

Consolidated report

Health control plan - stage 2 – coal mine sites

July 2023 to May 2024



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Executive summary

A crucial part of the Resources Regulator’s incident prevention strategy for mines and petroleum sites involves:

- targeted assessments and planned inspection programs – focusing on assessing an operation’s control of critical risks by evaluating the effectiveness of control measures in the mine’s safety management system
- priority programs – proactively assessing a topic that is an emerging risk throughout the industry, which is determined primarily from incident data as well as evolving industry trends. Although these topics may also be contained within the Regulator’s planned inspection programs, the aim of compliance priority programs is to gather further information and knowledge about how the industry is managing and controlling a specific issue.

The Regulator has developed a bowtie hazard management framework and standardised assessment checklist for each program plan. Under each program plan, the effectiveness of the safety management system at each mine site is assessed against a standard set of control supports and critical controls.

Exposures to health impairment at coal mine sites (coal mine sites include above surface coal mines, coal processing sites and underground coal mines) and the threats’ critical controls and control supports are identified in the Regulator’s health impairment – injury or illness bowtie.

Health impairment can occur in various coal mining environments and has the potential to cause serious and/or fatal injuries to workers if not controlled effectively.

This health control plan stage 2 report consolidates assessment findings and provide analysis and recommendations for operators of coal mine sites.

This report can be read in conjunction with the Regulator’s consolidated report published on the Regulator’s website on 23 May 2024, which details the findings of the health control plan stage 1 assessment program for coal mine sites.

In total for this consolidated report there were 34 coal mine sites assessed including:

- 14 open cut coal mines
- 3 coal processing sites
- 17 underground coal mines.

In summary, there were 1,224 individual assessment findings and of those, 23 assessment findings related to the management of the health control plan requiring enforcement action to be taken at a coal mine site. The assessment program was conducted between July 2023 and May 2024.

In summary, there were 27 compliance notices issued in total during the program. Of these, 15 compliance notices were issued at 12 coal mine sites related to the health control plan:

- 5 x section 191 improvement notices issued to 2 underground mines, 2 open cut coal mines and 1 coal processing site
- 10 x section 23 cause for concern notices issued to 4 underground coal mines and 4 open cut coal mines and 1 coal processing site

Explanatory notes on the assessment system are listed in Appendix A.

Assessment criteria for all assessments

Critical controls were identified by the Regulator and assessment criteria were assigned to each potential threat.

A tabulation of the threat, consequence, critical control and control support for the health control plan stage 2 at coal mine sites is provided in Table 1.

Information relating to stage 1 of the health control plan assessment findings is published in the Regulator’s consolidated report.

Table 1. Threats, consequence, critical controls and control supports assessed for the review of the health control plan stage 2 at coal mine sites.

Threat	Critical control	Control support
2. Ionising and non-ionising radiation	PC 2.1	Shielding
	PC 2.2	Limit exposure
	PC 2.3	Access control
5. Contracting disease	PC 5.2	Vaccination
5. Contracting disease	PC 5.3	Animal and pest control
6. Bites and stings		
6. Bites and stings	PC 6.2	Personal protective equipment

Assessment findings for coal mine sites

Overall, the assessment findings for coal mine sites were:

- 34 coal mine site assessments comprised of:
 - 14 open cut coal mines
 - 3 coal processing sites
 - 17 underground coal mines
- 1,244 individual findings for the assessed criteria
- 23 assessment findings with enforcement action recorded related to the management of health control plan at the coal mine site.

Figure 1 provides a summary assessment of overall results by critical control and coal mine operation type.

Figure 1. Summary assessment of overall results by critical control and coal mine operation type

	Threat						Grand Total
	2. Ionising and non-ionising radiation			5. Contracting disease	5. Contracting disease 6. Bites and stings	6. Bites and stings	
	PC2.1	PC2.2	PC2.3	PC5.2	PC5.3	PC6.2	
	Shielding	Limit exposure	Access control	Vaccination	Animal and pest control	Personal protective equipment	
Surface	97%	97%	98%	96%	97%	100%	98%
Underground	98%	98%	98%	96%	99%	100%	98%
Grand Total	98%	98%	98%	96%	98%	100%	98%

- Green (=100%)
- Yellow (>= 80% and <100%)
- Orange (>= 65% and <80%)
- Red (<65%)

In summary the overall assessment findings by critical control and coal mine operation type were assessed in total as 98%.

