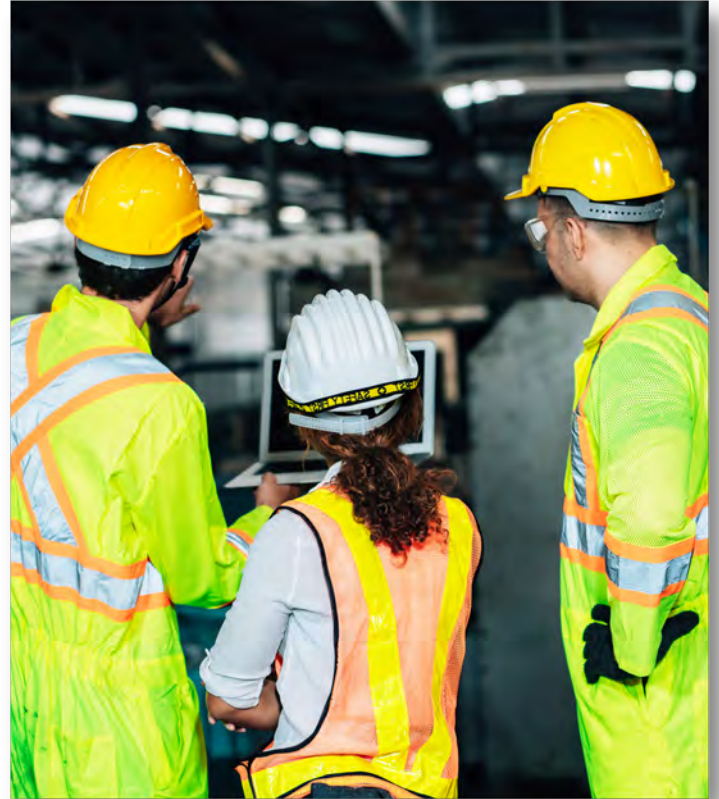


3. Dress the Part

How you make people feel influences how they respond to you and also builds trust. Formal business attire can be threatening and make the interview feel like an interrogation, while dressing too casually leads to the process not being taken seriously. As in Leadership Engagements, dress for how you want the tone of the conversation to go.

4. Location

During the investigative process, a field visit may be necessary. Many workers are more comfortable out in the field and a simple walk-through allows the investigator to get a better understanding of the incident. In some cases, a field visit may not be possible as it may be traumatic for those involved, but an initial conversation in the field can suggest lines of questioning and enhance the information gained in more formal settings.



Any office-type space used should be quiet, private and with no potential disturbances. A table or desk may be perceived as a barrier, so try to sit alongside the interviewee. Make sure there is water, coffee or food and the space is comfortable.

A waiting area may be needed if a large number of people are to be interviewed. Workers shouldn't be required to wait in uncomfortable conditions. Any waiting space should be comfortable and have refreshments on hand. Scheduling interviews should be considered, to prevent discussion and recollections of the incident among interviewees.

Group interviews and discussions with all those involved in the incident can enhance the process. To avoid the **bandwagon effect** (a bias where people agree with the strongest voice), group interviews should be undertaken after individual interviews have been completed. Those involved can explain what happened as a team, ask each other questions and work with the investigator. This approach can also lead to the development of potential solutions at the same time.



5. Timing

The timing of interviews shouldn't be forced and needs to fit in with what else is going on.

Ideally, interviews are carried out as soon as possible following an incident in order to reach people when their memory is fresh. However, investigations that happen soon after an incident might involve people who are in shock or emotional. They may be confused and unable to engage in the process appropriately. In other cases, an interview may need to take place well after the incident to account for a hospital stay or similar situation.

Allowances must be made for these challenges. There is a balance between fresh memories and poor care of workers. Consider the ability of the interviewee to engage and how that may impact the information they provide.

6. Records

Recording interviews can be helpful to the investigators when analyzing and reviewing the information obtained but should only be done with a clear process for anonymity and data protection. However, recordings may make the interviewee uncomfortable, and any hesitancy should be respected. Notes should be taken throughout, ideally by a designated note taker so the investigator can focus fully on the discussions.



During The Interview



Before you start – *Check Yourself!* – remind yourself of the common pitfalls and biases that can emerge during the process. Biases are tricky and we can all fall prey to simple cognitive mistakes without even realizing it. Double check that you (and everyone on the team) are feeling well, not tired, emotional, or distracted, and ready to participate and give the process their full attention.

1. The Set-Up

A good investigator is curious about the ‘what, why, and how,’ and strives to learn as much as possible prevent recurrence. Remember every incident is unique and has a different context, situation, and people involved. There is always something new to find out, and therefore something to learn.

The first statement should always be to introduce yourself and explain your role, along with anyone else in the room the interviewee doesn’t know.

