

Incident reporting & investigation exercise

Small mines workshop

February to April 2023

February to March 2023

Incident Reporting and Investigation

A key part of a SMS is to evaluate incidents and near-misses, so that the chance of the same or similar incident happening again can be eliminated or minimised.

To achieve this requires good investigation methodology to identify failed controls and additional controls to prevent a reoccurrence.

Information provided in an investigation can be used to make recommendations to industry.

This exercise will require:

1. Completion of an incident report to the Resource Regulator.
2. Completion of an investigation document to identify causal factors and required control measures to prevent a reoccurrence.

Incident Reporting and Investigation

Incident Report

As the quarry manager, you obtain information (from the incident description) to report the incident to the Regulator.

As a group, complete the incident report and list any photos you would provide with your report.

Incident Investigation

As a group, complete the investigation report by:

- Listing any failed control measure(s) against each causal factor.

- Listing any additional control measure(s) to prevent a reoccurrence.

- Identify using the hierarchy of controls (HoC) all control measures listed.

- Prioritise the additional controls listed to be implemented.

Incident Reporting and Investigation

Investigation Report

Apply the “Nertney Wheel” model.

Investigate causal factors related into:

- Fit for purpose equipment.
- Competent people.
- Safe work practices.
- Safe work environment.

Investigate “Behavioural” causal factors related into:

- Individual behavioural safety
- Organisation dynamics
- Task demands
- Resourcing & planning

Nertney Wheel



Source: Bullock M.G. 1979

Incident reporting

A maintenance fitter received a fractured right collarbone and serious bruising to the upper right shoulder. The fitter attends hospital the following day for an x-ray and is given 2 weeks off.

- What type of incident is this? (Serious injury or illness, dangerous incident or high potential)
- When and how should it be reported?
- When should a written notice be provided?

Incident exercise



Reported under Section 189 serious injury:

(a) an injury or illness requiring the person to have immediate treatment as an in-patient in a hospital, or

(d) a fracture to a person's bone other than a bone in the person's hand or foot, including a finger or toe,

The Department's incident report email reference:
IncNot0042957

Read through the incident information and complete the report form as a table group. (15 minutes)

As a table group investigate the incident using a designated "Nertney wheel" causal factor table and behavioural factor table to consider controls to prevent a recurrence. (10 minutes)

Group discussion on the results. (15 minutes)

INCIDENT / INVESTIGATION REPORT - PART A Report #...22/001.....

Complete this section if this incident was reportable to the Resource Regulator
 Date Reported 10 October 2022... Time Reported...1pm... Report Number IncNot0042957

Name of person reporting incident: Quarry Manager.....

Date of incident:.....10 October 2022..... Time of incident: about 11:15am

Incident reported to:.....

Incident type (Circle): High potential / Injury first aid / Medical treatment / Property or plant damage / Loss time

Incident Details. (Photographs attached (Circle) Yes / No)

Location: XYZ QUARRY – MAIN PIT SUMP

Description:

During plant maintenance of a Powerscreen Warrior 1800 screen a Contract fitter began to remove the bolts from the left-hand wing and rear wing assembly. The rear wing (estimated to be around 200kg in weight) rotated down striking him on the top of the right shoulder and knocking him off a ladder onto the ground.

Persons injured and involved / witnessed the incident

Name of person(s) injured:

1. John Citizen

2.

Statements

1. Yes / No

2. Yes / No

Return to work

1. Yes / No

2. Yes / No

Employment type (Circle): Permanent / Casual / Contractor / Visitor / Other

Injury Details: Bruising to right shoulder

Name of persons witnessed / involved:

1. Excavator operator

2.

Statements

1. Yes / No

2. Yes / No

Employment type (Circle): Permanent / Casual / Contractor / Visitor / Other

Plant involved in the incident. (Photographs attached (Circle) Yes / No)

Powerscreen Warrior 1800 screen

Immediate actions taken. (Photographs attached (Circle) Yes / No)

Incident scene preserved

Injured worker taken to Dubbo hospital for treatment

Quarry Manager:

Date / Signature

Comment: Still trying to contact Contract supervisor regarding level of injury. Photos attached. Investigation and statements underway.

**Incident
exercise**



Incident Details. (Photographs attached)

1. Photo of plant type (model and manufacturer)
2. Photo of hinge mechanism
3. Photo of removed wing
4.

Plant Details. (Photographs attached)

1. Photo of plant type (model and manufacturer)
2. Photo of hinge mechanism
3. Photo of removed wing
4.

Immediate Actions. (Photographs attached)

1. Photo of witch's-hats and danger tape
2.
3.
4.

Other. (Photographs attached)

1.
2.
3.
4.



