



Mines Safety

Significant Incident Report No. 144

Roll over of front-end loader

Incident

In June 2007, the operator of a loader in the South West of Western Australia sustained minor injuries when the loader he was operating slid sideways over the edge of a 15 metre sand face and rolled over to the base of the sand pit, coming to rest on its side. The operator was attempting to clear top soil along the top of the face when the incident occurred.

The operator had only recently completed training in the use of front-end loaders. The loader was in good condition and the operator was wearing the seat belt at the time of the incident, which undoubtedly prevented serious injury.

Previous incidents of a similar nature have occurred in Western Australian mines, and these are highlighted in Mines Safety Significant Incident Report No. 26 *Truck toppled over edge of stockpile*, which was released in October 1991. Mines Safety Bulletin No. 63 *Dozer safety in open cut operations*, published in October 2001, and Mines Safety Bulletin No. 26 *Death of dozer driver – Coronial Finding*, from June 2003, also outline the dangers associated with plant going over the edge of a pit.

Causes

- There were unclear instructions given and miscommunication between the supervisor and the employees working on site, regarding the work to be undertaken.
- The employees on site were inexperienced at operating loaders.
- The loader operator was working too close to the edge of the face.
- There were no windrows, barriers, demarcation or warning signs at the edge of the face.
- There was inadequate supervision of the employees on site.
- The use of a loader was inappropriate for the task.
- A risk assessment or job safety analysis (JSA) had not been conducted.
- No safe work procedures or work instructions had been developed for the task.
- There were no radio communication systems in the loaders on site.
- There were no emergency procedures or first aid equipment available.
- No daily inspections by a competent person had been carried out.

Recommendations

Section 9 of the *Mines Safety and Inspection Act 1994* prescribes that the employer at a mine must provide and maintain workplaces, plant and systems of work such that employees are not exposed to hazards. The following points indicate what would constitute a safe system of work for loader operations.

- Ensure clear instructions are given to operators and that they understand the instructions.
- Ensure operators are told where not to work (restricted or dangerous areas) and why they are not to work in these areas.
- Ensure that loader operators are trained and competent.
- Ensure that new and inexperienced operators are appropriately inducted and closely supervised.
- Ensure loader operators are trained on what is the best course of action to take when plant is becoming uncontrollable and sliding towards a precipitous edge.
- Ensure that loader operators do not work near the edge of a steep face without edge protection or barriers such as windrows and bunds (also refer to r. 13.7, Mines Safety and Inspection Regulations 1995).
- Consideration should be given to the use of safety signs to identify the presence of a steep face or embankment.
- Ensure that the appropriate plant type is used for the task, such as a dozer in this case.
- Conduct appropriate risk assessments and job safety analyses (JSAs) for loader operations.
- Develop safe work procedures or work instructions for loader operations.
- Ensure manufacturers operating instructions and operating limitations are adhered to.
- Ensure that the loader is provided with rollover protective and falling object protective structures (ROPS/FOPS) to Australian Standard AS 2294:1997 and that seat belts are worn.
- Ensure that there are adequate means of communication between operators on site.
- Develop emergency procedures for all sites.
- Ensure adequate first aid equipment is on site and first aid trained persons are available.
- Ensure daily or shift inspections are conducted by a competent person.



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