OREGON State FACE Program
Fatality Assessment & Control Evaluation™

REPORT#: 2025-01 REPORT DATE: 10/28/2025

DATE:
03/15/2024

TIME:
07:30 a.m.

VICTIM:
43-year-old male

INDUSTRY/NAICS CODE:
Logging/113310

EMPLOYER:
Logging Company

SAFETY & TRAINING:
Comprehensive Safety Program and Training

SCENE:
Cable logging on steep terrain

LOCATION:
Remote forest in Oregon

EMPLOYER SIZE:
23 Full-time employees

EVENT TYPE:
Struck by

Choker Setter Fatally Struck by Skyline—Oregon

SUMMARY

On March 15th, 2024, a 43-year-old choker setter was fatally injured when he was struck in the head, neck, and shoulder by a falling skyline. The skyline brake had been accidentally released, and the choker setter was standing underneath it while waiting for the carriage to return. **Read Full Report>:**

CONTRIBUTING FACTORS

Key contributing factors identified in the investigation include:

- The employee was positioned below the skyline, not "in the clear."
- Accidental release of the skyline brake.
- Remote location and access to advanced medical care.

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RECOMMENDATIONS

Oregon FACE investigators concluded that, to help prevent similar occurrences, employers should:

- Train and reinforce the importance of being "in the clear" and situational awareness.
- Pre-plan the workday and minimize multitasking and distractions for critical positions like the yarder operator.
- Assess older equipment controls to see if upgrades can be installed to reduce control mistakes.
- Consider investing in additional emergency response training for employees working in remote locations. **Learn More>**

INTRODUCTION

On March 15th, 2024, a 43-year-old choker setter was fatally injured when he was struck by a falling skyline. The crew had just begun work on the morning of the 15th and were continuing at the same location as the previous day. The logging crew was using a cable yarding system to log second-growth timber in a remote location in Oregon. The rigging crew, which included the choker setter, sent the first turn (group of logs) to the landing. Once the logs were dropped at the landing, the carriage was released back down the slope to the rigging crew. While waiting for the carriage and chokers to come back down, the decedent stopped to remove layers of clothing, including a sweatshirt, and took off his hard hat.

While the carriage was moving back down the skyline, the chaser on the landing approached the yarder operator and asked him to let out the line from the yarder's tag line drum line. The tag drum brake and skyline brake were both located on the left side of the yarder control panel. The yarder operator accidentally released the skyline brake instead of the tag line drum brake. The skyline immediately dropped about 200 feet from its position above the ground. It struck the choker setter on the head, neck, and shoulder.

Nearby crew members saw the choker setter lying on the ground and immediately went to check on him. He was still breathing but not conscious, so they called for help and for a stretcher and a first aid kit. The decedent was moved to the landing via a stretcher, where the ambulance arrived to transport him. He was then transported via LifeFlight helicopter to the nearest hospital. The injured choker setter died of his injuries three days later.

DETAILS

The logging crew consisted of eight employees that day, including five on the rigging crew. The rigging crew included a yarder operator who was also the rigging crew lead, a rigging slinger, a rigging slinger in training, and two choker setters. After arriving on site on the morning of March 15th, the rigging slingers and choker setters (including the decedent) hiked down the steep terrain to where they had stopped working the day prior. They were about 1,000 feet below the landing.

The yarding system configuration used that day was a standing skyline in gravity-fed mode with a motorized carriage. In this type of yarding system, the skyline is stationary, and the motorized carriage brings logs (referred to as the turn) up to the landing. For the outhaul, gravity is used to move the carriage down the slope to the rigging crew. According to the Oregon Occupational Safety and Health Administration (OSHA) Yarding and Loading Handbook, this is the most common cable yarding system that is used in the region [OR-OSHA 2010]. **Image 1** below shows an illustration of this type of yarding system.

