

Safetree Safety Alert

Post this alert on your workplace noticeboards. Discuss it at safety or tailgate meetings.

Type of incident: Manual Breaking-Out vs Mechanised Processing.

Date: September 2017

From: FISC/Scion

Learning Review: This Alert uses the Learning Review approach to understand how incidents happen. The purpose of a Learning Review is to learn and improve. The recommendations are focused on improving the whole 'system' (the way work is done in forestry) to prevent future incidents.

Lessons

Lessons for forest owners/managers:

- When pre-planning for the block, owners/managers need to take into account how smaller piece sizes might impact on harvesting and contractors' ability to reach daily tonnage targets. This should be taken into account in the development of commercial terms.
- Pre-planning for small piece size blocks also needs to ensure workflow can be maintained to avoid pinch points that could put workers under pressure to rush or take short-cuts.
- If the owner/manager or contractor identify that smaller piece sizes could make it challenging to achieve daily tonnage targets after work has begun, then strategies must be put in place to manage this hazard.

Lessons for contractors:

In the pre-planning stage, contractors need to identify ways to manage risks created by short hauls/smaller piece size operations. Below is a selection of strategies put forward by a Focus Group involved in this alert that could be helpful, depending on the situation. These strategies don't need to be in place all the time, just when certain risks are present:

- Don't use hitching for the first 50 meters of hauling (the top of the danger triangle)
- Add another chain strop to reduce hitching at the top of the danger triangle¹
- Use an un-hooker from another area of the operation for the first 50 meters of hauling
- Give control to the Waratah Operator for the first 50 meters of hauling. For example, the Waratah Operator states the chute is clear before the Breakers-Out go in.
- Use a different machine like a Bell to clear the chute at the top of the danger triangle
- Invest in automatic chokers for certain conditions
- Use a spotter where possible.

NOTE: Communication is pivotal to maintaining safe operations as breaking out is chiefly managed through radio transmission or a tooter. While methods of improving or modifying communications were explored during the focus groups, it is critical to remember that a management strategy or defence that is 100% reliant on humans is vulnerable to inevitable and unavoidable human conditions such as fatigue and overload. Where possible, we sought technical solutions.

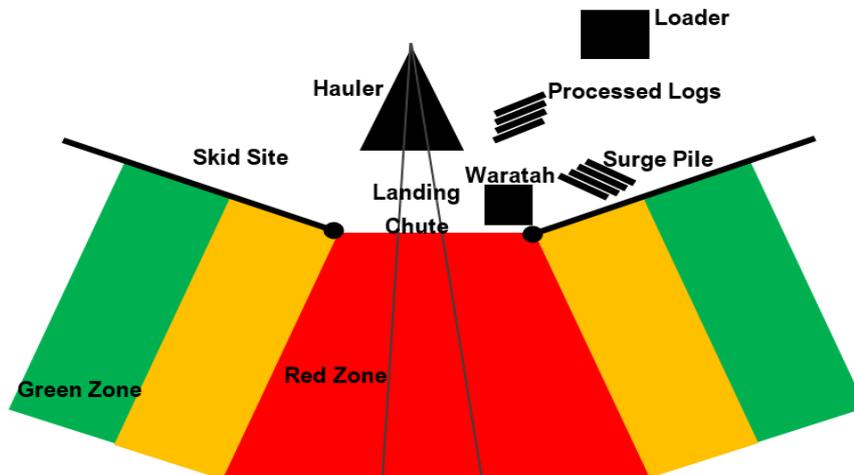
What happened

The incident happened in September 2016. The crew were harvesting small, densely planted trees using manual breaking out and mechanised processing. On the incident drag, the Waratah Operator was clearing

¹ The area below the chute in a cable logging operation where workers can be working.

trees out of the log landing chute and the Hauler Operator started the rigging on its return journey to the Breaker-Out and Head Breaker-Out, working 20metres down the hill. The Waratah Operator was grasping the last log when the Head Breaker-Out signalled to halt the gear. The Hauler Operator stopped the rigging and slackened the ropes. Both Breakers-Out began walking from their safe retreat position. As the Waratah Operator slid the last tree from the chute, the branches hooked on the slackened ropes and then came free, causing the ropes to swing. One of the chains hit the Head Breaker-Out in the waist and thigh. A radio call from the other Breaker-Out stopped the work.

How it happened



Skid site and danger triangle layout

A traditional investigation might have put this incident down to human error. But the Learning Review identified several other factors that might have played a part:

- The smaller log size meant the crew were working at a fast pace in order to achieve tonnage targets. Targets are set up to three years in advance and there is limited room for renegotiation.
- When working in the 'red zone' (below the hauler) the safe retreat position is at a minimum 15 metres. But there was a view that "no contractor would make money if the Breakers-Out always retreated that far" and that "Breakers-Out tend to rely on experience to decide on the most practical safe retreat position".
- The day of the incident the crew were short a Breaker-Out, and the individual who usually undertakes Quality Control and unhooks the drags. So, the Waratah Operator was also unhooking the drags.
- The Waratah Operator felt he was 'under the pump' to keep up because the logs were being dragged over short distances so there was less time between drags. As a result, a backlog was starting.
- To compensate for the small wood size, the Breakers-Out were maximising the number logs in each drag using a 'hitching' technique. Hitches took longer for the Waratah Operator to unhook, making it even harder for him to keep up.
- The Breakers-Out believed nothing moved in the chute after they call stop to the ropes being lowered.
- The skid workers believed the Breakers-Out stayed in the safe retreat area until the ropes stopped moving, so there was enough time to remove the last tree from the chute.

Read the full report **Manual Breaking Out vs Mechanised Processing** at <http://safetree.nz/safety-alerts/>