

*The following Good Safety Practices were developed from the Innovation in Safety Award submissions.*

## **2020 Reports**

### [Boise Cascade Co. - SawStops](#)

Reduced human to product contact by replacing table saws with the SawStops

### [Boise Cascade Co. - Self Retracting Lifeline](#)

The two-track system allows teams of two to tamp and tighten down bolts while providing fall protection for all associates involved in the evolution

### [Boise Cascade Co. - KPF Info Safety Application](#)

Safety application for a cell phone and tethered it with a mass texting program we call KPF Info

### [Boise Cascade Wood Products, LLC - Lock-Out Simulator Training Board](#)

Help new hire team members understand how to control the risk associated with energy sources

### [Norbord Inc. - Safety Devices in High Risk Pedestrian Areas](#)

Designated pedestrian walkways with safety gates and safety signals at pedestrian crossings

### [Resolute LP Larouche - Miniature Nester](#)

Developed a specialized tool for this task to eliminate crushing hazard

### [Resolute LP St-Prime - IJ Positioning Tool](#)

Tool makes the right space to insert an I-Joist

### [Roseburg Forest Products Co. - Laser Light Curtain](#)

Laser light curtains stops the line anytime a team member breaks the plane of the laser while standing on the ergonomic floor mats and wrapping LVL billets

### [Roseburg Forest Products Co. - Plywood Boiler Safety Gear](#)

Reduced recordable and DART rate at the facility and improved moral of team members with safer / more comfortable work environment, and improved ergonomics for the task of cleaning grates

### [Roseburg Forest Products Co. - Plywood LED Safety Whips](#)

Safety teams identified the LED whips as one of the best options available to increase the profile of mobile equipment throughout the facility and developed an action plan to install them mill wide

### [Roseburg Forest Products Co. - Oregon COVID Control Plan and Training](#)

How Coquille Plywood will be adhering to State of Oregon and Oregon OSHA requirements

### [RoyOMartin - OSB Pin Removal Bracket](#)

Device to improve the safety of the job task to remove pins from arms to the press

### [Tolko Industries Ltd. - Pandemic Response Team](#)

Tolko's Pandemic Response Team (PRT) was activated to respond to Canada's federal government and provincial health authorities declaration of COVID-19 pandemic

### [Tolko Industries Ltd. – Restructure and Stabilize Logyard Terrain](#)

The log yard was excavated and restructured to improve overall stability of the ground

### [Weyerhaeuser - Bucket Heater Reset Tool](#)

The reset tool was fabricated to help reset the heaters without having to open the bucket

[Weyerhaeuser - DSE Hot Oil Valves](#)

Installation of electric powered shut off valves for hot oil primary pump inlet piping

[Weyerhaeuser – Metal Wall](#)

Construction and implementation of a metal wall to prevent 20' long falling logs to enter travel/work area

[Weyerhaeuser – Vat Fall Protection](#)

Installed overhead gantry style fall protection systems for out Vat area

[Weyerhaeuser – Use of Drones to Eliminate Hazard Areas](#)

Utilizing drones in innovative ways to remove people from the action and to eliminate hazard exposure

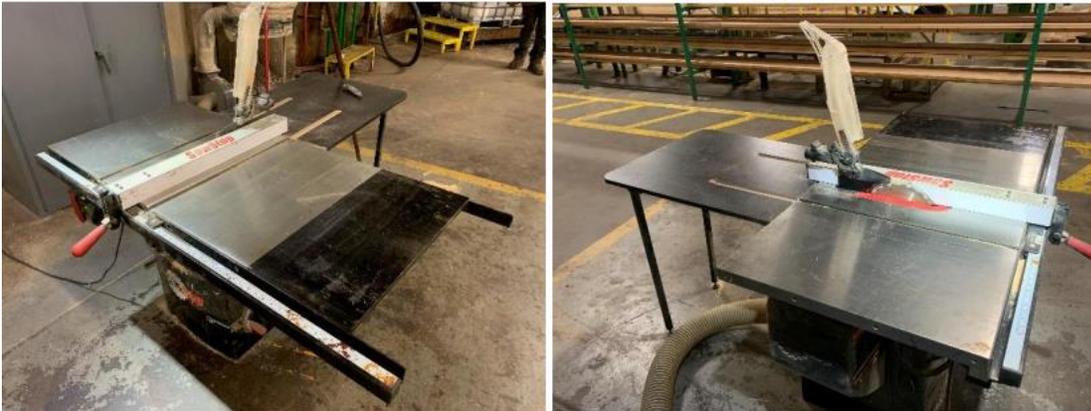
## Boise Cascade Co. – Saw Stops

Contact: Justin Nield, Safety Coordinator

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### 1. Describe in detail the innovative/novel solution that was developed and implemented.

Homedale Beams was able to replace three table saws with SawStops. The plant manager and members of the CSC team had the thought and goal of reducing as much human to product contact as possible for the year 2020. Although replacing table saws with the new SawStops didn't eliminate the human to product contact, it did make it safer for associates using them.





**2. How was this innovation developed and implemented?**

Associates of Homedale Beams that use the table saws daily, knew the risks involved with using table saws and the possibility of cut fingers and or hands, with the possibility leading up to amputations of fingers depending on the severity. Associates, CSC members and members of management got together and discussed what work areas were utilizing table saws the most and were able to come up with three specific areas. SawStops were purchased and swapped out with the old table saws. Once the SawStops were in place, the plant was shut down for training and commission on the saws. There was a demonstration done by using a hot dog that represented a finger.

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

By replacing the old table saws with the new SawStops, it has improved the safety systems on equipment that is utilized numerous times a day for various jobs. The risk of a cut finger is always there, and everyone knows it, yet the associates still use these new SawStops with great caution and respect.

Associates feel safer when using these saws due to demonstrations that were shown during the training portion of introducing the new SawStops to our plant.

**4. When was this innovation implemented and when were positive results first apparent?**

Positive results were from the get-go with associates witnessing firsthand what happens to a hot dog when it touches the blade. The information gathered from associates during and after the demonstration was that they immediately felt safer knowing the reaction time of the saw stop getting actuated when the hot dog touched the saw blade, then for all associates to see that there was only a tiny mark on the hot dog reassured them of their safety and that Boise Cascade will do what it takes to make Homedale Beams a safer workplace. Safe because we care.

