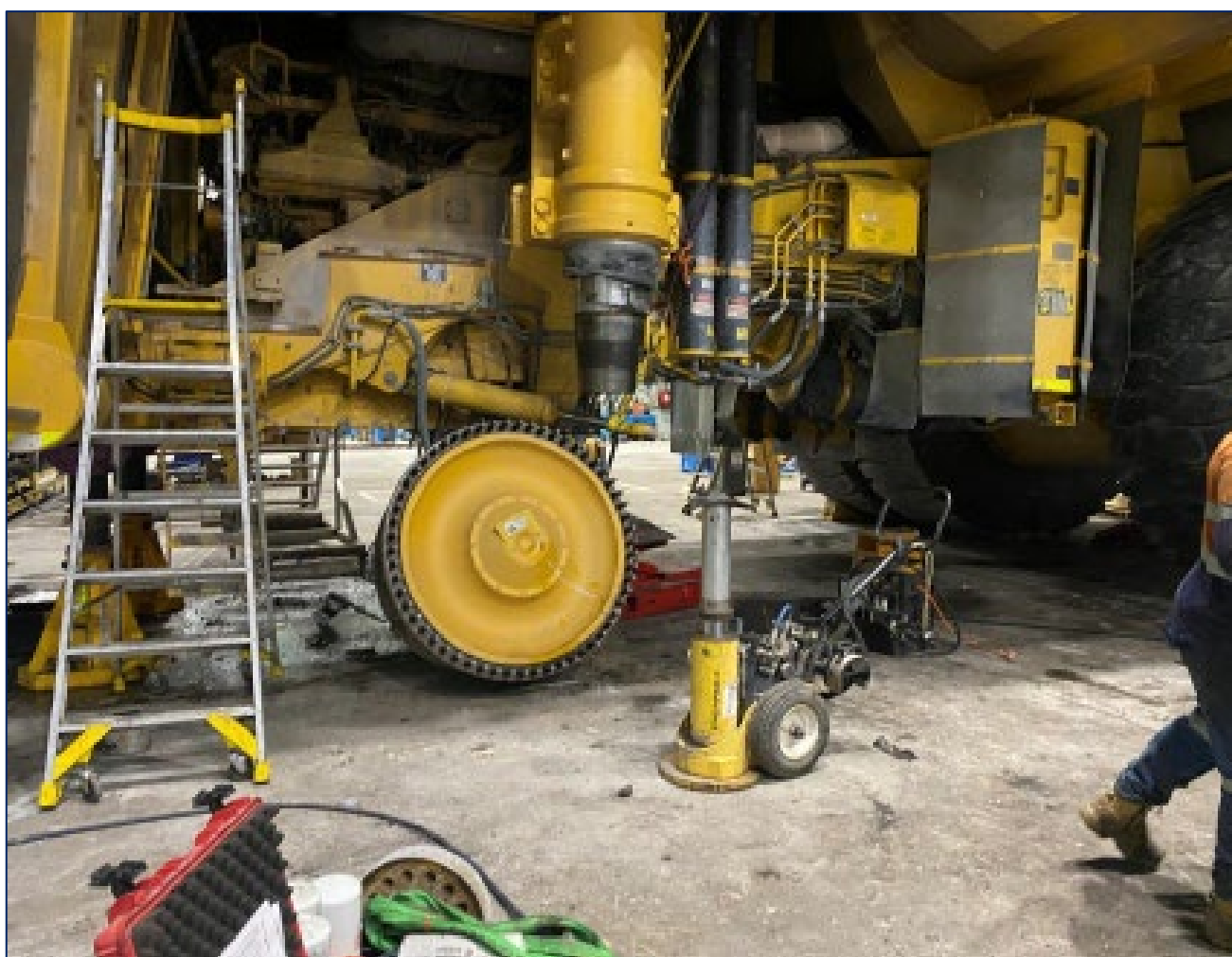


Compliance priority report

Lifting and crannage– surface coal mines

January 2024 to June 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 compliance priority ‘lifting and craneage’ targeted surface coal mines during the first 6 months of 2024.

