

Consolidated report

Small mines- fixed and mobile plant (mechanical)

March 2020 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.

This planned inspection program assesses the mechanical engineering control plan (MECP) at small mine sites for fixed and mobile plant.

The criteria review of the implementation of the site MECP for the program included:

- access and egress systems
- guarding systems
- structural inspections and defect management
- inspection systems
- confined space
- conveyors
- hydraulics
- pressure vessels.

This report will consolidate assessment findings and provide analysis and recommendations for operators of small mines.

In total this consolidated report consists of 58 assessments from an overall assessment of 83 extractive mine sites. The 58 site types reported on in this report were:

- 8 large construction material open cut sites
- 2 large construction material dredging sites
- 37 small construction material open cut sites
- 8 small construction materials dredging sites
- 3 industrial minerals open cut sites.

In summary, there were 754 individual assessment findings and of those 428 assessment findings required enforcement action to be taken at the site. The assessment program was conducted between March 2020 and May 2024.

In summary, from the 83 assessments there were 356 compliance notices issued to 73 sites in total during the program.

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

Assessment criteria

Criteria types were identified by the Regulator and criteria topics were assigned to the inspection program.

A tabulation of the criteria for the review of fixed and mobile plant (mechanical) at small mine sites is provided in Table 1.

Table 1. Criteria type for the small mines planned inspection program fixed and mobile plant (mechanical)

Criteria type	Criteria
Control plan	Are the controls identified in the risk assessment documented in the mechanical engineering control plan
Implementation	Check access system
	Check guarding is in place and secure
	Check that issues identified in structural report have repaired
	Check the mine has a documented process for inspection of fixed plant
	Confined spaces
	Conveyor systems
	Has a structural integrity inspection been completed?
	Hydraulic equipment
	Pressure equipment (Vessels)
Monitoring	Check fixed infrastructure for signs of damage, cracking, corrosion, missing or loose components
Operational control	Check that impact protection is in place
Risk assessment	Has the mine identified the hazards related to fixed infrastructure and assessed it?

Assessment findings and overall ratings

In summary the assessment criteria findings were:

- 754 individual findings
- 428 findings with enforcement action recorded
- 68 findings related to other matters with enforcement action
- 58 sites in the report out of 83 sites assessed
- A total of 356 WHSA compliance notices were issued in total to 73 of the 83 sites.

The overall assessment finding ratings were:

- 34% rating of documented and implemented
- 6% rating of implemented by not documented
- 16% rating of documented but not implemented
- 35% rating of not documented and not implemented
- 9% rating of not applicable.

Figure 1 provides a summary of the overall assessment findings ratings.