INCIDENT / INVESTIGATION REPORT – COMPETENT PEOPLE

Report # ---22/001-----

Causal factor	Control failure or absence	HoC	Additional control to prevent reoccurrence	HoC	Priority / Completion date
Fit for work	No test for alcohol or drugs	Admin	Policy - Mandatory testing for plant related incidents.	Admin	
Licence / Qualifications	No applicable - Maintenance fitter qualified				
Training	Risk management training to identify hazards	Admin	Risk assessment training	Admin	
Supervision / management	No written instructions – had not done task before.	Admin	<ul style="list-style-type: none"> • Knowledge of plant prior to work or be assisted by plant operator familiar with plant. • Plant operator to assist in workplan 	Admin Admin	



INCIDENT / INVESTIGATION REPORT - PLANT

Report # ---**22/001** -----

Causal factor	Control failure or absence	HoC	Additional control to prevent reoccurrence	HoC	Priority / Completion date
Fit for Purpose	Maintenance and operator manual damaged	Admin	Have electronic versions on laptop for maintenance	Eng	
Maintenance truck pre-start	No checklist for on-board equipment	Admin	Conduct prestart check of truck equipment status	Admin	
Maintenance	No written safe work method statement (SWMS) No storage facility for maintenance equipment	Admin	All irregular maintenance tasks to have a SWMS	Admin	
Supervision / management	No procedure to conduct a risk assessment and contact management when changing work instructions	Admin	Implement change management procedures,	Admin	



INCIDENT / INVESTIGATION REPORT – SAFE WORK PRACTICES

Report # - **22/001** -----

Causal factor	Control failure or absence	HoC	Additional control to prevent reoccurrence	HoC	Priority / Completion date
SWMS's	No SWMS and maintenance job card	Admin	Prepare specific SWMS and list it as a requirement on the job card.	Admin	
Hazard identification (Take5)	Take 5 did not identify hinged rear wing	Admin	Training in take 5 process.	Admin	
Contractor management	Mine supervisor did not immediately contact the quarry manager about the incident.	Admin	Training in incident management process	Admin	
Principal Hazards and control plans	Change management process and SWMS's Contractor management plan Securing objects when dismantling plant	Admin Isolation	Implement change management process. Maintenance tasks to be supported by SWMS's		



INCIDENT / INVESTIGATION REPORT - ENVIRONMENT Report # --- 22/001 -----

Causal factor	Control failure or absence	HoC	Additional control to prevent reoccurrence	HoC	Priority / Completion date
Weather conditions	Not applicable. Although rain predicted in the afternoon	Admin	Maintenance prestart meeting to consider weather conditions.	Admin	
Workplace conditions	Not applicable -- Screen relocated to safe area away from mining activities				
Site location	Remote site did not have maintenance storage facilities	Eng	Provide storage container for additional slings, straps and parts.	Eng	
Local area conditions	Recent flooding not known by fitter	Admin	Fitter did not attend maintenance prestart meeting	Admin	
	xx	xx	xx	xx	xx



INCIDENT INVESTIGATION REPORT – BEHAVIOURAL FACTORS Report # 22/001

Causal factor	Control failure or absence	HoC	Additional control to prevent reoccurrence	HoC	Priority / Completion date
Individual behaviour • → Knowledge • → Perception • → Situational awareness • → communications	<ul style="list-style-type: none"> • → Take-5 did not increase situational awareness of task. • → Had not undertaken task before. • → Perceived all the equipment required to do the task was on the truck. • → Did not contact maintenance foreman about change in plan. • → No manual available and not reviewed. 	☐	<ul style="list-style-type: none"> • → Place falling object stickers on rear wing near hinges. • → Highlight hinges on rear wing 	☐	☐
Organisational dynamics • → Planning & coordination • → Risk management • → Safety Culture	<ul style="list-style-type: none"> • → Did not ascertain what equipment was on the truck. • → Did not discuss task with excavator plant operator. • → No one present during task who knew the operation of the plant. • → Excavator operator did not conduct a take-5 for the task. 	☐	<ul style="list-style-type: none"> • → Create equipment checklist • → Retrain workers in take-5 observations 	☐	☐
Task demands • → Work pressures • → Information • → Complexity	<ul style="list-style-type: none"> • → Crushing behind schedule and penalties may apply. • → No manual available, no SWMS, no job card, no equipment checklist on maintenance truck. • → Had not undertaken task in last 4 years and required load shifting to complete the task. 	☐	☐	☐	☐
Resourcing & planning • → People resource • → Equipment availability • → Organisational arrangements	<ul style="list-style-type: none"> • → Fitter working alone when dismantling plant. • → Required equipment not available on the maintenance truck. • → Remote site did not have maintenance storage facilities for required equipment. 	☐	☐	☐	☐