During 2023, the Regulator received increasing incident notifications relating to lifting and craneage incidents within the NSW surface coal mining industry.

In October 2023, the Regulator published a safety bulletin SB23-08 Haul truck front strut removal poses to risks to workers, which provided industry with safety advice relating to 4 significant lifting and craneage incidents - all with a high potential to cause serious injury or death.

The lifting and craneage incidents involved tasks associated with removing and dismantling haul truck front suspension struts over a 20 months. Three of these incidents occurred within 6 months.

The outcome of the incidents resulted in the dropping or swinging of suspended loads with workers in close proximity to the load.

The compliance priority assessment reviewed how the surface coal industry had responded to the safety bulletin (SB23-08) findings and recommendations and in particular a review of controls implemented by mines in relation to lifting and working around suspended loads.

The compliance priority assessment focused on:

- task planning
- fit for purpose equipment
- competency of workers performing lifting tasks

This report will provide information on assessment findings and recommendations for surface coal mine operators and operators of other sector mines that undertake similar lifting and craneage tasks.

In summary a total of 22 surface mines comprising 21 open cut mines and 1 coal processing site were assessed resulting in 9 compliance notices issued to 6 open cut coal mines.

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

Assessment criteria for assessments

Assessment criteria were identified by the Regulator to review the surface coal mines response to the safety bulletin SB23-08 (Haul truck front strut removal poses to risks to workers).

A tabulation of the assessment criteria for lifting and crange at surface coal mines is provided in Table 1.

Table 1. Criteria for the planned inspection program lifting and crange – SB23-08 review – surface coal mines

Criteria number	Criteria
1	Has the mine read, displayed on notice boards, and made their workforce aware of the contents of safety bulletin SB23-08?
2	Has the mine assessed and/or implemented the recommendations of safety bulletin SB23-08?
3	Does the mine site or original equipment manufacturer (OEM) have procedures for the majority of routine lifts?
4	How do mine personnel prepare for lifts not covered by OEM or site procedures?
5	Does the mine have a 'lift permit' system?
6	Are supervisors competent and trained in relation to overseeing and managing lifting and crange in the work place?
7	Are workers in control of lifts competent and trained in relation to performing lifting and crange in the work place?
8	In general is the workshop set up and maintained in a clean and tidy condition?
9	Is the lift being safely managed and supervised?

Safety bulletin SB23-08 findings and recommendations to industry

Safety bulletin SB23-08 Haul truck front strut removal poses to risks to workers was published in October 2023 and provided the following investigation findings and recommendations to industry:

In all of the incidents, workers were in close proximity to the supported load, and contact was made with at least one worker by the moving component.

SB23-08 Contributing factors included:

- the lack of understanding of the mass and balance of the supported component
- the lack of understanding of the magnitude of stored energy in the suspension strut
- the failure to use original equipment manufacturer (OEM)-designed or supplied jigs
- poor suspension or support practices relating to the component’s

- single point of support
- crane not positioned directly over the load
- outriggers not used to brace telehandler
- strut dynamic energy greater than fork / telehandler applied restraining force
- workers placing themselves below supported or suspended loads
- OEM and/or mine maintenance and safe work procedures did not cover the complete scope of work for the job, including the:
 - removal of the hub and suspension strut from the haul truck
 - removal of suspension strut from support jig
 - disassembly and reassembly of the suspension strut
 - reinstallation
- Job hazard analysis for the work lacked detail, and failed to identify high risk steps and/or associated controls.

SB23-08 recommendations:

Maintenance personnel at mines and coal handling facilities should:

- identify the full scope of work for the job
- review the suitability of existing safe work procedures for all, or part, of the job
- assess the risks associated with any portion of the work not covered by safe work procedures, including the work integration with the existing procedures
- identify suitable controls and verifications required to mitigate risks to as low as reasonably practical
- ensure all tools, jigs, lifting equipment, and mobile plant are fit- for-purpose
- ensure all workers are trained and competent in the work to be performed
- assess maintenance work practices, especially in relation to worker positioning around suspended or supported loads, for tasks relating to hubs, spindles, and strut replacement on haul trucks
- ensure adequate supervision of complex tasks and lifts, especially with respect to the position of personnel in proximity to suspended or supported loads.