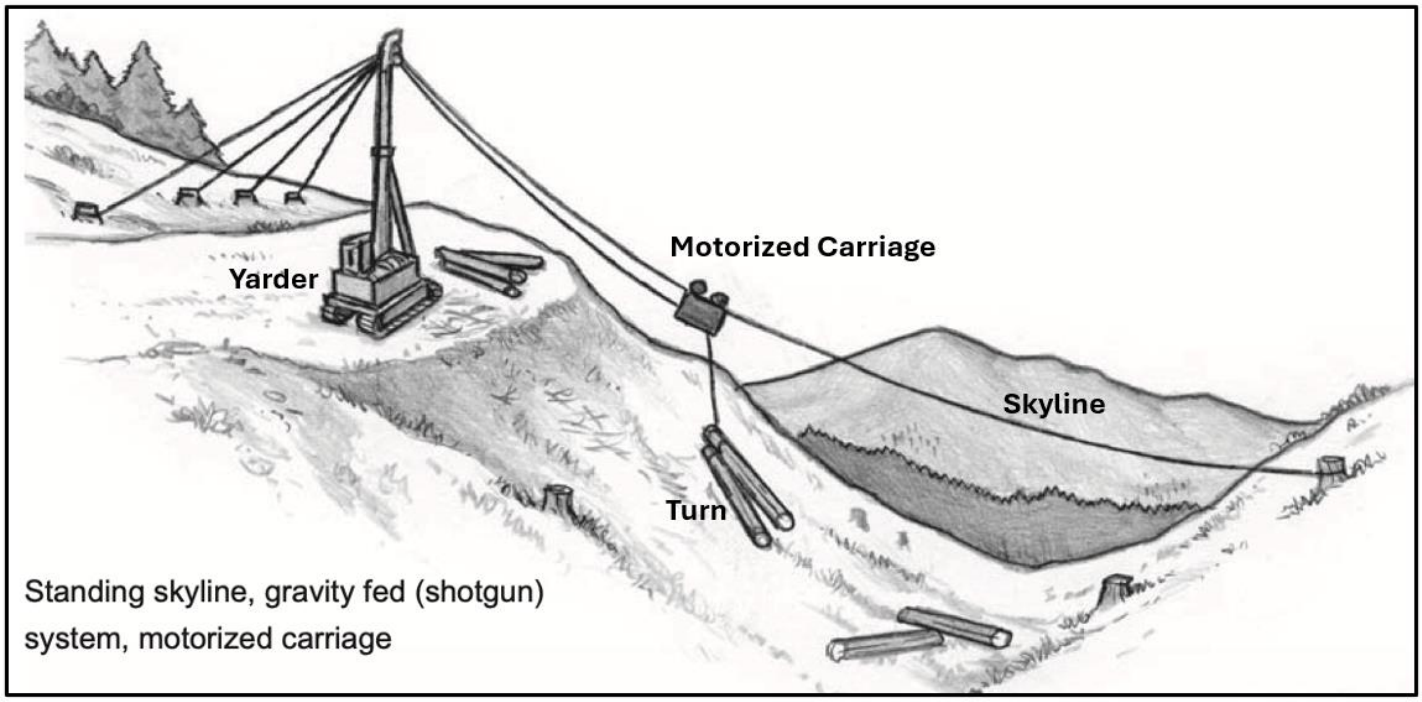

Image 11: **Illustration of the yarding system configuration with labels added** (OR-OSHA Yarding and Loading Handbook).

The rigging crew had attached chokers to the first group of logs and sent the first turn (group of logs) up to the landing. This was the first turn of the day. The turn was carried up to the landing by the carriage and dropped. The yarder operator then sent the carriage back down the skyline slowly via gravity.

After sending the carriage back, a member of the landing crew working as the chaser asked the yarder operator to release the yarder's tag line drum brake so that the rope could be pulled off the tag drum. This was requested of the yarder operator because the crew was preparing to move the yarding road. The yarder operator reached for the lever on the left side of the operator controls and accidentally released the skyline brake instead of the tag line drum brake, which was adjacent.

As shown in **Image 2** below, the tag line, drum brake, and skyline brake are similar in size but differ in shape on the left side of the control panel. These brake levers also require the same motion to release.