Figure 1. Overall assessment findings ratings

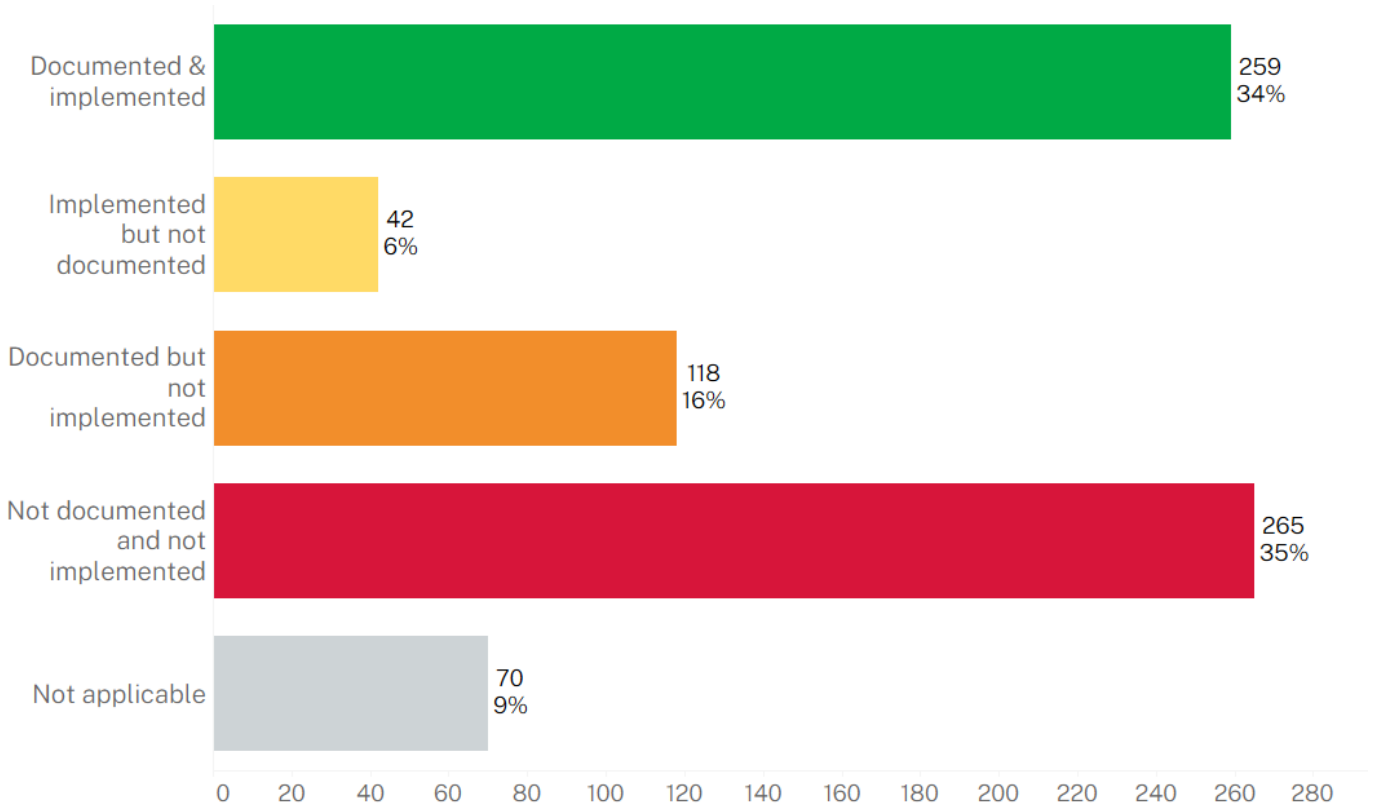
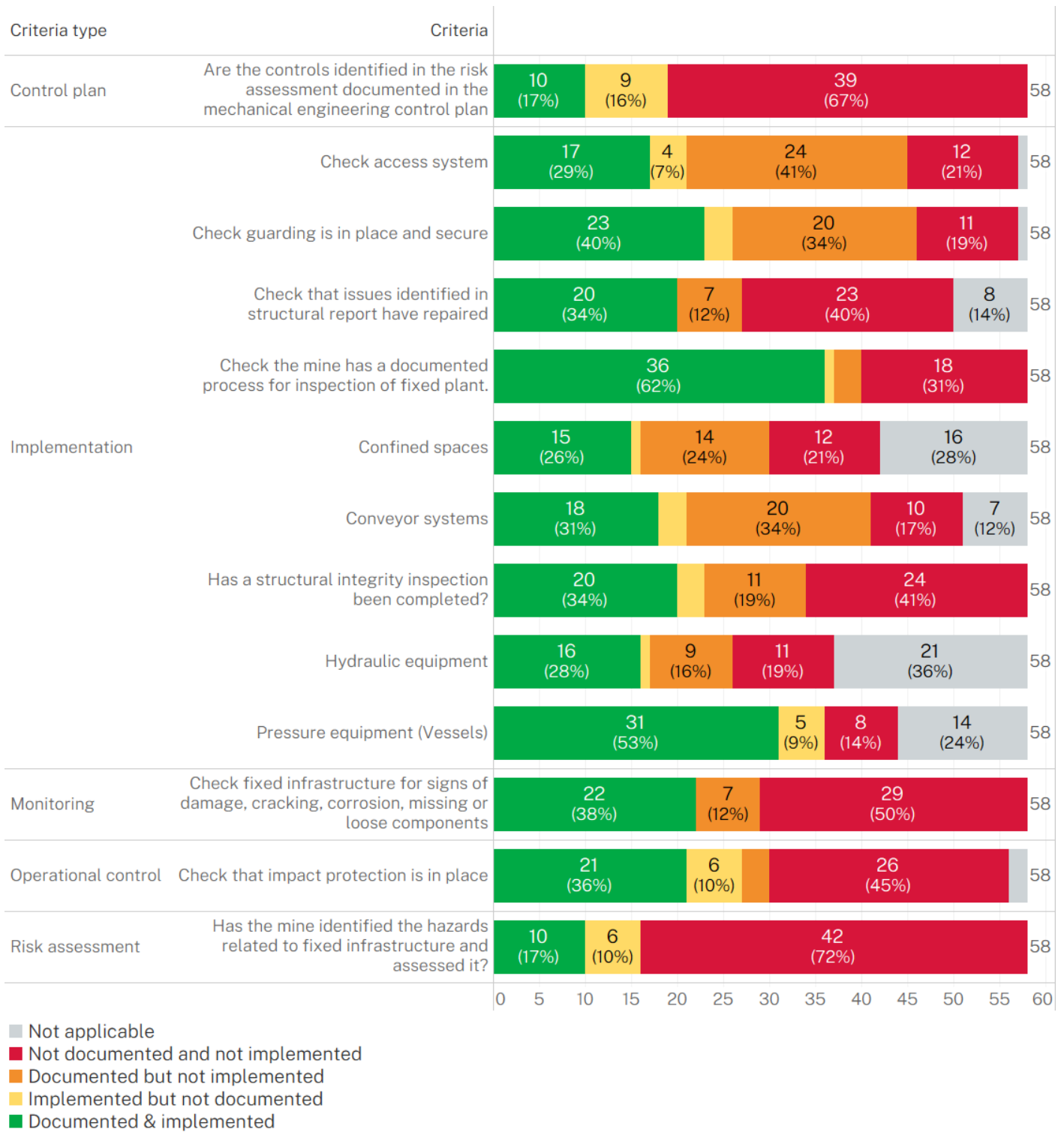


