



Significant Incident Report No. 201

Subject: Loss of control following failure of steering tie rod coupling on EWP

Date: 30 June 2014

Summary of incident

The steering tie rod coupling on a boom lift elevating work platform (EWP) failed while being driven at low speed on a flat hard surface inside a construction compound. The EWP was in motion when the operator heard a popping noise and noticed he had lost control of the steering. Fortunately, there were no injuries.

Detailed metallurgical analysis and examination of the steering component showed that it was made of low quality steel containing internal defects, and this had significantly reduced the strength and toughness of the tie rod coupling.

During a subsequent investigation, it was found that an identical steering coupling on a similar machine had failed at the base of a ramp when the EWP was being off-loaded from a truck. The investigation also found that the tie rod couplings on similar EWPs on site had been replaced several times over the past few years.



Damaged steering tie rod coupling from the EWP

Direct causes

- An inferior tie rod coupling was used as a replacement component on the steering arm of the EWP.

Contributory causes

- The third-party tie rod coupling used was visually matched to the size and thread requirements of the original part, but not to the rating specification or part number of the original equipment manufacturer (OEM).

Actions required

EWPs are routinely loaded on and off the back of trucks, and there is the potential for a significant incident if a steering component fails during this process. To reduce this and other risks associated with loss of control, the procedures for maintenance and repair of plant should:

- indicate a means of checking the rating of original or third-party components to ensure:
 - OEM's specifications are met and the spare parts supplied are fit for purpose
 - where specifications are not met, there is a system to remove plant from use until the part has been replaced
- require the investigation of recurrences of similar incidents or repairs to plant to establish whether there is a common underlying cause that should be addressed.

Employers are reminded of their obligations under the Mines Safety and Inspection Regulations 1995:

- Under r. 6.21 (b), an employer must ensure that measures are provided to prevent, as far as practicable, unauthorised interference, alteration or use of plant that is capable of making the plant hazardous or a greater hazard.
- An employer also has duties under r. 6.22 when plant is damaged or repaired.

Further information

Visit www.dmp.wa.gov.au/ResourcesSafety for information on occupational safety and health in the resources sector.

This Significant Incident Report was approved for release by the State Mining Engineer on 30 June 2014