



Learning Event



Lifting – Dropped Object

Hazard

Lifting

led to

Unwanted Event

Dropped Object

Description

A 4-section telescopic communication tower was being erected through activation of a manual winch. As it was being winched upward into place, the top section (weighing approximately 80kg) became unstable and fell about 20 metres to the ground. It landed less than 1 metre away from the winch operator's normal position at the base of tower.



Risk Event Statement

Flaws in engineering design of lifting equipment and items being lifted can lead to dropped objects during lifting which can cause equipment damage, serious injury or fatality.

Habits

- ✗ Lifting equipment not fit for purpose.
- ✗ Winch operator had minimal experience with this particular tower design.
- ✗ Construction methodology did not consider risks associated with workers being in the drop zone during tower erection.

Learnings

The tower did not have an engineering control (stop) to prevent overrun of the telescopic sections which resulted in the top section becoming unstable.

Overrun kinked the wire rope. This coupled with a winch cable design that used wire rope grips as a lifting point (contravenes AS-2759 for steel wire rope) contributed to failure of the wire rope allowing the top section to fall to grade.

The winch operator had minimal experience installing these communications towers and did not recognise the potential for overrun.

Project control (Technical Authority assurance) processes were not fully executed.

Considerations

- > All projects should go through formal pre-final investment decision assurance to confirm the project control (Technical Authority assurance) processes, or Management of Change processes, that will be provided during project execution.
- > Material management processes should capture fitness assessment/condition report for using stored materials.
- > Include engineering controls in communication tower design to prevent catastrophic failure when working under load.

Could this happen to you?

- > Is the design of the lifting equipment that you are using, or the materials that you are lifting, adequate?
- > Do you only operate lifting equipment that you are qualified to use?
- > Are barriers in place to define exclusion zones for all lifting operations in your workplace? Do these barriers prevent people entering drop zones?

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