



## Significant Incident Report No. 276

**Subject:** Fall from height after failure of retractable type lanyard

**Date:** 28 May 2019

### Summary of incident

In June 2018, a scaffolder fell while crossing a void 5.7 metres above the ground. The scaffolder was wearing a fall arrest harness with a retractable type lanyard connected to a horizontal guardrail of a scaffold platform. When stepping 1.3 metres laterally to access a pipe support structure, the inertia reel mechanism of the lanyard engaged, impacting the scaffolder's balance. This caused the scaffolder to fall backwards through the void and swing against the scaffold structure. The webbing on the retractable lanyard then sheared below the shock (energy) absorber component. The scaffolder fell approximately four metres, landing on a staircase and dislocating his shoulder.

### Direct causes

- The scaffolder lost his balance while crossing a void.
- The lanyard failed before deploying the shock absorber.



Left: Void between scaffold and pipe support structure. Right: Fall location and height.

## Contributory causes

- Higher level risk mitigation measures (e.g a stairway) were not in use.
- The fall arrest equipment was not used in a way to reduce, so far as is practicable, the possibility of injury to the user.
- The anchor point selection was incorrect for the application and outside the maximum of 30° offset recommended in AS/NZS 1891.4:2009, Part 5.1.2.
- The lanyard integrity was compromised at the connection between the inertia reel and the shock absorber with the webbing material worn and/or damaged.
- The scaffolder's lateral swing (the pendulum effect) extended the fall distance, likely exceeding free fall limits, before the lanyard took up the load.

## Actions required

The Department recommends:

- Identifying if there are alternative and safer methods of conducting the task.
- Identifying the hazards, assess and control all risks that may arise for all activities involving the use of fall arrest equipment.
- Confirming workers conducting work at heights with fall arrest equipment are adequately instructed, trained, assessed and supervised.
- Using fall arrest equipment in accordance with AS/NZS 1891.4:2009 and the manufacturer's recommendations, including a total fall distance calculation to ensure a residual safety clearance is maintained.
- Ensuring all servicing, testing, maintenance and storage of fall arrest equipment is conducted in accordance with applicable standards and manufacturers recommendations.
- Protecting fall arrest equipment from degradation due to adverse exposure to ultra violet radiation or chemicals.
- Increasing inspection frequency when fall arrest equipment is used in harsh conditions, such as abrasive or corrosive environments.
- Ensuring all persons using fall arrest equipment are competent to inspect and use this equipment, and do so prior to and after each use.
- Discarding and replacing all damaged and/or deteriorated equipment.

## Further information

AS/NZS 1891 Standards for industrial fall-arrest systems and devices.

Visit [www.dmirs.wa.gov.au/ResourcesSafety](http://www.dmirs.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 28 May 2019