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## Boise Cascade Co. - Self Retracting Lifeline

Contact: Justin Nield, Safety Coordinator

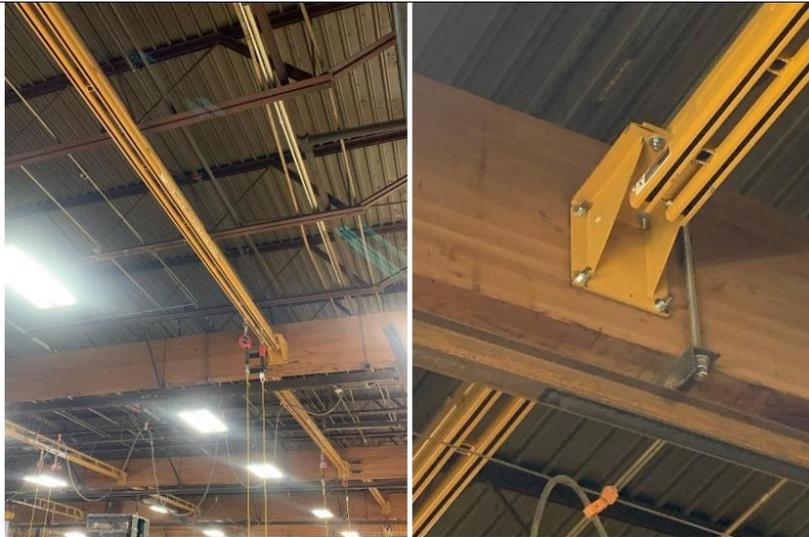
Email: [justinnield@bc.com](mailto:justinnield@bc.com)

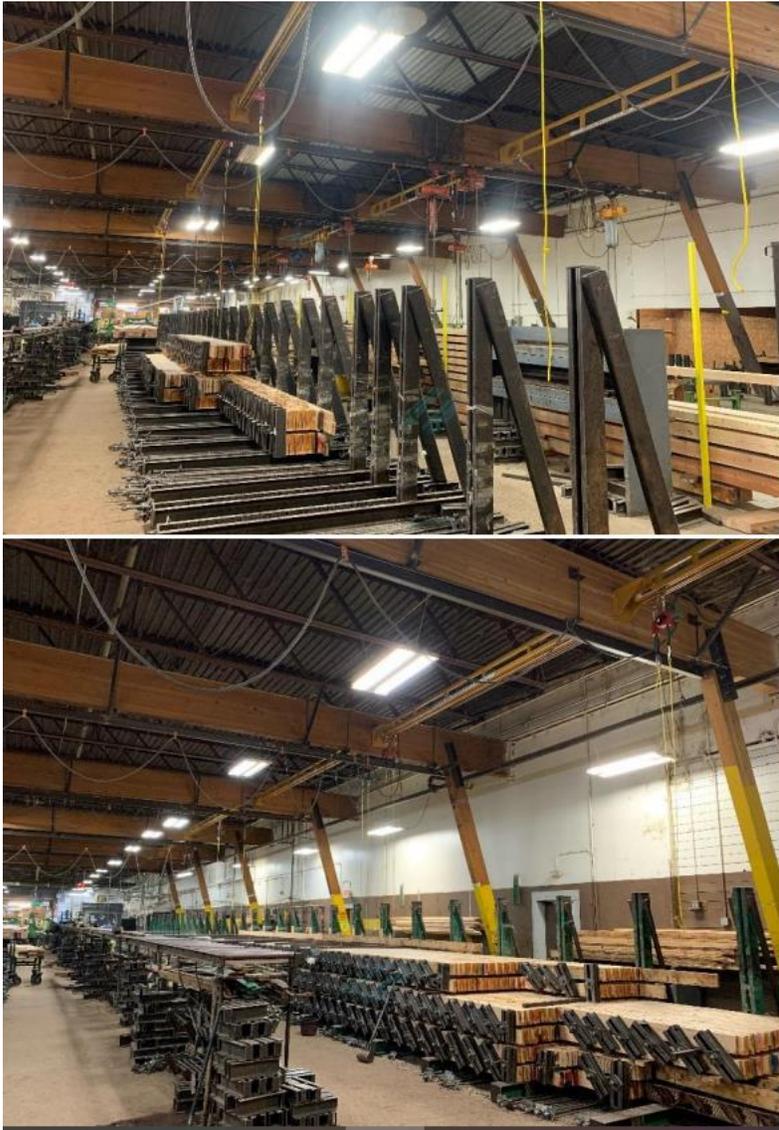
### **1. Describe in detail the innovative/novel solution that was developed and implemented.**

In 2020 Homedale Beams implemented a fall protection plan for the associates working in the Layup Lockup area. Due to multiple lock ups being stacked on one another, associates were constantly having to climb on top of them, putting themselves above four feet and not having any type of fall protection.

Due to the complexity of the process flow, a fall protection system could not be placed at the same level as the hoists. Beams are glued in the racks and pulled from the racks with hoists that run perpendicular to the racks. Anything mounted below the bottom on the hoists would block the conveyance of the beams from racks to the next work center. Beams range from 8' – 80' or longer; this length spans greater than the distance between sets of hoists.

The mill was forced to find an option that would keep our associates safe and not stop production, we landed on a recessed and sectional fall protection system. The two-track system allows teams of two to tamp and tighten down bolts while providing fall protection for all associates involved in the evolution.





**2. How was this innovation developed and implemented?**

The associates in the Lockup Department and supporting staff white boarded multiple options over a 12– 18-month period to no avail. Options evaluated included a fold down platform, fold down retainer bar, suspended wire with tension and many other ideas. Someone on the team found a track system and the idea to mount them recessed was born. The facility contacted two vendors and one was awarded the job to come mount the two-track system.

The vendor was brought back after the installation was completed to conduct multiple crew trainings as part of the commissioning process. The crews were issued harnesses and taught how to wear them properly. To remove any possibility of associates violating the OSHA regulated four foot height, the crews decided on a rule of two or more lockups high requires being strapped into the fall protection system.

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

A few of the improvements for us here is being compliant with OSHA for working at heights, reducing the potential of injury if someone was to fall from climbing, working on, or descending from a lock up. The Self Retracting Lifeline (SRL) is on a two-track

system allowing the associates to move along the lockups and keeping the SRL above them, eliminating the hazard known as “swing path” if an associate was to fall. So, the harness and SRL catch them and there really is no swing path with how it is designed. We are not willing to risk anyone’s safety for doing the work that requires working at four feet and above.

Being able to be Proactive and noticing the potential for a fall by any associate vs reactive and fixing a problem after the fact was what we had in mind here at Homedale Beams.

**4. *When was this innovation implemented and when were positive results first apparent?***

Training on Fall Protection was done by Boise Rigging once the rails were installed and the Self Retracting Lifeline (SRL) were in place. Harnesses were purchased and issued out to each associate involved in Layup Lockup. Associates were also trained on inspections of harnesses and the SRL. Now every time they climb on a lockup that is four feet or greater, they inspect their fall protection before each use. Safe because we care.