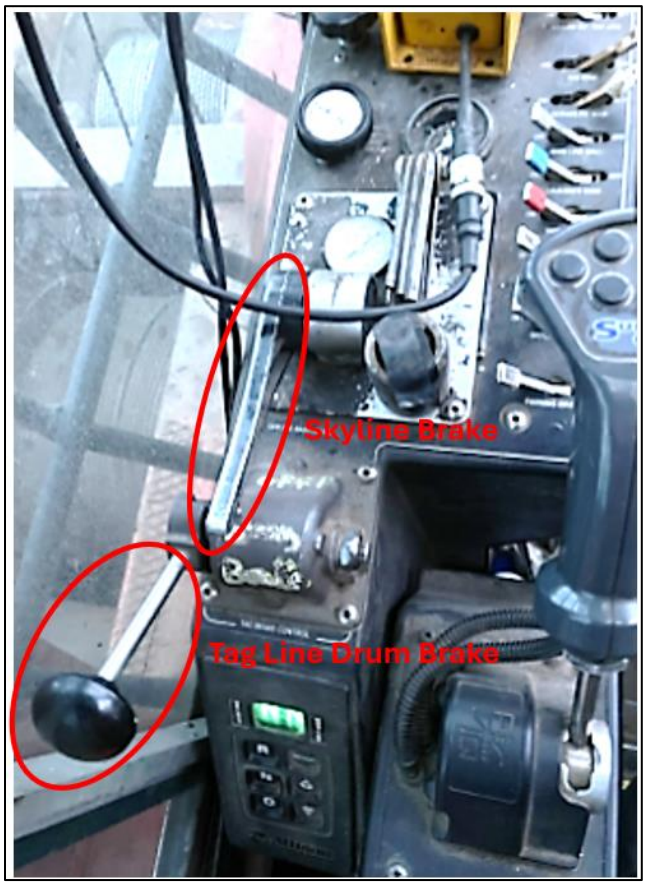

Image 2: **Photo of operator controls on Madill 172B Yarder with labels added.**
(Photo courtesy of Oregon OSHA).

The yarder operator accidentally released the upper lever, the skyline brake, instead of the lower lever, the tag line drum brake. The yarder operator was looking outside the window as he operated the lever because the tag line is released quickly. When the skyline brake was accidentally released, the 3,200 feet of elevated skyline immediately fell from its position approximately 200 feet in the air. The decedent was standing under the skyline and was struck in the head, neck, and shoulder by the skyline.

At the time he was struck, he was not wearing his hard hat. He had removed his hard hat to shed layers of clothing. His clothing and hard hat were on the ground near the location where he was struck. **Image 3** below shows the skyline on the ground close to where the employee was injured. The image shows the steep terrain and the yarder's location on the landing above. For this image, the skyline was lowered in a controlled manner. At the time of the incident, the skyline would have fallen in a much more haphazard manner.

Image 3: **Photo of the sloped terrain, skyline on the ground, and yarder on the landing above.** (Photo courtesy of Oregon OSHA).

Nearby crew members heard the skyline fall but did not see the choker setter struck by the skyline. However, after the skyline fell, they noticed that he was on the ground. The rigging crew members immediately responded to check on him. The choker setter was unconscious but still breathing with some difficulty. They called for emergency services, the on-site first aid kit, and a stretcher.

The crew deployed a rescue litter (stretcher) and emergency supplies to the injured worker to bring him back up to the landing. The process was slow and difficult due to the terrain, and it took approximately 40 minutes to safely move the injured choker setter to the landing. Throughout this time, a crew member maintained continuous pressure on the worker's open wound to control the bleeding.

Approximately 5 to 10 minutes after the injured choker setter reached the landing on the stretcher, the ambulance arrived on the scene. He was transported to the local fire department, where he was transferred to a Life Flight helicopter and flown to the nearest hospital for advanced medical care. Despite these efforts the injured worker was placed on life support for three days. On March 18, 2024, he was removed from life support and died of his injuries.

EMPLOYER

- The employer is a small family-owned logging and trucking company located in Oregon. The company has been in business since 1983 and has over 40 years of logging experience, including unique and challenging logging projects. At the time of the incident, they employed 23 full-time workers.