Note: Please ensure all relevant people in your organisation receive a copy of this safety bulletin and are informed of its content and recommendations. This safety bulletin should be processed in a systematic manner through the mine’s information and communication process. It should also be placed on the mine’s common area, such as your notice board where appropriate.

Assessment findings for surface coal mines

Overall, the assessment findings for surface coal mines were:

- 22 assessments conducted (21 open cut coal mines and 1 coal processing site)
- 198 individual findings for the assessed criteria,

- 13 assessment findings with enforcement action recorded,
- 9 compliance notices were issued to 6 open cut coal mines

Figure 1 provides a summary assessment of the overall results by criteria.

Figure 1 Summary assessment findings overall results by criteria

Criteria number	Criteria text	
1	Has the mine read, displayed on notice boards, and made their workforce aware of the contents of Safety Bulletin SB23-08?	90%
2	Has the mine assessed and / or implemented the recommendations of Safety Bulletin SB23-08?	94%
3	Does the mine have site or OEM procedures for the majority of routine lifts?	93%
4	How do mine personnel prepare for lifts not covered by OEM or site procedures?	97%
5	Does the mine have a 'Lift Permit' system?	97%
6	Are Supervisors competent and trained in relation to overseeing and managing lifting and crange in the work place?	93%
7	Are Workers in control of lifts competent and trained in relation to performing lifting and crange in the work place?	94%
8	In general is the workshop set up and maintained in a clean and tidy condition?	100%
9	Is the lift being safely managed and supervised?	92%
Grand Total		94%

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

In summary the overall assessment findings by criteria were assessed in total as 94%.

The lowest assessment finding was 90% (yellow colour category) for criteria 1 – Has the mine read, displayed on notice boards, and made their workforce aware of the contents of safety bulletin SB23-08?

All the other criteria from 2 to 9 were assessed ranging from 92% to 100% (yellow to green colour category).

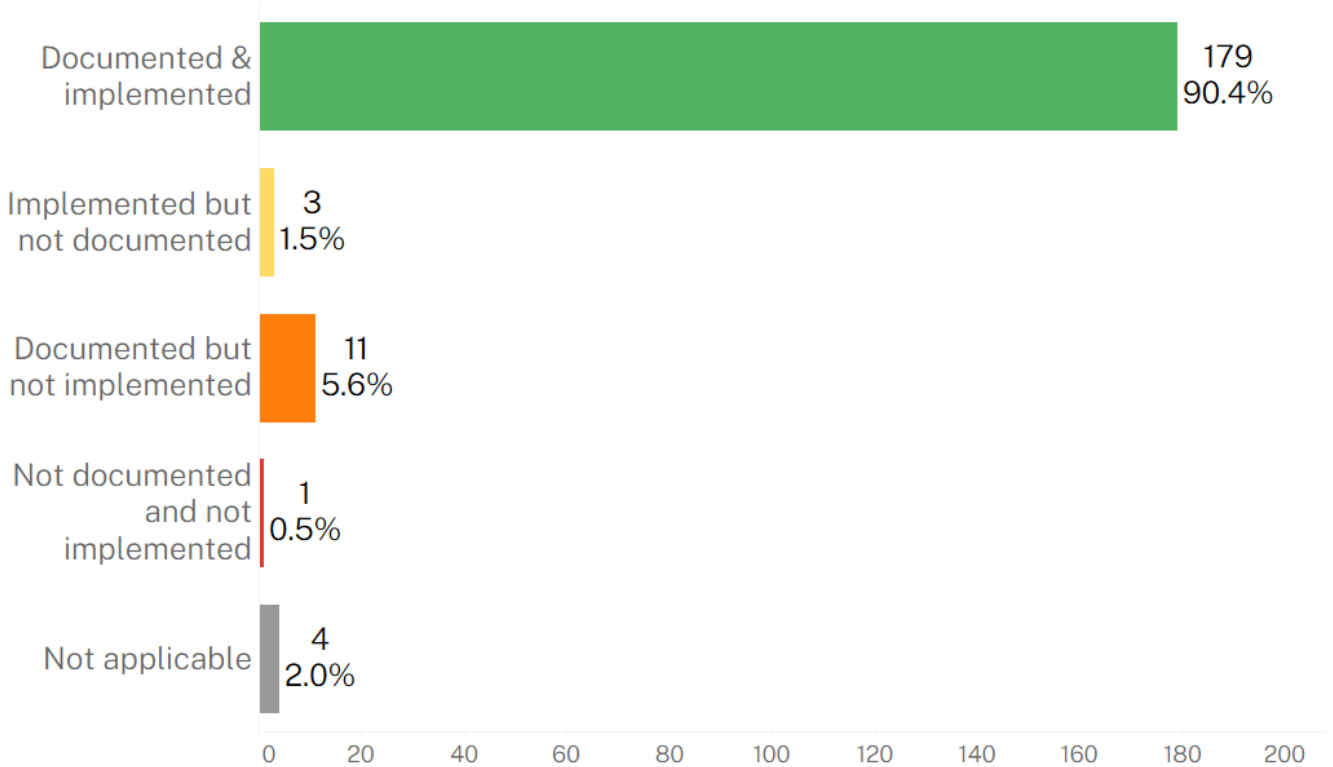
Assessment overall ratings for surface coal mines