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## **Boise Cascade Co. - KPF Info Safety Application**

Contact: Tim Walker, Safety Coordinator  
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### **1. Describe in detail the innovative/novel solution that was developed and implemented.**

The team at Kettle Falls plywood partnered with a local app developer to create a safety app for a cell phone and tethered it with a mass texting program we call *KFP Info*. COVID-19 restrictions and distancing struck at the core of our safety success, employee engagement and communication. To combat these restriction, the team at Kettle Falls plywood leveraged current technology and partnered it with their successful "All-In-One" safety card program to create an efficient way employees can record identified hazards, communicate those hazards, perform observation, and conduct a variety of other safety check activities. The application interface was specifically designed to look and "feel" just like the current All-In- One safety card. Sections of the safety application are intuitive and follow along in the similar format of our card stock version of the safety card. The objective was to embrace the use of current technology and marry that familiar technology to our current safety program. The second critically important component to maintaining employee safety communication during 2020 was the use a third-party mass texting program we term as *KFP Info*. This mass texting program is an off-the-shelf item used at Kettle Falls Plywood to communicate out critically important aspects of site safety and safety events. This all voluntary mass text program started off with approximately 50% of our employees volunteering to be included but within weeks, we had over 85% of the remaining employees ask to be included (The others we believe don't have cell phones). The mass text program is critical in maintaining that communication link to our people on topics including hearing protection reminders, incidents on site, snow-plowing plans, contact tracing standards, congratulations to 1500 days safe for our graveyard crews, and other important pieces of information our people need!

These innovative uses of technology were driven by the challenges we faced in 2020 but now have become integral in the way we conduct safety today.

### **2. How was this innovation developed and implemented?**

As stated above, the app was a culmination of management partnering with the employees. The app took several months to develop and implement. The process started with a discussion on what would be the best way to share information with today's technology and that led us down a road of choosing cell phones as the medium of choice. The easy to use and understand user interface, drives a very powerful communication tool. As the app developed, the changes became more pinpointed and the app design morphed into a multi-functional tool instead of only for communicating hazards. The mass texting program in an off-the-shelf item adapted to our safety needs.

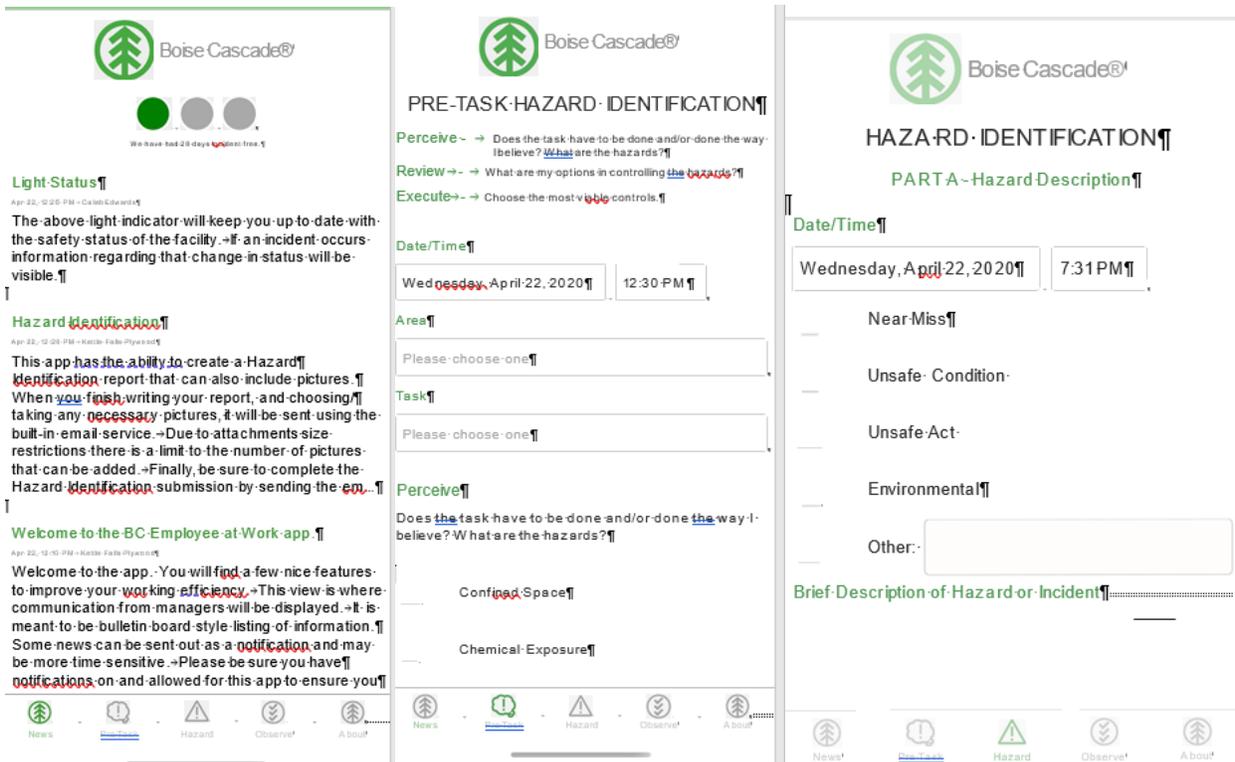
### **3. Describe the improvements that have been achieved by the implementation of this innovation.**

Long before COVID-19 became a concern, site surveys have identified communication as the number one opportunity for correction. When the controls for COVID-19 were put into place in January 2020, communication became challenging. *KFP Info* mass texting program and the app has given employees a medium to connect with each other and to drive a safe work environment. The ability to share information from the bottom up and top down during a pandemic has supported keeping our recordable incident rate low. When an emergency occurs, having an emergency checklist that supervisors can access 24-7 is important. To have a physical list and be able to act

upon it, has demonstrated value with timely notification and response. One of the best features is the ability to communicate with shifts on and off site within a few seconds, with little effort.

**4. When was this innovation implemented and when were positive results first apparent?**

The application and mass texting implementation were completed and rolled out in late spring, May 2020. The results have included quicker response time on hazards that were not being reported on due to communication gaps. In the past, we would have daily meetings to discuss abatements, but communication barriers during the pandemic prevented open communication for the first few months until the app was launched. After the app was launched, personnel could communicate timelier about what they were seeing, and that knowledge moved our us from being reactive about hazards to be able to plan and be proactive. As the app spread by word of mouth and through success, more site personnel have started using the features, bettering communications. This app has helped us to keep employees safe and has positively impacted the site safety.





Boise Cascade®

### OBSERVATION CHECKLIST

Mark all items where the observed is at-risk.

Date/Time

Wednesday, April 22, 2020

7:31 PM

Area

Please choose one

Shift

Please choose one

Type of Work

Type of Work

What was observed? Section Break (Next Page)



Boise Cascade®

### Boise Cascade at Work 1.0 (13)

This application is designed to be a gateway for workplace activities for the employees of select Boise Cascade facilities.

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## **Boise Cascade Wood Products, LLC - Lock-Out Simulator Training Board**

Contact: Ronnie Morris, Safety Coordinator  
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### **1. Describe in detail the innovative/novel solution that was developed and implemented.**

Our plant safety committee had a vision to build a lock-out training board to help new hire team members understand how we control the risk associated with energy sources. Part of the decision came from feedback they were getting; new hires needed more lock-out tag-out training before being assigned to their crew.

