

Goonyella Riverside fatality caused by failure to assess risks in wear plates



A FAILURE by BHP Billiton Mitsubishi Alliance Goonyella Riverside surface coal mine in Queensland to identify the risks associated with changing the wear plate design prior to the modifications being made led to the sole fatal accident in the Queensland mining industry in 2017-18, according to the Queensland Mines Safety Performance and Health report.



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Daniel Springer was fatally injured on August 5 2017 when an external wear plate that he was in the process of removing from an excavator bucket unexpectedly sprung up and struck him in the head.

Comments

The report states Springer was not aware that he was exposed to a fatal hazard.

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He had been using an air carbon arc gouger to cut pieces of the wear plate into smaller sections, as part of maintenance activities.

Lou Caruana

"An investigation by the mines inspectorate identified a number of factors that contributed to the incident," the report states.

"These included deficiencies in risk assessment prior to modifications being made to equipment, insufficient knowledge of what could cause build-up of stored tension and not recognising the level of risk associated with the hazard of elastic spring-back.

"The investigation revealed that prior to the incident the mine undertook maintenance on a number of buckets which involved modifications to the original design without consulting the original manufacturer or obtaining expert advice."

The external wear plate was originally made up of multiple small, thin plates. The equipment was modified to replace the multiple small plates with two, large continuous plates.

"Analysis undertaken by an independent expert showed that the indentations in the wear plate were the major reason for the build-up of stored tension, which caused it to violently spring out," according to the report.

"The expert concluded that having two large, continuous wear plates would cause the spring-back to occur with much greater force compared to multiple, small thin plates. The spring-back distance was also magnified by the length of the wear plate."

In response to the incident, a directive was issued to all surface coal mines requiring the mines' site senior executive review elements of the safety and health management system relating to the removal and replacement of wear liner plates on earth moving equipment to ensure that risk is at an acceptable level.



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(ABN 66 000 375 048), PO Box 78, Leederville, Western Australia 6902