

Compliance priority report

Pressure vessels

Small mines

April 2023 to August 2023



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More information

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Executive summary

A crucial part of the NSW Resources Regulator’s Incident prevention strategy involves compliance priority programs for mines and petroleum sites. This involves proactively assessing a topic that is an emerging risk across the industry, predominantly determined from incident data or other 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 an issue that may not be related to a specific principal hazard.

This particular program was initiated in response to how operators of small mine sites were responding to the management and identification of all pressure vessels on site and the design and item registration of the pressure vessels.

This report summarises the assessment findings from the compliance priority program, which targeted mine operator’s between April 2023 and August 2023 at:

- 71 extractives mine sites
- 1 metalliferous surface mine site

Assessment criteria

Several key elements (referred to as criteria) were assessed as part of this program and included:

Table 1. Compliance priority program criteria

Criteria number	Criteria
1	Does the mine have a procedure on how they manage pressure vessels onsite?
2	Does the mine have a list of all pressure vessels onsite, their category and last inspection date?
3	Are all pressure vessels design registered in accordance with WHSR?
4	Are all pressure vessels item registered in accordance with WHSR?

Findings

Overall, the findings were:

- 72 small mine site assessments were reviewed for this report.
- 288 individual findings for the program.
- 55 compliance notices were issued to 49 mines during the program.

The overall assessment compliance rating was 61% for the 4 assessed criteria questions (refer to Figure 1) ranging from:

- Criteria No. 2 finding was assessed at 52% compliance (lowest compliance finding)

Through to:

- Criteria No 1 finding was assessed at 62% compliance (highest compliance finding)

Criteria No. 3 was assessed in the ‘orange colour category’ rating between 65% and 80% compliance:

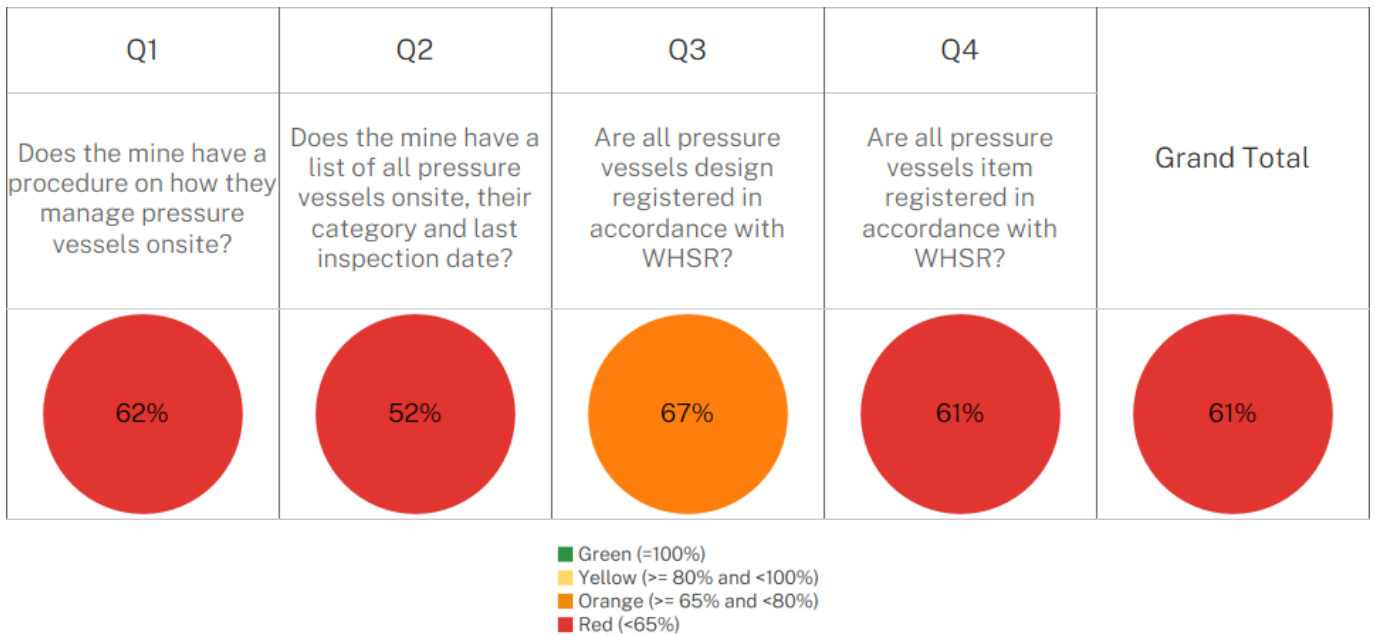
- Criteria 3: Are all pressure vessels design registered in accordance with WHSR? Was assessed at 67% compliance.