With the help of our maintenance department, we built what we call a Lock-out Simulator Board. The board is powered through a 120v system and is programmable, meaning we can make changes to allow the trainer to select different scenarios. Each lock-out point has a hidden switch which is connected to a PLC. During the verification phase of the lock-out procedure, the control panel will indicate any mistakes made by a team member when the test try button is pressed.

We have three different procedures written for the training board. They are written using the same format we use for the mill. The employee follows each line item on the procedure until the lock-out is complete including the energy verification. One of the written procedures has a built-in error, at the verification step a light will come on indicating the error. The idea is to get the team members to Stop, Think and Ask should they be exposed to this in the field.

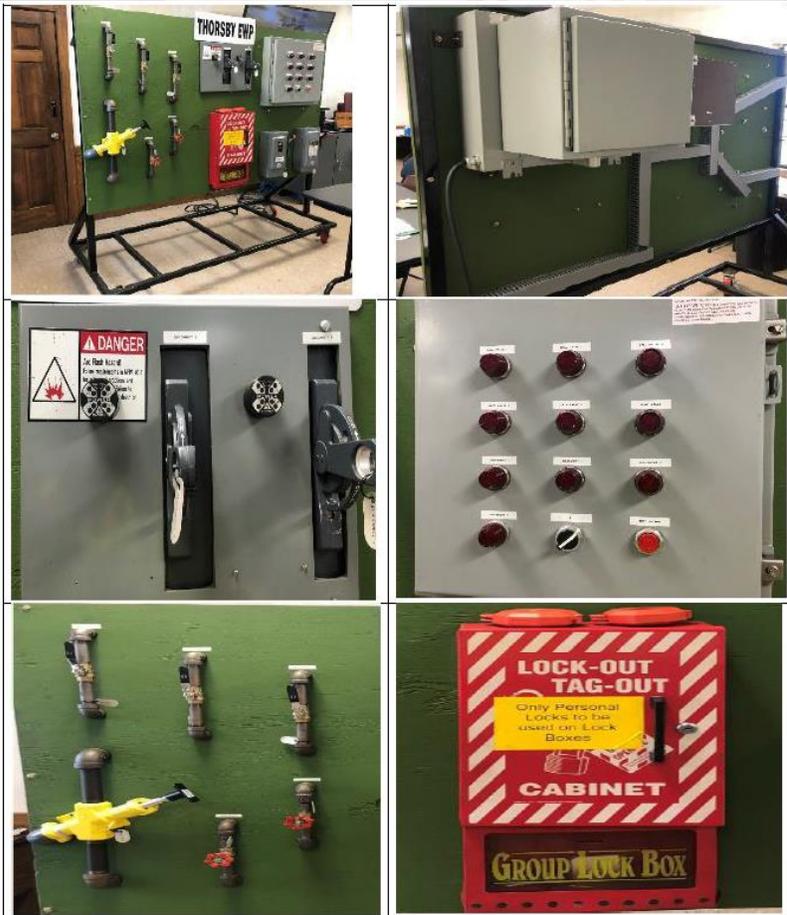
### **2. How was this innovation developed and implemented? (How was it introduced, process used, people/positions/teams involved, etc.)?**

When I explained the thoughts behind the lock-out board to our plant manager, he was fully supportive. He felt like was a great idea to improve lock-out training, especially to those with no prior experience. With his support the committee members went straight to work.

During our next monthly committee meeting, we discussed what we wanted the board to look like and how we wanted it work in order to give the user a realistic view of energy control and Arc flash safety. The next meeting, we developed a list of materials which some we had already had in supply.

Our millwrights started to assemble / build the frame and attached the plywood when their scheduled allowed them time. The committee members met again to decide where to position all our lock point components (manual valves, disconnects, control panel, lock box). Between the millwrights and electricians, they figured out unique ways to install small limit switches hidden behind the manual valves. Once the valve handle is in the off position the limit switch is made which feeds the signal to a small PLC. This gives us the ability to program different lock-out scenarios.

New hires are now using the tool during orientation. The lock-out board is also used as a training tool to teach employees where to stand to help minimize the safety impact should an arc flash occur. Some supervisors are using the board to complete annual refresher training. With help from of our millwrights who built the frame and attached all the lock-out points and the electricians who completed the wiring and program all while using input from members of the safety committee this program has been successful.



**3. Describe the improvements that have been achieved by the implementation of this innovation.**

The biggest improvement is giving employees an advantage to learn how to perform lock-out tag out while in a controlled environment with an instructor present. In this environment mistakes would not lead to an injury. When a newly hired employee starts his or her shift, they already have some exposure and it helps lower our risk involved in lock-out tag out by giving the added safety

awareness. When a new team member is trained how to safely perform a lock-out they have some knowledge to recognize when a peer is not following procedure and can potentially intervene. We stress safety interventions and it's a big part of our safety culture.

**4. When was this innovation implemented and when were positive results first apparent (provide month and year for each)?**

We implemented the tool in June of 2020. We had positive responses immediately from new hires being able to practice and learn the safety impacts of lock-out tag out. We also include Arc Flash hazard awareness training as team member practice switching electrical disconnects using the correct PPE while standing to the side of electrical disconnect.

*Below are photos showing how we modified the manual valves to allow the limit switches to work and feed a signal back to the PLC.*

