



# SAFETY ALERT

## Shared Learnings



### INCIDENT TITLE:

1287740-Strop failure causing load to be dropped

### TIME AND DATE OF INCIDENT:

13/07/2022

### INCIDENT DETAIL :

During the removal of the winch drum for Gate 19D (Pukaki area), a contractors' lifting strop failed allowing the lift to fall. Due to the shock load on the remaining strop the second strop also failed allowing the winch drum to be dropped onto the plinth and winch housing and then rolling onto the dam deck. The load was about 2 to 2.5 metres in the air when the first strop broke.

The lift was planned well, and a recorded lift plan was in place including all lift charts and crane movements. The weight of the gear was calculated out of the drawings by the contractors' engineers. A low test -lift was done to ensure the rigging was appropriate. An exclusion zone in place while the lift took place.

There were no injuries. Mechanical damage to an Asset only.

The site was closed and Worksafe NZ notified. The following day a Learning team was done to understand what could be done better and what could have been the cause. Worksafe handed back the site the next day without any visit.

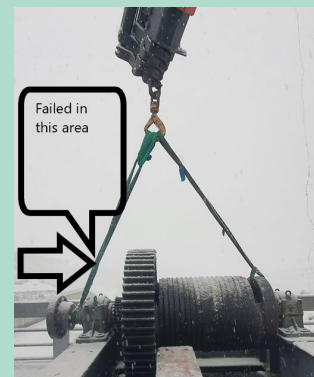
### INITIAL RESPONSE AND INVESTIGATION OUTCOMES :

1. It was found that the weight provided to the workers on site was incorrect. The calculation that was done included a **human error**. The weight initially provided was 1.97 Ton. The workers then increased the estimated weight for rigging to 2.5 Ton. A breakdown of calculations proved the correct weight to be just under 3.1ton.
2. Rigging was set up to be able to lift 2.8Ton as a Safe Lifting load. The strops both had a Safety factor of 7:1 and should have been able to lift the overload of 300kg with ease. The strops were approx. 6 months old and had been used once before. The strops were greasy from the previous job. The strops were left in a rigged state, outside overnight in snowy conditions.
3. There was confusion around when a documented lift plan was needed by Meridian.
4. The workers practiced good industry standards, they are competent and very experienced.

### LEARNINGS AND RECOMMENDATIONS FROM THIS INCIDENT:

- The first lifting strop that failed did not make any snapping or tearing noise before it failed. The workers all found it very odd that the strop failed the way it did. It failed in the middle of the strop away from any corners or stitching. It was agreed that the strop will be sent away by the contractor for destructive testing and analysis and report back to Meridian. The serial number of this lifting strop must be kept in case of batch failure.
- The use of mobile lift scales was discussed as an alternative to the calculation of weight. This way the rigging can be adjusted if it was found to be a heavier lift than was anticipated. Meridian engineers will investigate purchasing a load scale specifically for project use.
- Although there was a lift plan in this lift, there is sometimes inconsistency in when we complete one. Meridian Energy needs to be clear on the need for documented lift plans. Meridian Hydro does not have a guideline in place to clarify the difference between a routine lift and a critical lift. It is generally left to interpretation.

### PHOTO:



THE CORPORATE SAFETY AND HEALTH TEAM ARE CURRENTLY WORKING ON SYSTEMS TO SUPPORT THE ABOVE LEARNINGS. IF INTERESTED IN VIEWING THE FULL INVESTIGATION REPORT FOR THIS INCIDENT, IT CAN BE FOUND [HERE](#):

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