Criteria No’s. 1, 2 and 4 was assessed in the ‘red colour category’ rating less than 65% compliance:

- Criteria 1: Does the mine have a procedure on how they manage pressure vessels onsite? Was assessed at 62% compliance;
- Criteria 2: Does the mine have a list of all pressure vessels onsite, their category and last inspection date? Was assessed at 52% compliance;
- Criteria 4: Are all pressure vessels item registered in accordance with WHSR? Was assessed at 61% compliance;

The assessment compliance % rating for each assessed criteria is summarised in Figure 1:

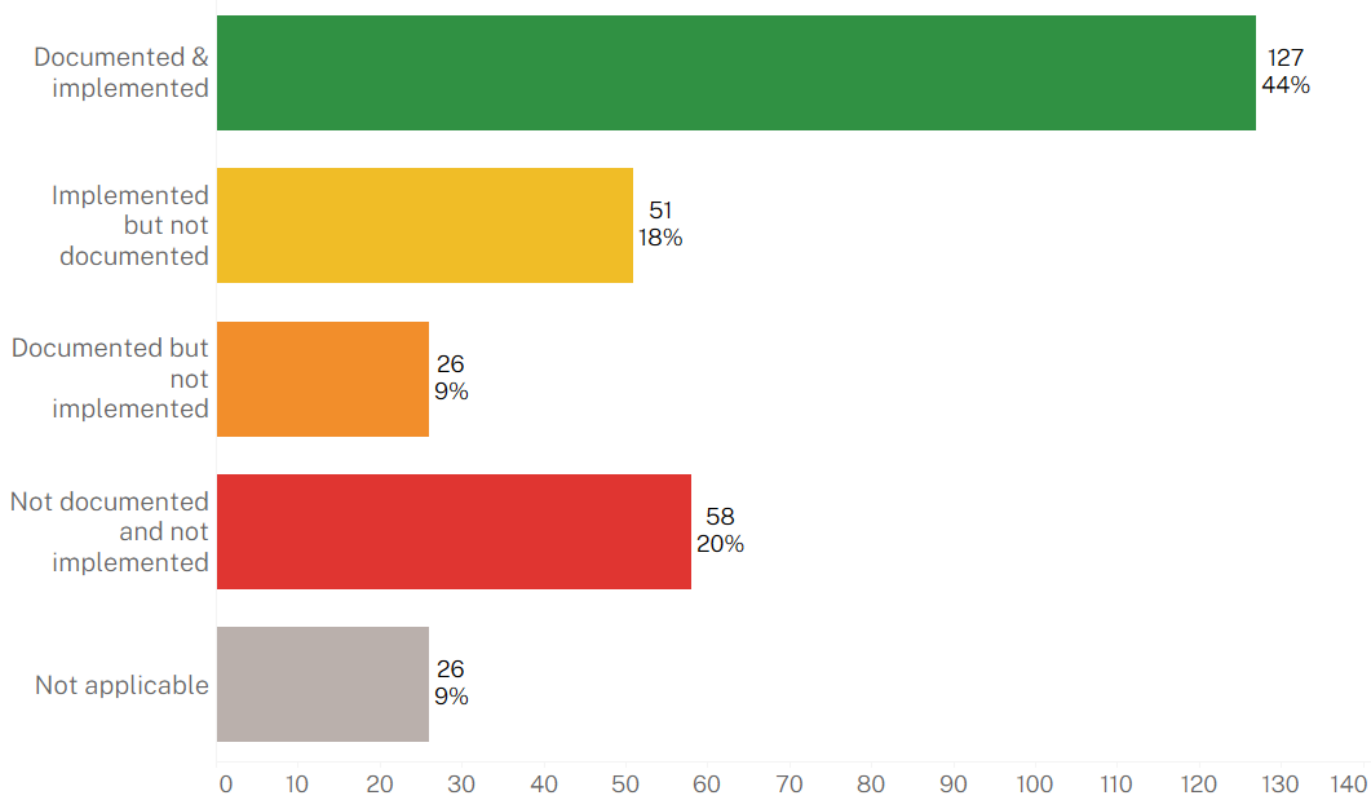
Figure 1 - Summary assessment findings overall results by criteria