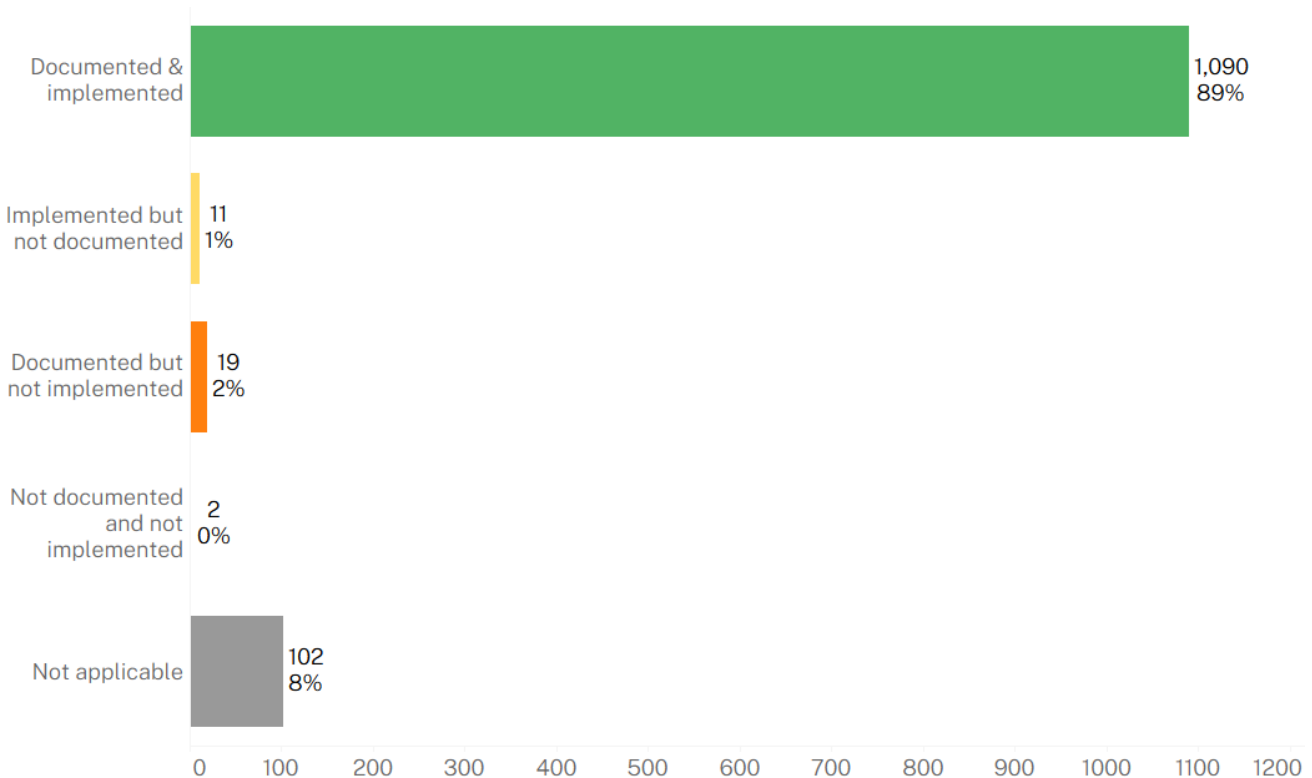
The lowest assessment overall finding at surface coal mine sites was 96%.

The lowest assessment overall finding at underground coal mine sites was 96%.

Assessment overall ratings for coal mine sites

The assessment overall ratings for coal mine sites assessed are shown in Figure 2.