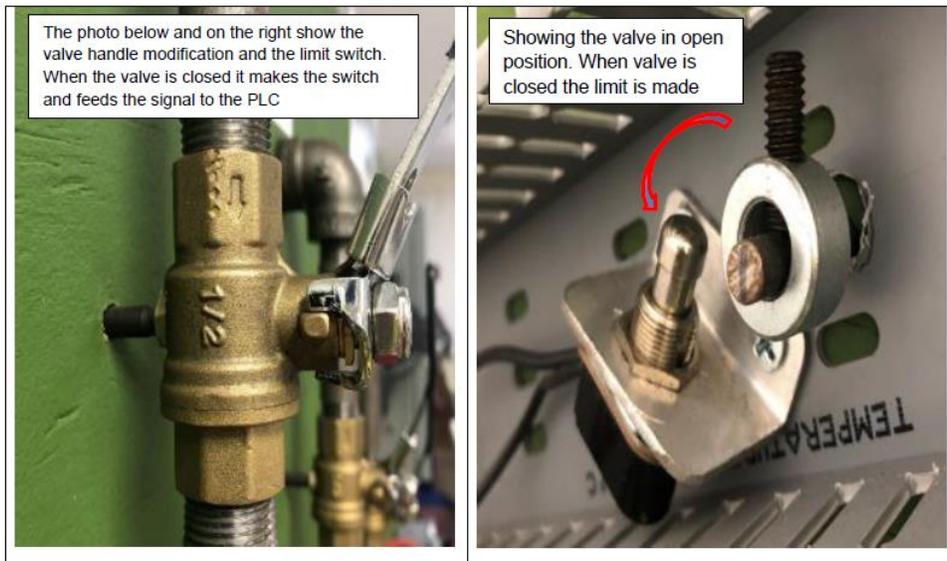
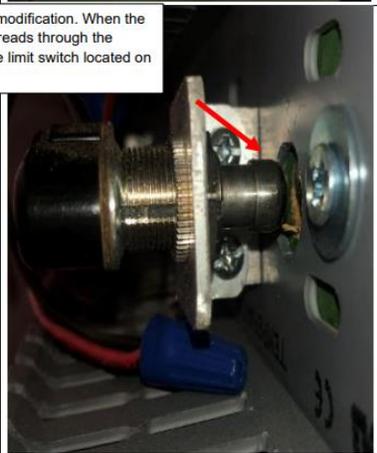
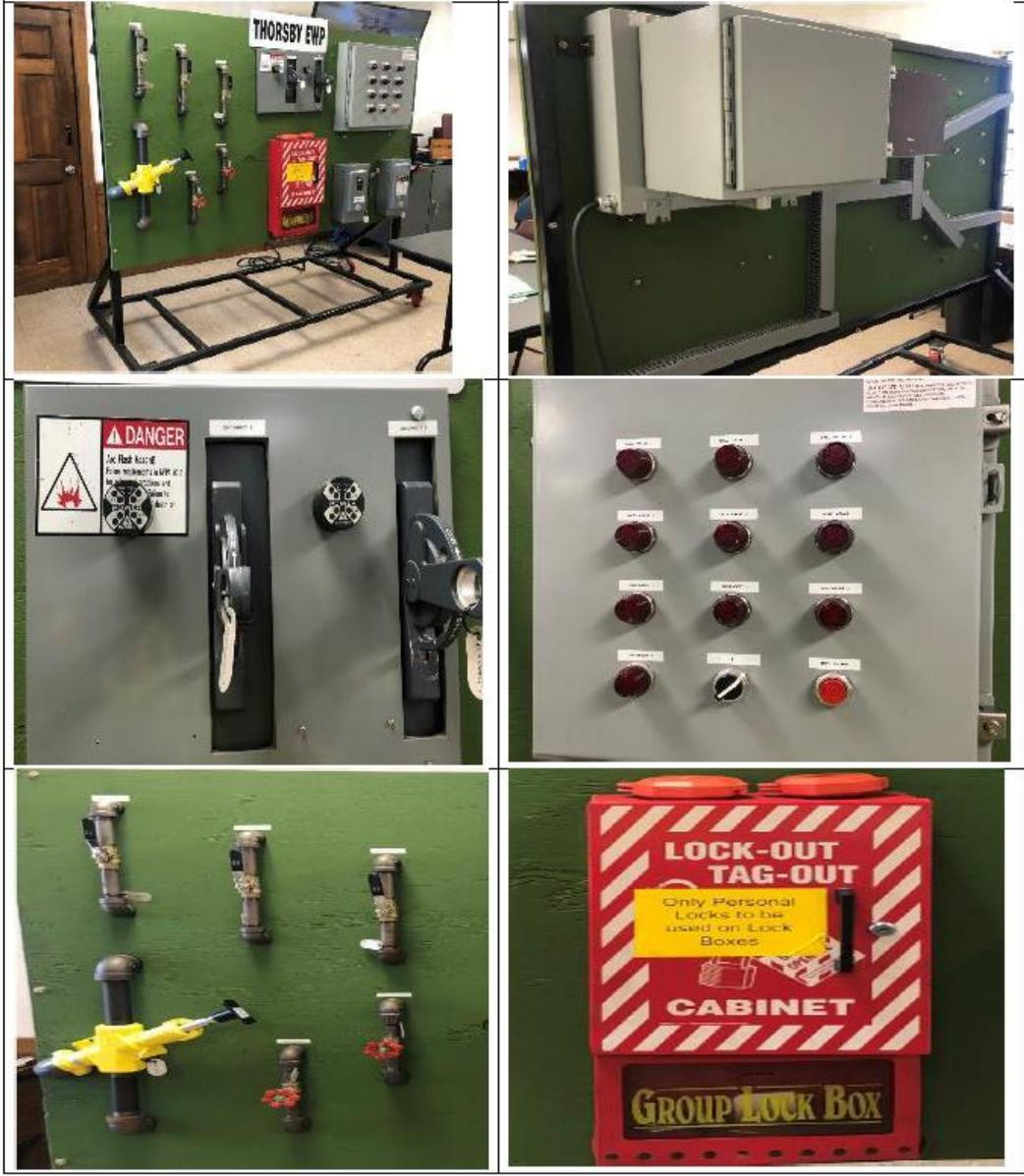




Photo of the valve modification. When the valve is closed it threads through the plywood making the limit switch located on the back.





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## Norbord Inc. - Safety Devices in High Risk Pedestrian Areas

Contact: Jamie Stavitski, EHS Manager  
Email: [Jamie.stavitski@westfraser.com](mailto:Jamie.stavitski@westfraser.com)

**1. Describe in detail the innovative/novel solution that was developed and implemented.**

Designated pedestrian walkways with safety gates and safety signals at pedestrian crossings.

**2. How was this innovation developed and implemented?**

This was developed and rolled out in our finishing area where there was the highest risk of pedestrian and mobile equipment interaction. A company was contracted to come in and place the walkway in layers and then the safety gates and handrails were installed. The Safety signals were installed and programmed after the walkways were completed.

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

We have had no incidents or near misses in this area since the new walkways have been implemented.

**4. When was this innovation implemented and when were positive results first apparent (provide month and year for each)?**

This was implemented in November 2020. Positive results were seen by reaching year end with no incidents in this area. Employee reactions and feedback were very positive.



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## Resolute LP Larouche - Miniature Nester

Contact: Jessica Dubois-Martel, Quality Superintendent

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### **1. Describe in detail the innovative/novel solution that was developed and implemented.**

On the I-joist line rework station, there isn't any automatic nester. All bundles coming from rework station are handily nested. We already saw operators used a piece of lumber 2x4, to avoid hand crushing hazards. In the plant history, there are a couple safety events reporting hands and fingers crushing. Fortunately, there wasn't any serious incidents, but hazard still present. In deep depth I-joist, weight can go up to over 200 pounds. We developed a specialized tool for this task to eliminate crushing hazard and to prevent employee to force.

Here is the miniature nester:





We place the miniature nester on the I-joists bundle. We use it to raise I-joist and place it at the right location



Hook creates leverage effect

Hook

Leverage



With the hook and the leverage effect, I-joist comes easily at the right place it has to go.

