Inquest into the death of Daniel Geoffrey Springer

Daniel Geoffrey Springer died on 6 August 2017 during the course of his employment at the Goonyella Riverside Mine. Mr Springer was removing metal welds holding a wear plate to an excavator bucket when the metal plate released violently creating a spring-back effect, striking Mr Springer in the head.

Northern Coroner Nerida Wilson delivered her findings of inquest on 23 February 2021.

The Queensland Government responds to recommendations directed to government agencies at inquests by informing the community if a recommendation will be implemented or the reason why a recommendation is not supported.

Further information relating the implementation of recommendations can be obtained from the responsible agency named in the response.

Recommendation 1
The Department of Natural Resources and Mines (or Resources Safety and Health Qld as it is now) follow up on all recommendations made in the Nature and Cause Investigation Report prepared for the Chief Inspector of Mines and to undertake an industry wide audit ensuring compliance with all recommendations within that report, ensuring the decommissioning of large sheet steel wear plate packages of this type on excavator buckets.

Response and action: the recommendation is implemented.

Responsible agency: Resources Safety and Health Queensland.

On 17 December 2021 the Minister for Resources responded:

On 1 July 2020 Resources Safety and Health Queensland was created as a statutory body, and the responsibilities held by the Resources Safety and Health Division of the Department of Natural Resources, Mines and Energy, were transferred to it. Resources Safety and Health Queensland is now the safety regulator for the resources sector, while the Department of Resources is a separate agency responsible for regulating the use of land, mineral and energy resources.

At the conclusion of its investigation, Resources Safety and Health Queensland made the following recommendations in its Nature and Cause Investigation Report:

1. Use of smaller wear plates as an alternative wear package
2. Identifying that the hazard of springback is not limited to excavator buckets
3. All mines to ensure that they have a procedure within their safety and health management system that requires an effective risk management process to be carried out on any modification being made to plant and equipment prior to the modification being carried out
4. If a modification to plant and equipment is changing the original equipment manufacturer’s design the above procedure must require the mine to consult with the original equipment manufacturer and/or an appropriate technical expert prior to the modification being carried out
5. Resources Safety and Health Queensland to issue a safety bulletin to all mines informing them of the various elements that can cause a build-up of stored tension in steel plates.

Resources Safety and Health Queensland confirms that all recommendations contained in the Nature and Cause Investigation Report have been implemented.

An industry-wide audit was conducted at the conclusion of the investigation into the serious accident to determine whether any other mine sites used large wear plates. It was identified that the use of large wear plates was limited to two excavators, both of which had their large wear plates removed during the investigation. Coal mining inspectors continue to inspect equipment at open cut mines and advise operators about the hazards associated with large wear plates.

Recommendation 2
The Department of Natural Resources and Mines issue a further Safety Alert or Bulletin alerting industry that the hazard of spring-back is not limited to excavator buckets and applies to a range of equipment deformed or damaged by wear increasing the potential for violent release of metal during removal processes.

Response and action: the recommendation is agreed in part and implementation is complete.

Responsible agency: Resources Safety and Health Queensland.

On 17 December 2021 the Minister for Resources responded:

On 1 July 2020 Resources Safety and Health Queensland was created as a statutory body, and the responsibilities held by the Resources Safety and Health Division of the Department of Natural Resources, Mines and Energy, were transferred to it. Resources Safety and Health Queensland is now the safety regulator for the resources sector, while the Department of Resources is a separate agency responsible for regulating the use of land, mineral and energy resources.

The Minister for Resources agrees with the intent of the recommendation but will implement the recommendation in a different way to achieve the same result.

On 27 June 2018 Safety Bulletin 172 ('the safety bulletin') was issued following the conclusion of the inspectorate's investigation into the serious accident that caused the death of Mr Springer. The safety bulletin identified that the hazard of elastic spring-back was not limited to excavator buckets, but had been observed in rear dump truck trays, draglines, and a dozer blade. The safety bulletin identified six causes of elastic spring-back in plates:

- misshape
- welding
- wear
- indentation
- poisson expansion
- dirt ingress.

Since the hearing of the inquest, Resources Safety and Health Queensland has engaged the services of Mr Lenny McInness, an expert metallurgist who gave evidence at the inquest, to prepare a publication about the risk of spring-back in large wear plates on equipment such as excavators. Mr McInness' publication supplements the safety bulletin to improve industry understanding of the spring-back phenomenon in order to better manage the risks associated with it. Mr McInnes's publication has been published on Resources Safety and Health Queensland's website and circulated to all site senior executives of coal mines within Queensland.

Recommendation 3
The Department of Natural Resources and Mines provide these inquest findings to relevant industry training providers to ensure the learnings are incorporated in training content.

Response and action: the recommendation is implemented.

Responsible agency: Resources Safety and Health Queensland.

On 17 December 2021 the Minister for Resources responded:

On 1 July 2020 Resources Safety and Health Queensland was created as a statutory body, and the responsibilities held by the Resources Safety and Health Division of the Department of Natural Resources, Mines and Energy, were transferred to it. Resources Safety and Health Queensland is now the safety regulator for the resources sector, while the Department of Resources is a separate agency responsible for regulating the use of land, mineral and energy resources.

Resources Safety and Health Queensland has been in communication with the Australian Industry and Skills Committee since the conclusion of its investigation with the aim of ensuring that learnings from the investigation are incorporated into boiler-making training. It has also provided a copy of the inquest findings to Australian Industry and Skills Committee and requested that inquest findings be incorporated into boiler-making training.