Figure 2 provides a summary of the overall assessment findings ratings for each criteria question.

Figure 2. Overall assessment findings ratings by each criteria question



Compliance notices issued

In summary, there were 356 WHSA compliance notices issued in total to 73 sites from the 83 assessments. Some sites were issued more than one compliance notice.

Table 2 details the compliance notices issued by type and number to small mines sites during the program

Table 2: WHSA compliance notices issued by type and number for small mine sites

NOTICE TYPE	TOTAL ISSUED	NUMBER OF SITES
s.195 prohibition notice	40	-
s.191 improvement notice	297	-
s.23 notice of concern	19	-
Total	356	73

Note: some mine sites were issued multiple notices

Note: Some compliance notices issued concerned items not related to the assessment topic. Some notices issued covered more than one topic.

Recommendations for small mine sites

Based on the findings outlined in this report and with respect to the significant numbers (356 compliance notices issued) and the types (40 x s195 prohibition notices) of compliance notices issued during the assessment of the MECP topic fixed and mobile plant (mechanical) at small mine sites, it is recommended that the following should be reviewed by mine operators:

- review the site MECP to ensure the risks related to fixed and mobile plant at the site are controlled by:
 - MECP is adequately documented and includes the site fixed and mobile plant
 - risk assessments to identify the controls for fixed and mobile plant
 - implementation and monitoring systems are effective
 - defect management systems are effective
 - information and training in the site MECP provided to workers and site supervisors.
- review the site MECP for implementation of fixed and mobile plant and the list of topics as a minimum requirement:
 - access and egress systems
 - guarding systems
 - structural inspections and defect management
 - inspection systems
 - confined space

- conveyors
- hydraulics
- pressure vessels

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:

CONTACT TYPE	CONTACT DETAILS
Email	cau@regional.nsw.gov.au
Incident reporting	To report an incident or injury call 1300 814 609 or log in to the Regulator Portal
Website	www.resourcesregulator.nsw.gov.au
Address	Resources Regulator 516 High Street Maitland NSW 2320

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