**2. How was this innovation developed and implemented?**

After a safety near miss reported with I joist manipulation at the rework station outside in the yard, the team chief has imagined a simple and compact leverage concept. With the help of a mechanical employee they developed the miniature nester. A yard operator also has joined the innovation team to help them to test the new tool. They tested their tool to repair a bundle of 20 inches depth and 60 foot long I joist bundle, which is near the worst case scenario in terms of weight.

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

The use of this tool completely eliminates risks related to hands in the process. Operators are now totally outside the operations. There isn't any contact between employee's hands and I-joist. Crushing and entrapment hazards are now zero. Also, operators doesn't have to use strength because the leverage effect does it for them.

**4. When was this innovation implemented and when were positive results first apparent (provide month and year for each)?**

First tests has been done in June 2020. After conclusive tests, the tool has been implemented in the mill. From the implementation until now, there isn't any incident related to this task that has been reported.

Positive results has been seen as soon as the miniature nester has been in place.

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## Resolute LP St-Prime - IJ Positioning Tool

Contact: Jessica Dubois-Martel, Quality Superintendent

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### 1. Describe in detail the innovative/novel solution that was developed and implemented.

This innovation has been developed after an OSHA incident in 2020. It was outside in the yard, at the rework station. One of the employee had 3 stitches on his left hand after his finger has been crushed under an I-joist. This employee with a colleague were about to change a defected I-joist in a bundle. When it was time to insert the conform I-Joist in the unit, the space to receive the I-joist wasn't ready, one employee still had one hand in the needed space. The other employee didn't wait the call and flipped the I-joist on his partner's finger. After the incident, we needed to find something to make sure it won't happen again. A spacer was developed.

Previous procedure to insert an I-joist in a unit:



Space  
created to  
insert the I-  
joist

At the moment of the event, the employee was creating the space to get the I-joist inside the unit. The space wasn't large enough and his finger got crushed by the I-joist pushed by his colleague.

Tool created to provide enough space to insert an I-joist without putting hands and fingers in the area:



The tool makes sure there is always the right space to insert an I-Joist. No need for the employee to create the space by himself with his hands.



I-joist only needs to be slide on the tool. No pinching hazard. Employee takes the tool with both hands. He pulls and the I-joist get at the right place without knocking. Hands are off the potential danger area.

**2. How was this innovation developed and implemented?**

The I-joint positioning tool has been developed and implemented with a team made of the Yard supervisor and employees from the workstation. The tool has been manufactured by a machining firm (Ferdek). After several tests, this new tool has been added to safety work procedures for the outside rework station. It has been and is used every day.

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

With the use of this tool, pinching and knocking hazards are gone. Workers do not have hands right in the process. Since the use of the tool is required, there hasn't been any other injuries at this workstation,

**4. When was this innovation implemented and when were positive results first apparent?**

One week after the OSHA incident, the tool was already implemented and used by workers. There weren't any issues concurring with the use of the tool and the task to be complete. Time to rework a bundle stayed the same. The job is safer and pinching hazard is rendered harmless.

The I-joint positioning tool works so well that it has been implemented at the inside rework station a few weeks later.

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## Roseburg Forest Products Co. - Laser Light Curtain

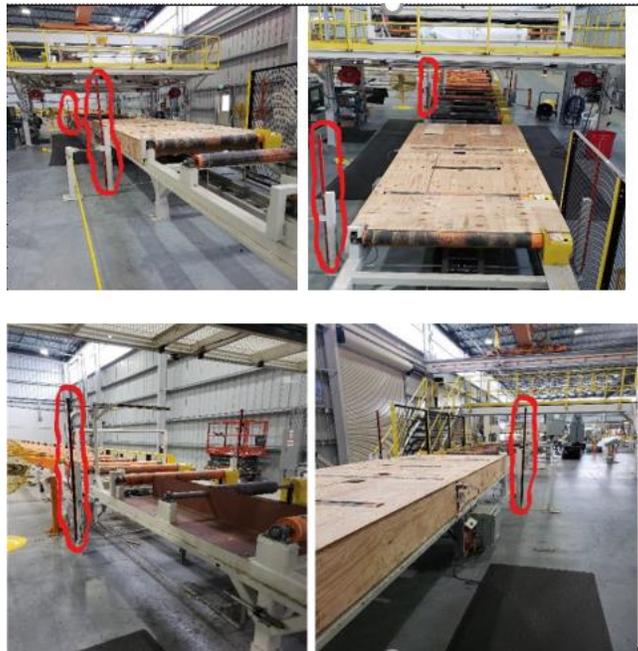
Contact: D. Wade Ratcliff, Jr. – CSP, Eastern Regional Safety Manager  
Email: [wader@rfpco.com](mailto:wader@rfpco.com)

### 1. Describe in detail the innovative/novel solution that was developed and implemented.

**The Problem:** Team members at the Roseburg Forest Products Chester Engineered Wood (CEW) plant were mashing fingers and hands at the wrapping station in the Finishing Department. Injuries were occurring when team members would reach under the LVL billets to fold the paper over and staple it to the bottom. Three injuries occurred in a 10-day period in January 2020. An initial solution was to revise the Wrapping Station JHA to state that the roll case must be turned off when wrapping and stapling the underside of the LVL billets. However, with the “Human Factor” still involved, team members would forget to turn off the rolls resulting in more hand and finger injuries.

**Final Solution:** Installation of laser light curtains at both manual wrapping stations in the Finishing Department. The purpose of the laser light curtains is to stop the line anytime a team member breaks the plane of the laser while standing on the ergonomic floor mats and wrapping LVL billets. The laser light curtains are placed such that if a team member is anywhere inside of the area where they stand to wrap and staple LVL billets—they break the laser plane and the roll case stops immediately and will not run.

**Result:** Since the installation of the laser light curtains in the manual wrapping station areas, no further hand and finger injuries occurred during 2020. Please see the pictures below:



**2. How was this innovation developed and implemented?**

The laser light curtain innovation was developed by Roseburg Forest Products Company site engineers; approved by Roseburg's Corporate Safety Department; and implemented by Chester Engineered Wood (CEW) Supervisors and Superintendents. The problem was identified and several brainstorming sessions were held to see what type of solution could be developed based on experience with other similar problems. The team at Chester Engineered Wood (CEW) came up with the laser light curtain idea with the help of in-house engineering

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

The main improvement that has been achieved by the installation and use of the laser light curtains are there have been no more injuries at the manual wrapping stations during the last 12 months since initial installation. During January 2020, there were 3 hand and finger injuries in a 10-day time period—all at the manual wrapping station; all standing in the same place. Since the installation of the laser light curtains there have been no injuries at the manual wrapping stations. The line actually runs steadier and more efficient because team members can focus on getting LVL billets wrapped instead of having to spend so much time focusing on the location of the LVL billets in relation to the roll case rolls.