2. The First Question

The first question should always be to check on the wellbeing of the interviewee. The investigator should aim to reduce stress and tension in the first few questions. Don’t be afraid to express concern and understanding – something has happened that has triggered this process, especially in the case of SIF incidents, that can be incredibly upsetting for all involved. It’s important that emotional impacts are acknowledged and respected. Properly addressing these emotions establishes trust in the process.

Be clear about the aim of the interview, that it’s about learning from the incident to make sure it doesn’t happen again – fact-finding, not fault-finding. Avoid making assurances regarding blame and consequences because the investigation is on-going but reassure interviewees that the process is about getting good information, and briefly explain how this conversation supports that process.

3. Getting An Overview

It's a good idea to let the interviewee tell their story in their own time and words. A prompt asking what their day normally looks like can help the investigator get a good idea of the interviewee's experience and familiarity with different work tasks. Getting them to walk through the whole day of the incident, rather than just the incident itself, can also capture factors and aspects that may have influenced the incident. Asking what was different or what happened differently on that day can help reveal relevant contextual factors.

This approach, although useful in getting an overview, can also result in a very long monologue from the interviewee. Our research shows it can be hard for an investigator to keep track of all the points raised given the volume of information shared from asking very broad open-ended questions. Investigators must beware of anchoring to one thing or simply hearing what was expected – either of which can then shape the follow-up questions and hinder the quality of the information collected. Frequent interruptions should be avoided due to their tendency to derail the interviewee's train of thought and potentially lead to a hostile environment if the interviewee feels they are being constantly challenged. A predetermined strategy to ensure all relevant information is captured when an interviewee provides a long response should be established. A note-taker could help write down the story so every relevant point can be reviewed and unpacked in the later discussion, to ensure nothing is missed.



4. Topics to Cover

Many firms have their own protocols or interview checklists for questioning, including topic areas to be covered and in what order. Relevant topic areas will depend to some extent on the situation and incident itself, however the following are suggested as a rough guide:

- **Personal Information** – e.g., what got you into the construction industry? How are you feeling? How long have you worked here?
- **Supervision** – e.g., how are you being supervised and supported in their work?
- **Upper Management** – e.g., who decides how the work is planned and structured?
- **Policies** – e.g., can the rules be followed all the time?
- **Organization** – e.g., did you have all the resources you needed for the task? Are there schedule pressures?
- **Crew** – e.g., who were you working with? Have you worked with them before?
- **Task** – e.g., how often have you done this task before?
- **Incident** – e.g., what was different this time?

It may be that these areas can all easily be explored in follow up questions to the overview, but it can be useful to have a list of topics to explore to ensure nothing is missed.

5. How to Ask the Right Questions

Although question checklists can help guide the interviewer, there will still be areas where flexibility is required – and it's OK to go 'off script'. In fact, many checklists still need investigators to determine how or why things happened as they did. For example, a binary yes/no question can prompt the investigator to determine whether planned work was deviated from in the field, but unpacking the reasons why requires a different approach. This is when the investigator needs to ask appropriate questions in the right ways, to generate high-quality information.

It's best to avoid directly asking *why* things happened – this is often seen as confrontational, and the interviewee may not know the answer, which can make them defensive. Instead ask *how* or *what* questions, or even *what happened?* – these are less challenging questions and can be answered on the interviewees own terms.

Try to avoid words with negative connotations or making any accusations. For example, asking 'what did you do wrong?' will not help engage an interviewee. More likely, it will make them shut down and disengage from the interview from fear of blame. Be cautious, not fearful, when exploring human error-related factors or asking direct questions (e.g., why procedures weren't followed) as this can raise concerns of blame and punishment. Instead unpack them from alternative perspectives, by indirectly asking the question. For example, asking if there was something that should have been used, but couldn't be located.

Embrace silence and let people answer in their own time. Ask a question and let the interviewee answer it, which may take some time if they are thinking carefully or trying to recall something. It is tempting to try to ask the question again or rephrase it in a number of ways – but our research shows those tactics often result in asking a different question entirely! Embrace the Silence!

Asking open ended questions is the best approach which allows the interviewee to construct their own answers and bring in new ideas and information. Yes or no questions are useful when a clarification or confirmation of fact is needed. Finally, avoid complicated terminology or language, particularly if English is not the first language of the interviewee.

Do's

- Ask open-ended questions
- Ask 'What happened?'
- Ask 'What went wrong?'
- Embrace silence and let the interviewee think out their answers in their own time.
- Be quiet and let the interviewee speak at their own pace

Dont's

- Ask only yes/no questions
- Ask 'Why?'
- Ask 'What did YOU do wrong?'
- Rephrase questions if there isn't a quick answer, the interviewee may be thinking.
- Fill silence with your own voice

Figure 3 - Do's and Dont's for asking the right questions

6. Body Language

Be open and non-confrontational in your posture and gestures. For example, crossing your arms tightly across your chest can be seen as aggressive and does not create an open atmosphere of trust. Eye contact is important, but overuse of direct eye contact by an interviewer can be seen as threatening. Gestures such as pointing at someone or impatiently tapping on a table can also be seen as aggressive and should be avoided.