The overall analysis of assessment findings ratings were found to be documented and implemented assessed at 44%. Implemented but not documented assessed at 18%. Documented but not implemented assessed at 9%. The category not documented and not implemented was found to be 20% (refer to Figure 2).

The analysis of the assessed criteria documentation and implementation is summarised in Figure 2:

Figure 2 - Overall assessment findings ratings



Notices issued

Of the **72** sites assessed under the inspection program, **49** separate mines were given **55** compliance notices relating to compliance with identification, management and registration of pressure vessels.

The notices issued for compliance with new legislation were examined in detail and Table 2 below lists the notices issued by type.

Table 2: Notices issued for the planned inspection program – compliance with management of pressure vessels

NOTICE TYPE	TOTAL ISSUED	NUMBER OF MINES
s.23 notice of concerns	33	33
s.191 improvement notice	20	20
s. 195 prohibition notice	2	2
Total	55	49

Note: some mines were issued multiple notices

Of the combined **55** notices issued, there were some common themes that were apparent throughout the program plan.

Generally there were poor compliance findings with all four assessment criteria questions, including:

- Inadequate documentation in the site safety management system or in the mechanical engineering control plan (MECP) detailing the management of pressurised fluid systems including air or hydraulic pressure vessels and accumulators on mobile plant at site.

- Some mine operator had systems and controls in place to manage pressure vessel hazards. However, the documented systems were not adequately implemented.
- Some mine sites did not adequately identify and manage hydraulic accumulators as pressure vessels on mobile equipment fleet operated by the mine, or by a contractor, or hire equipment.
- Some mine operators had pressure vessel management identified in the MECP which detailed maintenance and inspection requirements and made reference to Australian Standards AS3788 & AS4343 as guidance in how the operation is to manage pressure vessels on site.
- Significant number of mine sites assessed did not properly identify all pressure vessels on site and maintain adequate inspection records.
- Significant number of mine sites assessed did not ensure pressure vessels were design and item registered and documented in accordance with the requirements of WHSR legislation.

Recommendations

Based on the findings outlined in the report identifying three out of four assessment compliance ratings (with findings less than 65% compliance) for each assessed criteria for the management and registration of pressure vessels at small mines.

Small mine operators should consider the following recommendations:

- Review what actions have been taken at the site to ensure adequate procedural management of all pressure vessels on site.
- Review what actions have been taken to ensure all pressure vessels on site are identified and maintain adequate inspection record systems and storage.
- Review what actions have been taken to ensure all pressure vessels on site are design registered in accordance with WHSR regulations.
- Review what actions have been taken to ensure all pressure vessels on site are item registered in accordance with WHSR regulations.

Further information

For more information on safety assessment programs, the findings outlined in this report, or other mine safety information, please contact the NSW 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	NSW Resources Regulator 516 High Street Maitland NSW 2320

Appendix A – Assessment criteria rating

Each assessed criteria is rated from 1 through 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	4	4
Implemented but not documented	3	2
Documented but not implemented	2	1
Not documented and not implemented	1	0
Not applicable		

Findings results (points) with colours assigned as follows:

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