**4. When was this innovation implemented and when were positive results first apparent?**

The laser light curtains were implemented January 27, 2020. Improved safety results were noticed immediately. Since the installation of the laser light curtains, there have been no further injuries at the manual wrapping stations as of January 31, 2021.

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## Roseburg Forest Products Co. - Plywood Boiler Safety Gear

Contact: Benjamin Nelson, Safety Technician  
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### **1. Describe in detail the innovative/novel solution that was developed and implemented.**

#### Innovations / Best Practices:

- a. Lightweight heat reflective jacket. (Covers neck to knees, front and back protecting them from heat and flame)
- b. Cooling vest. (To be worn under the jacket to keep the team member cool)
- c. Electric powered wheelbarrow. (Removes the need of the team member to physically move or dump the wheelbarrow)
- d. Bright red "Danger" belt. (Keeps other team members out of the work area)
- e. Red flashing light on the outside of the building for alerting others in the area. (Alerts mobile equipment operators and other pedestrian that the boiler operator is traveling from the boiler to the bunker)

### **2. How was this innovation developed and implemented?**

Talking with team members the second half of 2019 and beginning of 2020 we discovered some items that needed to be improved upon in regards to the task of cleaning grates at the boiler. The main issues discussed were:

- a. With the PPE being used at the time, team members were worried about possible skin burns while cleaning the grates. They could only work near the fire-box door a short period of time because the PPE would be extremely hot when the inside of the welding jacket touched their skin. Especially on the forearms and chest area. Jacket was stiff and restrictive.
- b. They worried about possible heat related illness due to heat, excessive sweating, and physical exertion.
- c. Worried about pedestrian & mobile equipment interaction hazards when they were taking the wheelbarrow from the boiler area to the bunker.
- d. Concerns about other team members, visitors, vendors, etc. entering the boiler area when the firebox doors are open and the team members are raking slag/debris out of the firebox.
- e. They were also concerned with the ergonomic aspects of manually moving/dumping the wheelbarrow multiple times a shift.
- f. Additionally, it was brought up that the process and tool for chipping/removing the slag "glass" buildup from the edges of the firebox needed addressed and improved upon.

These improvements listed on the form were a result of the communication and input from boiler operators and the management team. Whether it was new ideas, procedures, measuring work areas to verify new items would work/fit, or being open to these new ideas/tools/practices, the team did a great job. Fostering trust, communication, and the willingness to work together to make our facility a safer place to work, is a foundation for improving the safety culture at our facility.

### **3. Describe the improvements that have been achieved by the implementation of this innovation.**

Reduced recordable and DART rate at the facility. (Best year, in regards to safety, at the Coquille facility) Improved moral of team members, safer / more comfortable work environment, and improved ergonomics for the task of cleaning grates.

- Cooling vests help reduce the team members core temperature while performing this task keeping them comfortable and reducing the likelihood of heat related illness.
- Heat reflective jackets keep them safe from potential blowback from the firebox and at the same time greatly reduce the amount of heat they feel on their skin even when working close to the door opening.
- Danger barricade belt and flashing red light help keep the area safe for the team member and others working in the area.
- Powered electric wheelbarrow has multiple benefits.
  - a. Team members will no longer have to physically push/pull the loaded wheelbarrow, just guide it.
  - b. The “power dump” option, eliminates the need for the team member to physically perform that task. (Multiple times a shift)

These improvements have greatly reduced the injury potential for our team members. Heat related events, strains/sprains/repetitive impact/overexertion, pedestrian & mobile equipment interaction have all been affected in a positive way with these improvements.

#### **4. *When was this innovation implemented and when were positive results first apparent?***

We began the implementation of these innovations in March of 2020. Throughout the rest of the year we continued to “fine tune” what we were doing to get the end result that we were looking for.

For the flashing red light and red “Danger” barricade belt, the results were immediate. People not performing the task were kept out of the work area and out of harm’s way with the barricade belt. The flashing red light alerted pedestrians walking through the area and mobile equipment operators driving past the boiler, that something needed their attention and to slow down/stop and look for hazards. (We communicated out to all our team members what the purpose of these items was) after the first team member used the vest and jacket, the team member called the safety office and thanked us for the items. The jacket protected them far better than the PPE they were previously using. They had more movement in the new jacket, more body coverage/protection, and were able to clean the entire firebox without feeling any excess heat from the inside of the jacket when it contacted their skin. Also, even though they still were going to sweat during this task, they felt it was now solely due to physical exertion and not the heat from the firebox. Additionally, the cooling vest, which may not be needed in the winter months, dramatically helped reduce the heat they felt on their body the entire duration of the task.

The powered wheelbarrow was a big hit with the operators at the boiler. After getting familiar with the controls and operation, they greatly appreciated the ability to just guide/steer the new wheelbarrow instead of manually maneuvering the old one. Additionally, the mechanical “dump” function on the new wheelbarrow eliminated the need to physically dump loads of slag. Both of these functions greatly reduced the injury potential for the operators and made their jobs better in regards to ergonomics and the physical toll on their bodies.

We will be making some adjustments to the wheelbarrow, making it wider at the front to prevent slag/debris from fall to the floor. Also, we are adding some additional heat protection at the bottom of the tub to protect the battery.

A new addition to this project is the lightweight power hammer. It has greatly reduced the physical impact on the team member’s bodies when they have to remove slag “glass” buildup. We are continuing to improve on the tool support device and implementation of this tool.



## 2020-Coquille-Boiler-Innovations / Best Practices



## 2020-IMPROVEMENTS-FOR-BOILER-OPERATOR

- Lightweight heat-reflective jacket. (Covers neck-to-knees, front and back)
- Cooling vests. (To be worn under the jacket)
- Electric-powered wheelbarrow.
- Bright-red "Danger" barricade-belt.
- Red-flashing light on the outside of the building for alerting others in the area

New addition is the lightweight power-hammer for removing slag "glass" buildup at the edges of the firebox.

Roseburg

## PPE-Comparison, New-vs-Old

New:



LIGHTWEIGHT-HEAT-REFLECTIVE-JACKET  
..... Column Break .....



COOLING-VEST  
..... Column Break .....

Old:



WELDING-JACKET  
AND-NO-COOLING-VEST  
..... Column Break .....

## Wheelbarrow

New:



Old:



Roseburg

## STEPS-FOR-CLEANING-GRATES

1. →Notify any team members that would be affected by the grates being cleaned.
2. →Set up the boiler for cleaning using the computer program.
3. →Set up/out tools and PPE for the task.
4. →Put on cooling vest. (If needed)
5. →Put on required PPE.
6. →Block off access to the area with the red "Danger" barricade belt.
7. →Open desired firebox door.
8. →Position the electric wheelbarrow at the open door.
- ..... Column Break .....
9. →Rake slag/debris into wheelbarrow.
10. →Shut firebox door and turn on outside flashing red light to notify anyone working/driving in the area that you are about to exit the building with the wheelbarrow.
11. →Position wheelbarrow under the shower for 30 seconds to cool slag/debris down. (Fire prevention step)
12. →Travel over to bunker, and using to power dump option on the new wheelbarrow, dump the contents into the bunker.
13. →Repeat as needed until task is complete.