Figure 2. Overall assessment findings ratings

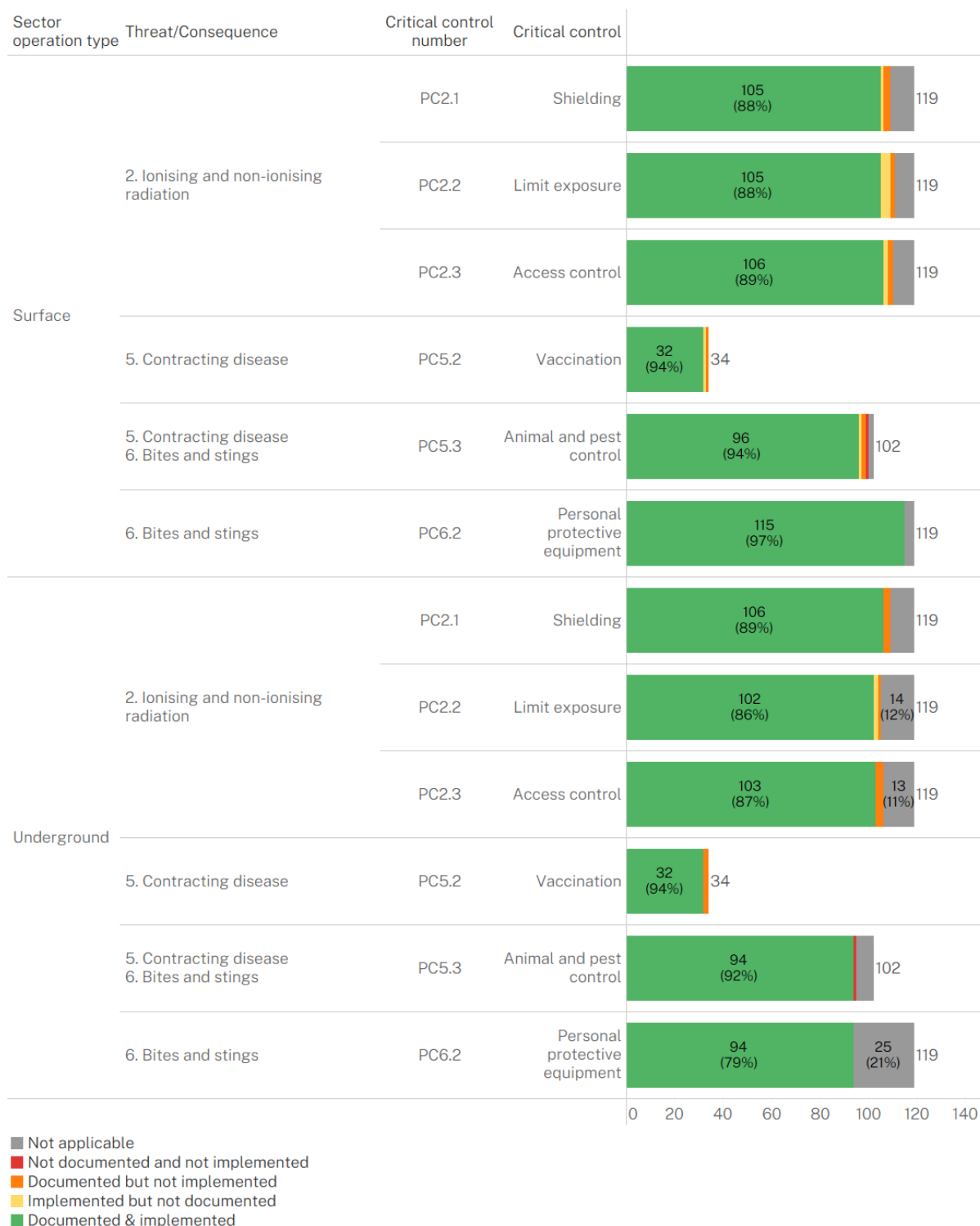


In summary the overall assessment ratings for coal mine sites were:

- 89% rating for documented and implemented finding
- 1% rating for implemented but not documented finding
- 2% rating for documented but not implemented finding
- 0% rating for not documented and not implemented finding

The overall assessment ratings by sector operation type and critical control are shown in Figure 3.