Observing body language can be helpful in revealing if people are scared, defensive, upset, or misleading. However, be very careful in interpreting body language if not trained, as everyone is different. Be mindful of the possibility that one person's lack of eye contact because they are avoiding saying something can also be another person's natural response to a very stressful situation.



7. When to Stop

The interview should end when no new information is emerging, all topic areas have been covered, and all avenues of inquiry have been explored.

Interviews can be stressful for everyone involved and shouldn't be drawn out for the sake of it. Some people are talkative, and some are not, and neither should be forced to fit into a prescribed time frame. Interviewers need to be able to work with all types of people and be able to shape the situation to best suit them.

Follow-up questions or clarifications could be needed later in the process, depending on the route the investigation takes. The interviewer should make the interviewee aware that this could be a possibility, and explain why, so they are not worried if they are asked back for another interview in the future.

8. The Last Question

Interviewees should always be thanked for their participation and asked if they have any questions about the process. Explain what the next steps will be. Don't make promises you can't keep, but also be sure to follow up on any promises you do make.

A great last question that may elicit more insights is whether there is anything else they think you should have asked them or that they want to tell you. This can be the point when they open up.



After the Interview

It may be necessary to interview people multiple times to check their recollections against other parties or to seek clarifications. It might also be necessary if the investigator(s) feel they have been biased in their own approach and have missed some potentially useful information. Good investigators are always mindful of the scientific fact that we are all biased, and so will inevitably make irrational judgements and decisions every now and again.



Once the information has been collected from the interviews, it should be kept with all the other relevant information collected during the wider investigation. This could include (but not be limited to) photographs of the area, onboarding and training records, pre-job checklists, notes of pre-job meetings, risk assessments, machine maintenance logs, and video recordings.

Each organization will have its own procedures and processes for incident investigation, learning and corrective action. This Guide is focused only on collecting high-quality information from interviews and should be used as a supplement to standard organizational procedures. Shared learning is important, and actions should be communicated back to all involved in the process. This helps establish trust in the investigative process, reassures the workforce that the organization is serious about learning from incidents and highlights safety as a top value.

Final Thoughts and Takeaways

Meaningful corrective actions are dependent on the quality of information gathered during an investigation. Although there are many tools to support the analysis of incident information, they are all grounded in the assumption that good information is always collected from the people involved, but that is not always the case.

Information collection from interviews is a specific and skilled part of this process and often forms the biggest pain point in investigations.

This Guide has highlighted the pitfalls and vulnerabilities that can negatively impact the quality of incident information collected from interviews, to enhance the quality of the process from the very start.

Key Takeaways for Investigators

- Know that you are biased! This can't be avoided but can be acknowledged and managed in the interview process
- Be careful of blame and no blame
- Have a plan of action for the entire interview process
- Trust is critical, be sympathetic, honest, and open to building rapport
- Don't make promises you can't keep – but ensure you do keep any that you make

Key Takeaways for Management

- Incident investigations take time and resources to do properly
- They shouldn't be rushed simply to meet a target timeframe or KPI commitment
- Don't bias the investigation with undue pressures
- Be engaged and provide support for everyone involved
- Communicate the organizational learning and implementation of changes that support continuous improvement

Check Yourself and more Incident Investigation Resources

The CSRA Website also contains more information about the research behind this Guide, its key findings, and more detailed information about biases and how to avoid them. You can find them all via: <https://www.csr Colorado.edu/>



Acknowledgements

This document was developed by Construction Safety Research Alliance Members:

Caleb Scheve*

Ramsey Robertson*

Alan Parker

Ben Rayner

Brent Cunningham

David Alberghini

David Tolbert

James Upton

Joan Kuenzi

John Kumm

John Murphy

John Hogan

Kevin Camp

Mark Klimbal

Michael Muffly

Michael Ochs

Michael Quashne

Philip Pickle

Robert Miller

Ryan Martin

Todd Gallaher

Price Gregory

Wolfcreek

Ergon

TC Energy

Pembina

Eversource

Comfort Systems USA

Ergon

Xcel Energy

Power Engineers

Power Engineers

DPR Construction

MYR Group

MN Limited

Mastec

Q&D Construction

BGE

Entergy

Otis

TVA

Southern California Edison

***Denotes Chairs**

In the Construction Safety Research Alliance industry leaders and experienced researchers collaborate to pursue the mission of eliminating serious incidents and fatalities in the construction industry with transformative research and defensible science.