WRITTEN SAFETY PROGRAMS and TRAINING

- The employer in this case had a comprehensive safety program, including numerous safety training sessions as part of the onboarding process. The employer also had a safety policy signed by the company's owner, stating the owner's commitment to employee safety.
- The employee handbook included a section dedicated to the company's health and safety policy.
- In addition to the company safety policy and pledge signed by the company owner, an employe safety pledge commitment was also included in the onboarding process and signed by the employee.
- The logging company had a safety incentive plan based on evaluation of employees for required safety training completion, following safety rules, participating in the safety program, and good housekeeping on the worksite.
- The company had clear first aid and emergency plans, plus Basic First Aid/CPR certification for employees. Crew members on the day of the incident had current certifications.
- The employee had also completed a choker setter specific safety and health training program with a section on the importance of being "in the clear."
- Regular monthly safety meetings were conducted. Topics from February and March included the importance of being "in the clear."

WORKER INFORMATION

- The decedent in this incident was a 43-year-old Hispanic male. He had been employed by the logging company for approximately 6 months. At the time of the incident, he was working as a choker setter. In this position, he would attach the choker to felled logs to be hauled to the landing. This is considered a physically demanding job [Oregon Loggers, 2022. A]. Records show that the employee completed all required safety training and signed the company's written safety policy.
- Wage
  - ☒ Hourly
  - ☐ Salary

SUPPLEMENTAL DEMOGRAPHIC INFORMATION

- Race/ethnicity
  - ☒ Hispanic or Latino

EQUIPMENT

- The equipment used at the jobsite included a 2015 172B Madill Yarder.
- The skyline was approximately 3,200 feet of 1 1/8-inch cable that connected the yarder to the D7 Cat tail hold.
- The crew used an Eagle motorized slack-pulling carriage to bring the turn (group of logs) to the landing.
- The crew was also using 3 to 4 9/16 inch x 20 foot electronic chokers to choke or attach the logs.

INCIDENT SCENE

The fatality occurred in a remote logging location in Oregon with very steep terrain. As with many cable logging operations in Oregon, the equipment, including the yarder, was located on the landing, and the rigging crew was working below the landing. The rigging crew was approximately 1,000 feet downhill from the landing. According to the employee interviews, the terrain's slope made it difficult to judge how far away they were from the skyline and whether they were in the clear (not below it).

WEATHER

On the morning of March 15th, 2024, the weather was partly cloudy and cool. At the time of the incident, the temperature was approximately 41°F with winds out of the west at about 5 mph. [Weather Underground]. The incident occurred at 7:30 am. It was at this time that the clouds cleared, and the temperature began to rise (from partly cloudy to fair). The high temperature for the day was 71°F and the low was 41°F.

The weather may have been a contributing factor in this case. At the time of the incident the decedent had stopped to remove two layers of clothing, to do so he also removed his hard hat.

CAUSE OF DEATH

The decedent was struck on the head, neck and shoulder by the falling skyline. He was placed on life support at the hospital and died of his injuries three days later.

CONTRIBUTING FACTORS

Occupational injuries and fatalities often result from one or more contributing factors or key events in a more extensive sequence of events that ultimately result in the injury or fatality. Oregon FACE investigators identified the following hazards as key contributing factors in this incident:

- The employee was positioned below the skyline, not “in the clear”.
- Accidental release of the skyline brake.
- Remote location resulted in a longer time to advanced medical care (hospital).

RECOMMENDATIONS / DISCUSSION

Recommendation #1: In cable yarding operations, employers should prioritize training and communication that reinforces the importance of being “in the clear” and maintaining situational awareness.

Cable yarding takes place in a high-hazard work environment, not just because of the terrain but also because of the constant movement of lines, logs, and equipment. Crew members face many risks, including overhead hazards from the skyline and moving carriages, as well as moving logs. Because the work environment and conditions are constantly changing, crew members must continuously assess their surroundings to ensure that they are in the clear. The term “in the clear” refers to being in a safe position away from potential hazards. Being in the clear is one of the most important aspects of staying safe during cable yarding and is a dynamic risk assessment [WorkSafeBC, 2024].

However, the typical application of the term “in the clear” has traditionally focused on ensuring that crew members are out of the way of hazards before moving a turn of logs, away from rigging when it is moving, and clear of logs coming off the landing. While this is extremely important, it is not the only time that workers need to be clear of hazards. This also applies to overhead hazards, such as the skyline itself, and employers should emphasize this through ongoing, practical training. This should go beyond initial training and be incorporated into regular safety meetings and even daily work discussions. By having crew discussions about what “in the clear” means for each setup, terrain, or condition, crew members can better understand and recognize changing hazards throughout the day.