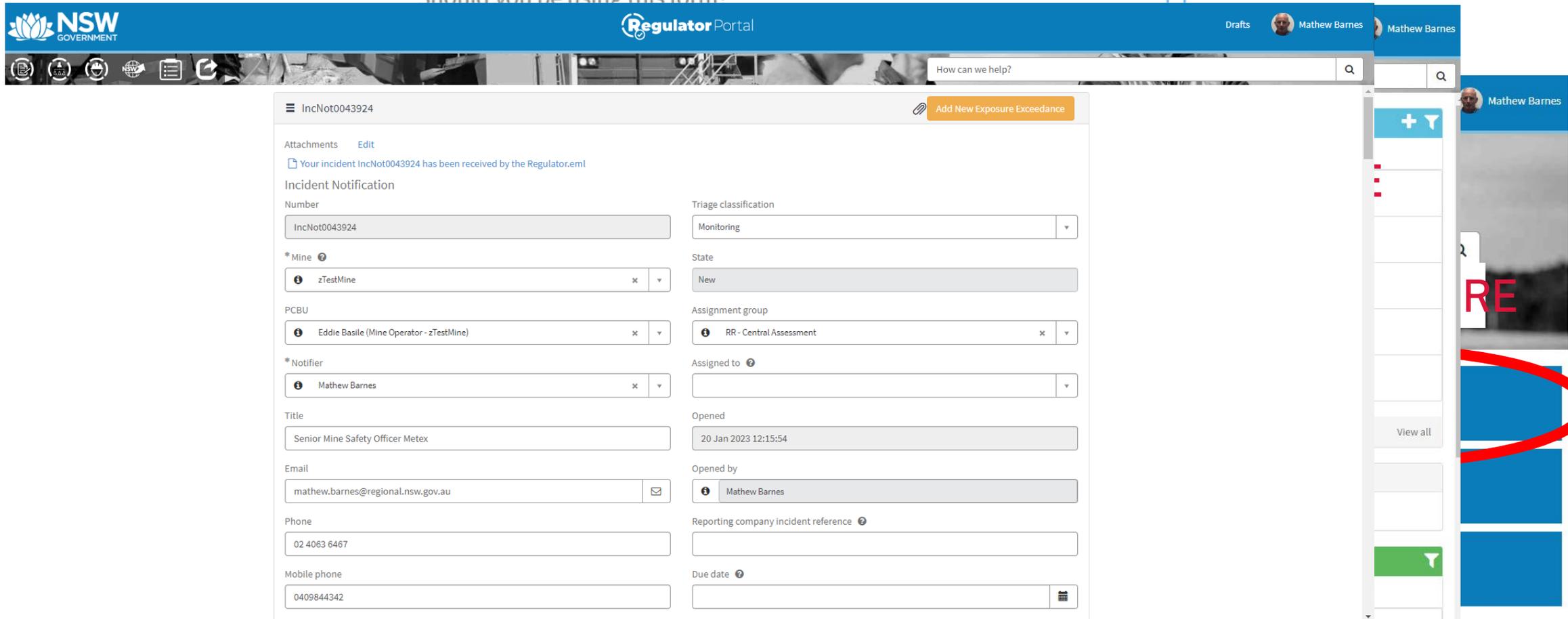
Reporting the investigation in the Regulator Portal

What details need to be reported from your investigation?

- **Preventative actions** – Initiatives to monitor and maintain controls.
- **Mitigating factors** – Initiatives that reduce the severity of an incident.
- **Apparent causes** – Causal factors contributing to a risk and hazard.
- **Actions taken** - Investigation outcomes implemented.
(This is normally provided as an action plan)

How to notify the Regulator of an incident or update details

Should you be using this form?



The screenshot shows the 'Regulator Portal' interface for incident notification. The top navigation bar includes the NSW Government logo, the 'Regulator Portal' title, and user information for 'Mathew Barnes'. A search bar is present with the text 'How can we help?'. The main content area displays the incident details for 'IncNot0043924'. The form includes fields for 'Number' (IncNot0043924), 'Triage classification' (Monitoring), 'Mine' (zTestMine), 'State' (New), 'PCBU' (Eddie Basile (Mine Operator - zTestMine)), 'Assignment group' (RR - Central Assessment), 'Notifier' (Mathew Barnes), 'Assigned to' (empty), 'Title' (Senior Mine Safety Officer Metex), 'Opened' (20 Jan 2023 12:15:54), 'Email' (mathew.barnes@regional.nsw.gov.au), 'Opened by' (Mathew Barnes), 'Phone' (02 4063 6467), 'Reporting company incident reference' (empty), and 'Mobile phone' (0409844342). A red circle highlights the 'View all' button in the right-hand sidebar.



Any questions ?