



# Significant Incident

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*Vision: 'Our Industries Free of Safety and Health Incidents'*

## Crane Rope Breaks While Anti Two-Block Overridden

**MINE TYPE:** All Surface Mines

**INCIDENT:** The auxiliary hook and headache ball with a combined weight of 30 kg fell 12 m from the boom of a 20 tonne crane landing within 1.5 m from the dogman and his offsider. These two workers were standing under the boom placing a sling on the main hook. The auxiliary rope had broken.



Since the start of the day the override switch for the crane motion cut-outs was in the override ON position. The small override warning lamp was ON. The crane operator focusing on activities at ground level, had forgotten about providing extra rope length for the auxiliary rope to compensate while extending out the boom. Eventually the auxiliary hook reached the boom to a point where the anti two-block warning lamp came on and the auxiliary hook should have stopped moving upwards. However because the override was ON, the auxiliary hook continued upwards into the boom until the rope broke.

**EQUIPMENT:** 20 tonne all terrain mobile crane.

**HAZARD:** Falling hook and headache ball.

**CAUSE:** The crane operator was confused as to whether the override was ON or OFF.

The override key switch had been replaced by a toggle switch. Although ON/OFF were clearly marked on the panel, the toggle switch was halfway between the two when the override was in the ON position.

The warning lights incorporated into the rated capacity indicator are small.

### **COMMENTS:**

The operator had only operated this crane on three previous separate occasions. Although shown how to operate the crane by another operator there was no record of the training given to him or of his assessment.

There are motion cut-outs on boom down and telescoping out to prevent the crane being operated outside its stability parameter as well as on the anti two-block. One override switch overrides all three cut-outs together. The override facility is necessary when preparing the crane for travel mode.

### **RECOMMENDATIONS:**

Training of operators should include knowledge and understanding of all safety systems and where appropriate, practical demonstrations by them as part of their assessment. Records of the training given to operators and their assessment must be kept.

Consideration should be given to installing some warning system so that it is obvious to anyone in the vicinity that the override is ON. This would also remove the temptation to leave the override **ON** as a matter of convenience.

Reference should be made to *AS 2550.1 2002 Cranes, hoists and winches-Safe use* that generally states

- Limiting devices shall not be overridden during operations (Section 6.16)
- Safety switches and interlocks should be part of pre-start checks (Section 7.3.2).

When modification to plant such as a switch is carried out, it should be ensured that it is fit for its intended purpose.

**Peter Minahan**

**Chief Inspector of Mines**

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