Training and communication should also focus on situational awareness, which is essential to remaining in the clear. Situational awareness is the continuous process of recognizing what is happening, understanding how conditions affect safety, and anticipating what could happen next. But as the work environment becomes more complex and dynamic, situational awareness can become more difficult [Newman, et.al., 2018]. Because of

this, it is important to train employees in situational awareness and promote effective communication to enhance it. Strategies can include pairing crew members to look out for each other and cultivating a supportive crew culture where open communication is encouraged and observed hazards are quickly reported.

Emerging technology-based tools such as GNSS-RF (Global Navigation Satellite System—Radio Frequency) devices or wearable location trackers also have the potential to help improve situational awareness. These systems can alert workers when they enter unsafe areas, like under skylines or carriages. While these tools are still being developed, they could serve as an added layer of protection to reinforce safe positioning in cable yarding environments [Zimbelman et.al., 2017].

Recommendation #2: Employers should limit distractions of the yarder operator by pre-planning tasks for the workday.

The yarder operator position is very demanding, requiring technical skill, constant attention, and coordination with other crew members [Oregon Loggers, 2022. B]. Operators must manage complex equipment, monitor line tensions, control the carriage and skyline, and respond to environmental changes. This high mental workload means that adding additional tasks, distractions, or multitasking can increase the risk of mistakes.

Pre-planning the day's work can help reduce the need for the operator to multitask or face distractions, allowing them to focus on the safe operation of the yarder. Planning can include scheduling yarding turns, coordinating crew movements, and anticipating environmental changes before work starts each day.

Research in human factors and occupational safety has shown that multitasking and distractions can lead to increased errors and mistakes [Boere et.al., 2024]. In high-risk environments like cable yarding, minimizing multitasking and distractions is an important safety strategy. Employers can support this by providing daily work briefings and maintaining clear communication channels, ensuring that the yarder operator can focus on controlling the equipment safely.

Recommendation #3: Employers should assess older equipment models, including yarders with lever controls, and consider upgrading the control system.

Yarding equipment is a major financial investment, and most logging companies are not able to replace older machines with new models. However, many manufacturers now have options to upgrade equipment including the operator control systems. One of the benefits of upgrading the control system is the added safety features that can be included.

Many yarders, like the Madill 172B yarder, have multiple levers and switches that are used to operate the skyline, main line and haul back drums. These mechanical systems require significant coordination and have the potential for operator error. Newer control systems, which can be retrofitted to older equipment models, typically use two joystick controls with a computer control system and interface. These systems can incorporate built-in safety features, such as a warning screen prompting the operator to confirm when switching modes. The newer control systems also reduce the likelihood of accidentally bumping a switch. Another benefit of a newer control system is a more ergonomic setup for operators that can reduce fatigue [Viser & Harrill, 2017].

Recommendation #4: When working in remote locations, employers should consider having advanced medical training and equipment for employees.

When working in remote locations, one challenge is getting an injured employee to advanced medical care. Especially in the case of traumatic injuries, the time that it takes to get to the hospital can significantly impact

their chances of survival.

This increased time from injury to hospital care makes it important for employers with remote work locations to consider designating an employee with advanced training and supplies to respond to injuries. There are substantial differences between basic first aid and advanced emergency response training and supplies. More advanced emergency medical training allows for better assessment of injuries with additional diagnostic tools and training. They also have more advanced supplies that can assist with patient stabilization, including tools to keep the airway clear, administration of oxygen, spinal immobilization, bleeding control, and the administration of medications [US Forest Service, 2024].

There are several training programs that are designed for wilderness or remote location emergency medical care. By investing in this training and supplies for crews, injuries can be better assessed and treated until the employee can be transported to a hospital.

RESOURCES

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INVESTIGATOR INFORMATION

This investigation was conducted by Rachel Madjlesi, MPH, CIH, OR-FACE Fatality Investigator at the Oregon Institute of Occupational Health Sciences at Oregon Health & Science University (OHSU). The report was reviewed by Dr. David Hurtado, Director of the OR-FACE Program, Jackie Boyd, MPH, OR-FACE Project Manager, and the OR-FACE Publications Review Panel.

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DISCLAIMERS

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