Figure 3. Overall assessment ratings by sector operation type and critical control



Notices issued to coal mine sites

In summary, there were 27 compliance notices issued in total during the program. Of these, 15 compliance notices were issued at 12 coal mine sites related to the health control plan.

Other compliance notices were issued but they were not directly related to the health control plan.

In summary of 15 compliance notices were issued related to the management of the health control plan comprising of:

- 5 x section 191 improvement notices issued to 2 underground mines, 2 open cut coal mines and one coal processing site
- 10 x section 23 cause for concern notices issued to 4 underground coal mines and 4 open cut coal mines and one coal processing site
- One open cut coal mine was issued with one section 23 compliance notices and one x section 191 compliance notice
- One underground coal mine was issued with one section 23 compliance notices and one section 191 compliance notice

The compliance notices issued for coal sites were reviewed and Table 2 lists the notices issued by type and number.

Table 2: Types of compliance notices issued at coal mine sites

NOTICE TYPE	SURFACE COAL SITES	UG COAL SITES	TOTAL NUMBER OF COAL SITES
s.191 improvement notice	3	2	5
s.23 notice of concern	5	4	9
Total	8	6	12

Note: some mine sites were issued multiple notices

Recommendations for coal mine sites

Based on the findings outlined in this report and with respect to the numbers and types of compliance notices issued during the assessment of the health control plan stage 2 at coal mine sites, it is recommended that the following issues should be reviewed by mine operators of coal mine sites:

- Review all radiation management licence conditions to identify any compliance gaps and to ensure the conditions of the licence are in compliance at the coal mine site.
- Review the coal mine site health control plan to ensure maintenance systems are in place and are effective to manage ongoing compliance with all radiation management licence conditions.
- Review the coal mine site emergency management plan to include management of any potential radiation sources on site have adequate exclusion zones designated and are effective in the event of an emergency event affecting the radiation source.

- Review the coal mine site health control plan procedures are risk assessed, documented and implemented for testing and reporting on re-cycled water used in working areas and potable drinking water on site.
- Review the coal mine site health control plan to ensure adequate management of animal and bird waste droppings that are able to enter into potable drinking water catchment systems on site.
- Review the coal mine site health control plan to ensure adequate management of animal and pest controls to reduce the potential for bites and stings on site.
- Review the coal mine site health control plan to ensure adequate management and provision of information, training and first aid resources for workers managing bites and stings on site.
- Review the coal mine site health control plan to ensure that it is up-dated with resource information and guidance documents provided on the Regulator’s website found under the topics of:
 - Health monitoring
 - Health control plan
 - Exposure monitoring
 - Guide – health control plan, republished in May 2024

www.resourcesregulator.nsw.gov.au/safety/health-and-safety-management/health-monitoring

Further information

For more information on safety assessment programs, the findings outlined in this report, or other mine safety information, please contact the Resources Regulator.

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Appendix A – Assessment criteria rating

Each assessed criteria is rated from one to 4 based on evidence supporting the expected control supports identified at the mine site.

Evidence supporting expected control supports

Expected control supports	Rating	Evidence supporting rating / comments				
	<table border="1"> <tr> <td>4</td> <td>3</td> </tr> <tr> <td>2</td> <td>1</td> </tr> </table>	4	3	2	1	
4	3					
2	1					

Assessment findings results are calculated based on the total points allocated to the assessed ratings as a percentage of the maximum possible points for each criteria group, and any findings rated as ‘Not applicable’ were excluded from the calculation.

Criteria assessed ratings and points

Assessed as	Rating	Points
Documented & implemented Compliant	4	4
Implemented but not documented Improvement needed	3	2
Documented but not implemented Significant improvement needed	2	1
Not documented and not implemented Non compliant	1	0
Not applicable (N/A)		

Findings results (points) with colours assigned as follows:

- Green (=100%)
- Yellow (>= 80% and <100%)
- Orange (>= 65% and <80%)
- Red (<65%)
- Not applicable