In summary the overall assessment ratings for surface coal mines were:

- 90% rating for documented and implemented finding,
- 1.5% rating for implemented but not documented finding,
- 5.6% rating for documented but not implemented finding,
- 0.5% rating for not documented and not implemented finding.

The overall assessment findings ratings for surface coal mines is shown in Figure 2.

Figure 2 Overall assessment findings ratings for surface coal mines



The overall assessment ratings by criteria for surface coal mines is shown in Figure 3.

Figure 3 Overall assessment ratings by criteria for surface coal mines



Notices issued to surface coal mines

In total there were 22 assessments conducted at surface coal mines.

In summary, there were 198 individual assessment findings and of those 13 assessment findings required enforcement action to be taken at the surface coal mine.

In summary, there were 9 compliance notices issued to 6 surface coal mines comprising:

- 2 x section 195 prohibition notices issued to 1 open cut coal mine
- 2 x section 191 improvement notices issued to the same open cut coal mine as above
- 5 x section 23 cause for concern notices issued to 5 open cut coal mines

Note some notices issued were related to other identified non-compliance issues.

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

Table 2: Notices issued for surface coal mines

NOTICE TYPE	TOTAL ISSUED	NUMBER OF SITES
s.195 prohibition notice	2	1
s.191 improvement notice	2	1
s.23 notice of concern	5	5
Total	9	6

Note: some mine sites were issued multiple notices

Recommendations for surface coal mines and other sector mines undertaking similar lifting and crantage tasks

Based on the findings outlined in this report and with respect to the numbers and types of compliance notices issued during the assessment of lifting and crantage tasks and surface coal mines response to the safety bulletin SB23-08 Haul truck front strut removal poses to risks to workers.

It is recommended that the following topics should be reviewed by operators of surface coal mines and operators of other sector mines that undertake similar lifting and crantage tasks:

- Risk assess maintenance work practices in relation to workers working underneath and in close proximity of suspended loads during maintenance tasks on mobile plant.
- Develop and implement safe systems of work to appropriately manage the controls to prevent risks of falling and swinging loads identified in the risk assessment.
- Provide training to relevant maintenance personnel in the safe systems of work for lifting and crantage tasks.

- Review the quality and consistency of JHAs created by maintenance workers undertaking lifting and crange tasks.
- Review the effectiveness of work area demarcation tape, signage and information tags in maintenance workshops during lifting and crange tasks.
- Review the effectiveness of supervision to ensure compliance with site safe systems of work during lifting and crange tasks.
- Review the effectiveness of distributing Regulator safety information to all relevant people at mine sites. Also, how relevant supervisors and workers are informed of Regulator safety-related information and recommendations.

Further information

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