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Increase in shattered windscreens on mobile plant

This safety bulletin provides safety advice for the NSW mining industry.

The issue

The NSW Resources Regulator has been notified recently about several incidents relating to damaged plant or structures that include shattered or cracked windscreens. There are risks to plant operators from shattered glass debris resulting from flying or falling objects striking the cabin or cabin glass.

Figure 1: Rock in the loader bucket fell backwards rolling off the tilt cylinder into the cabin. (SinNot-2017/00529)



Figure 2: While lifting a log with an excavator, the log slipped and entered the cabin front window. (SinNot-2017/01622)



Figure 3: A piece of wood ejected from a mulching machine struck the windscreen of a water cart. (SinNot-2017/01683)



Circumstances

Incident 1: A front end loader was on the final product road base stockpile. The loader operator crowded the bucket forward to tip material out and then crowded back. When crowding back, a 20 mm rock struck the windscreen causing it to shatter. In this case the operator was not injured.

Incident 2: An operator was raising the front screen of a skid steer to alight from the cabin when the glass pane shattered. He suffered an injury from the shattered glass resulting in three stitches to his right forearm.

Incident 3: An excavator was in the process of removing a log about 3 m long from where it was buried in sand when the log slipped and went through the windscreen. It landed on the cabin 'travel controls'. The operator suffered minor finger lacerations.

Incident 4: A mulching machine and water cart were clearing scrub and timber. As the water cart re-entered the work area, a piece of wood about the size of a soft ball spat out of the mulcher and travelled about 30 m before hitting the water cart's windscreen at the operator's head height. The result was a smashed windscreen, but no glass entered the cabin. The driver suffered no injuries.

Legislation and standards

Clause 214 of the Work Health and Safety Regulation 2017 requires the person with management or control of powered mobile plant at a workplace to manage the risks to health and safety associated with things falling on the operator in accordance with Part 3.1. Given the incident circumstances above, identification of hazards should include foreign objects being projected at the operator, not just from falling objects but from objects being lifted, loaded or otherwise ejected from machinery operating in the area towards the operator's cabin.

[MDG15 Guideline for mobile and transportable plant for use at mines \(other than underground mines\)](#) offers guidance in relation to an operator's cabin and protection. In relation to windscreens, a risk assessment should be conducted to determine the required glass specification for protection from impact and pressure, and as a minimum, recommends windows should only use laminated glass.

Recommendations

The following recommendations should be considered as part of the overall management of risks associated with the potential hazards from foreign objects striking the operators windscreen, side glass windows or cabin structure. Risk controls must always involve consultation with workers who may be exposed to health and safety risks arising from their work.

Mine operators who have mobile plant and equipment operating at their site should:

- identify the items of mobile plant at their site, or brought on to site by contractors with enclosed cabins and glass windows
- identify what areas of the site the plant can (or is likely to) be used
- identify the activities on the site the plant can (or is likely to) be involved
- for each plant type, application and area of the mine:
 - identify the potential hazards from falling or flying objects
 - assess the risk
 - consult with original equipment manufacturers (OEMs) for operator cabin protection and glass options
 - prepare or revise site standards of engineering practice including considerations for laminated glass, strength and external structural protection (grizzly bars) requirements
 - establish which plant meets the standard of engineering practice and which does not

- develop a strategy to implement improvements over time
- review site introduction documents to uphold standards of engineering practice for plant arriving to site
- consider the mechanism to control vehicles to operating in areas in accordance with the risk assessment unless change management processes take place.

OEMs and suppliers should:

- install laminated glass as a minimum standard
- provide sufficient technical information of the glass (including various options) offered in the mobile plant for end users to consider as part of their risk assessment activities.

Other relevant information related to foreign objects striking the windscreen of mobile plant:

- SA16-03 [Falling rock strikes loader operator](#)

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 notice board.

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Disclaimer

The information contained in this publication is based on knowledge and understanding at the time of writing. However, because of advances in knowledge, users are reminded of the need to ensure that information on which they rely is up to date and to check the currency of the information with the appropriate officer of NSW Department of Planning and Environment or the user's independent advisor.

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