

# Safety Alert

Date: October 22

## Operator unable to activate fire suppression system during emergency

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

### Issue

When a fire occurred on a dozer, the operator tried to activate the fire suppression system when the panel cover separated from the mounting bracket, forcing the operator to abandon the plant.

Figure 1 - Actuator panel separated from the mounting bracket



### Circumstances

A Caterpillar D10T bulldozer was operating at an open cut coal mine when a fire occurred in the engine bay. The operator saw smoke and flames and tried to activate the fire suppression system, but the valve and panel cover separated from the mounting bracket when trying to withdraw the safety pin.

Not knowing if the system could still be activated, the operator reversed a short distance, lowered the access ladder and pressed the red emergency button. With flames licking up through gaps around the deck plate, the operator exited the cabin via the left-hand door and jumped from the

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deck about 3 metres to the ground. The operator was not injured and went to the rear of the machine to shut down the engine down. The fire suppression system then activated automatically.

### Investigation

Following the incident, an assessment of the dozer was conducted by Resources Regulator inspectors, an industry safety and health representative and mine site representatives. The assessment identified:

- the safety pin ring pull was looped over the valve handle (see figure 1)
- inspections of other plant with loss of pressure (LOP) systems were inconsistent with safety pin and anti-tamper tie orientation. Some also had the ring pulls looped over the valve handle.
- instruction decals (stickers) placed next to the LOP actuation points gave incorrect instructions for activating the system
- there were only 3 fasteners securing the actuator panel to the mounting bracket (see figure 1)
- the fasteners on the left-hand side were difficult to access because of the adjacent cabin structure
- the cover panel had slots rather than holes, which allowed the separation to occur if the fasteners weren't sufficiently tight
- workers interviewed were not aware of the differences in methods to initiate the LOP versus the rise of pressure (ROP) systems.
- the dozer was one of 2 dozers on hire at the mine, introduced in August 2022
- the 2 hire dozers had (LOP) foam-type fire suppression systems
- LOP systems were used at the mine but were much less common than the ROP systems.
- change management reviews conducted for introducing dozers did not identify the need to change training material delivered to operators, in relation to operation of the fire suppression system despite differences to mine-owned dozers.

### Recommendations

Where mines have rotary-style fire suppression system actuators, mine operators should:

1. review or develop a site standard for fire suppression system actuator panel configuration. This standard should:
  - a. be developed in consultation with the fire system supplier and workforce
  - b. ensure that removal of safety pins occurs without interference from other components
  - c. have anti-tamper tags that do not impede operation in an emergency
  - d. include the tensioning of fasteners for mounting the panel
  - e. be documented and made available for reference during inspection and maintenance activities for both mine and contract maintenance personnel.
2. conduct an audit of plant and check all relevant fire suppression system panels are compliant with the site standard

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3. review the various types of fire suppression systems and methods of activation at their site and ensure all relevant personnel are trained in the operation of any fire suppression systems they may have the need to operate
4. review instructional decals or labels to ensure the information is appropriate and correct
5. ensure that change management processes identify and take the appropriate actions regarding differences between new plant introduced to site and existing plant in use at the site
6. review second egress methods and regularly train workers in their location and use
7. report failures of safety critical systems and component to original equipment manufacturers (OEMs) or their dealers to ensure OEMs can address emerging issues with their designs.

### Further information

1. [QLD Safety Alert – Manual fire suppression activation units](#)

**Note:** Please ensure all relevant people in your organisation receive a copy of this safety alert and are informed of its content and recommendations. This safety alert 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.

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