

Conducting an incident investigation



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Health and Safety in NZ extractives

Contents

1	Introduction	1
2	Immediate response	2
3	Information gathering	3
4	Conducting the analysis	4
5	Report findings	5
6	Implementation of changes	6
	Investigation form	7
	Useful resources	9

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1 Introduction

An incident investigation is a process carried out in response to a workplace accident, near miss, or other safety-related incidents. Its primary objective is to identify the underlying causes, understand why the event occurred, and develop strategies to prevent similar incidents from happening in the future.

Incident investigation is not about finding fault or assigning blame. Instead, it's about understanding the factors contributing to the incident, including environmental conditions, human behaviour, equipment failure, inadequate training, poor procedures, or a combination.

People with duties under the Health and Safety at Work Act 2015 (the Act) and Health and Safety at Work (Mining Operations and Quarrying Operations) Amendment Regulations 2022 (the Regulations), must ensure there is a process for reporting and recording relevant health and safety information, including the investigation of notifiable events.

An incident is any unplanned event that results in, or has the potential to result in injury, illness, property damage, environmental harm, or disruption to operations. Incidents can range from minor accidents with little to no impact to severe events that cause significant harm or loss.

The intent of this booklet is to provide guidance on conducting an effective incident investigation.

2 Immediate response

When an incident occurs, activate your Emergency Response Plan. Depending on the nature and severity of the incident, this may involve calling emergency services such as fire, medical, or police.

Ensure that any injured workers receive immediate medical attention through on-site first aid treatment or by arranging transportation to a medical facility if needed. Also, assess and address any immediate damage caused by the incident. This may range from minor equipment damage to significant structural issues that could pose further risks.

Alert all necessary personnel about the incident. This includes the site manager and extends to the families of the affected workers, if necessary. If the incident is notifiable under the Regulations notify WorkSafe immediately.

Secure the incident site to ensure that an effective investigation can be conducted later. This means preventing unauthorised access to the area, halting work, and preserving all relevant plant, substances, structures, and equipment associated with the incident. This is a requirement under the Act and Regulations but the primary aim is to maintain the site's integrity and avoid contamination of evidence, which can be crucial in determining the cause of the incident.



Through swift and thoughtful action in the initial response stage, companies can prevent further harm, preserve essential evidence, and lay the groundwork for a thorough and effective incident investigation.

3 Information gathering

Once the incident site is secure and the immediate response measures are in place, shift your focus towards gathering as much data and information about the incident as possible. Time is of the essence during this phase as vital information can be lost, memories can fade, and physical evidence can be compromised as regular operations resume.



Begin by speaking with everyone who witnessed the incident. Ask each witness independently to provide a comprehensive account of what they saw, experienced, or noticed leading up to, during, and following the incident. These interviews should be conducted in a calm, non-threatening manner to create an atmosphere of trust. Remember, the goal here is to gather information, not to assign blame.

Gathering relevant documentation is an important part of the information collection phase. This might include operating procedures, maintenance records, training documents, safety inspection reports, and other records that might shed light on the incident. Photographs or video footage of the incident site and any equipment can provide valuable visual evidence. Diagrams or sketches can also help visualise the layout and movement during the incident. Where available, secure digital evidence like CCTV footage or monitoring data.

It is advisable to have a form or checklist to guide you through the investigation process. An example of such a form is included later in this booklet.

Once information is gathered, it is generally safe to release the scene so that normal operations can resume.

4 Conducting the analysis



One of the most effective ways to begin the analysis is to create a detailed incident timeline. This chronological account provides a clear sequence of events and can help identify cause-and-effect relationships.

Categorise the data into logical areas such as human actions (**people**), equipment performance (**equipment**), environmental conditions (**environment**), adherence to procedures (**procedures**), and organisational issues (**organisation**). This approach, referred to as PEEPO, can help highlight patterns and correlations that might lead to a deeper understanding of contributing factors and underlying root causes.

With a detailed understanding of the events leading up to, during, and following the incident, the investigator can now work towards identifying the probable cause or causes. It is rare for incidents to have a single, simple cause and most result from a combination of interconnected factors, such as human error, equipment failure, procedural deficiencies, environmental conditions, or organisational failures.

It can be helpful to use a tool such as Root Cause Analysis, The 5 Whys, Fishbone diagrams, or Fault Tree Analysis to identify the root causes and contributing factors. Refer to the OHSE Canada – Conducting an Incident Investigation document in the useful resources at the conclusion of this booklet for more details on these tools.

5 Report findings



It is important to consolidate all the findings into a comprehensive and coherent report.

The report should start by laying out all the facts about the incident and the investigator should stick to the facts, avoiding speculation or subjective interpretation.

The report should clearly state the investigator's conclusions based on the analysed data. This includes identifying the probable cause or causes of the incident. This section must be backed by evidence from the investigation to support its validity.

The report is a crucial tool for sharing insights and lessons learned, with the ultimate goal of preventing similar incidents in the future.

If the incident is notifiable under the Act and Regulations, the incident report should be sent to WorkSafe within 30 days of the incident. If you need more time, notify your local WorkSafe inspector.

6 Implementation of changes

The final stage in the incident investigation process is implementing changes based on the investigation's findings and recommendations. It is critical that preventive actions are implemented quickly to avoid recurrence of similar incidents and improve the workplace's overall safety.

Once implemented, regular monitoring and follow-ups are necessary to ensure that the implemented changes are effective and are being adhered to.

Remember, the ultimate goal of any incident investigation is not to assign blame but to uncover the underlying issues that led to the incident. This approach allows us to learn from these unfortunate events, enhancing the overall safety of our work environments and the well-being of our employees.



Investigation form

WHO was involved in the incident?		
WHO were witnesses?		
WHO was the supervisor?		
WHO was the accident / incident first reported to?		
WHEN was the accident / incident first reported?		
Time:	Date:	
WHEN did the accident / incident occur?		
Time:	Date:	
WHERE did the accident / incident occur? Be specific.		
HOW did the accident / incident occur?		
WHAT was the injury?		
		Part of body:
WAS the employee referred to doctor?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
WAS the employee hospitalised?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
HAS employee returned to work?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Other information:		
Is this a lost time injury?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
		Date:
Signed (first aider):		

INVESTIGATION BY or DELEGATE

HOW and **WHY** did the accident / incident happen? Explain how and what the person was doing and with what, and include diagrams / images / any other information to support findings.

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WAS the situation covered by Safe Work Procedure?

Yes No

ACCIDENT / INCIDENT CAUSE ANALYSIS

IMMEDIATE CAUSES including work environment, equipment and work processes / procedures / practices. List each of the immediate factors that appear to have caused the accident e.g. machine unguarded, operator used wrong tool, forklift with tynes up, fumes ignited etc.

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UNDERLYING (BASIC) CAUSES – SYSTEMS FAILURES e.g. inadequate training programmes, inadequate work procedures, inadequate maintenance system, inadequate housekeeping system.

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GENERAL RECOMMENDATIONS – review systems identified above.

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Signed (manager/investigator):

Useful resources

WorkSafe Queensland – Tips for investigating workplace incidents

www.worksafe.qld.gov.au/__data/assets/pdf_file/0015/22902/tips-for-investigating-workplace-incidents.pdf

Health and Safety Executive UK – Investigating accidents and incidents

<https://www.hse.gov.uk/pubns/books/hsg245.htm>

OHSE Canada – Conducting an Incident Investigation

<https://ohse.ca/conducting-incident-investigations/>

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