Roseburg

## NEW-PROCESS-FOR-CLEANING-GRATES



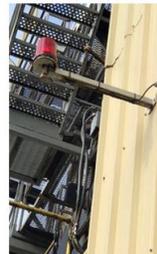
Roseburg

## NEW-PROCESS-FOR-CLEANING-GRATES



Roseburg

## NEW-PROCESS-FOR-CLEANING-GRATES



Roseburg

## NEW PROCESS FOR CLEANING GRATES ¶



Slag "glass" buildup on the edges of the firebox is an ongoing issue that is hard to avoid. Our old method of removing the buildup was hard on our team members because of the repetition, weight of tool, and force needed to manipulate the tool. In the picture to the right, you can see our new tool for this task. A lightweight power hammer that greatly reduces the strain on the team members. ¶ They can now, using the tool and tool support, remove the slag in a safe and controlled manner. ¶ This greatly reduces the injury potential for our team members. ¶



Roseburg

## BENEFITS OF THESE IMPROVEMENTS ¶

- → Cooling vests help reduce the team members body temperature while performing this task keeping them safer and more comfortable. ¶
- → Heat reflective jackets keep them safe from possible blowback from the firebox and at the same time greatly reduce the amount of heat they feel on their skin even when working close to the door opening. ¶
- → Danger barricade belt and flashing red light help keep the area safe for the team member and others working in the area. ¶
- → Powered electric wheelbarrow has multiple benefits. ¶
  1. → Team members will no longer have to physically push/pull the loaded wheelbarrow, just guide it. ¶
  2. → The "power dump" option, eliminates the need for the team member to physically perform that task. (Multiple times a shift). ¶

¶ These improvements have greatly reduced the injury potential for our team members. Heat-related events, strains/sprains/repetitive impact/overexertion, pedestrian & mobile equipment interaction have all been affected in a positive way with these improvements. ¶

Roseburg

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## Roseburg Forest Products Co. - Plywood LED Safety Whips

Contact: Mark W. Scott, Safety Professional  
Email: [MarkSc@rfpco.com](mailto:MarkSc@rfpco.com)

**1. Describe in detail the innovative/novel solution that was developed and implemented.**

Identified and installed “Tribal Whips - Industrial LED Safety Whips” on all motorized and human powered mobile equipment (forklifts excluded due to alternate safety lighting).  
[Pictures attached]

**2. How was this innovation developed and implemented?**

The LED safety whips were identified as a possible visibility aid during an investigation into a mobile equipment incident. One of the root causes of this particular event was a lack of visibility between the two vehicles involved. The operations and safety teams identified the LED whips as one of the best options available to increase the profile of mobile equipment throughout the facility and developed an action plan to install them mill wide.

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

The LED safety whips have dramatically increased the visibility of our mobile equipment both in profile and height. Whether the vehicle is as small as a pedal trike or as large as a pickup the range in which it becomes noticeable has increased dramatically. There were eleven mobile equipment contact incidents in 2020, since the LED safety whips have been installed we have had zero.

**4. When was this innovation implemented and when were positive results first apparent?**

The LED safety whips were identified and the purchasing process was started in November of 2020. The installation is substantially complete at this time. The increase in visibility was immediate upon installation.



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## Roseburg Forest Products Co. - Oregon COVID Control Plan and Training

Contact: Benjamin Nelson, Safety Technician  
Email: [benjaminn@rfpco.com](mailto:benjaminn@rfpco.com)



**To: All Team Members                      Changes to OR-OSHA rules**  
**From: Coquille Management              Subject: COVID Control Plan and Training**

COVID-19 remains an active threat to our health and our business. As of 10/19/2020, The State of Oregon and Oregon OSHA has issued new requirements regarding face coverings. Updated policies for how Coquille Plywood will be adhering to these requirements are outlined below.

### ***Definitions***

**Face Coverings** – A face mask or face covering is defined as an N95 or KN95 mask, surgical-type mask, or a two-layer cloth mask without exhalation valve.

**Must cover the nose and mouth.**

**Individual Work Space** – A designated workspace that is identified as such with means of segregation from a common space with a barrier (physical or visual) and signage (identifying individual workspace and notify operator before entry.) Can be, but is not limited to the following offices, cabs, control rooms, MCC's and any other designated space if not more than one person is present.

**Common Area** – Any area in P5 and P6 that is not identified as an individual work space, which includes indoor and outdoor walkways, common machine centers without designated individual work spaces.

1. Team members must wear face masks or face coverings **at all times in all common areas**, unless an area has specifically been designated as an individual workspace and is occupied by no more than one person. This includes but is not limited to entering and exiting facility to and from parking areas, walkways, restrooms, parts room.

2. The following areas have been identified as individual workspaces and do not require a mask to be worn if occupied by no more than one person:
  - Rolling Stock (Wagoneer, 966, 950, Forklifts, Tractors, Utility and Company vehicles) upon exiting vehicle face covering must be worn.
  - All on-site offices
  - Barker Cab
  - Swing Saw Cab
  - Coe Lathe Cab
  - Coe Clipper
  - Coe Stacker
  - Lathe 2 Control area
  - Boiler office
  - Dryer In feeds
  - Dryer 1 Grader
  - Dryer 1 Stacker
  - Dryer 2 Round table work area outlined
  - Dryer 3 Grader
  - Skoog Round tables
  - Skoog
  - Robot Deck
  - Strip Cutter
  - Glue Kitchen
  - Welders
  - Core layers
  - Core feeders
  - Flying saw operator
  - Press operators – Only the hoist recognized as an individual work area
  - Fill line operators - outlined individual work areas
  - Sander/Grader Operators – Outlined individual work areas aa. Detail Saw deck
  - .Manual Patch line
  - Bander Operator
  - MCC rooms
  - Green Chain work area outlined
  - Pond Saw
  - Boat House
3. If individual work area is not listed above, a face covering is required by all team members.
4. A face covering must be worn in all individual work areas with more than one person.
5. Face masks are not required while seated and eating as long as individuals are no less than 6' apart.

6. Specific maintenance activities requiring group work or harsh environments will be handled on a case-by-case basis with mitigation being addressed in the SAFER Work Permit process.
7. Facemasks are not required for team members **performing work outdoors** and not within 6' of another person.
8. Use of face shields is required to have a medical necessity and HR Approval. See HR office for details and questions.
9. If approaching someone let them know you are in the area and to put their mask on along with yours.
10. This signed document is to be turned into site safety.
11. Team members reporting illnesses will be asked questions based on the COVID-19 Questionnaire. The Roseburg response plan will be followed in the event of an illness or suspected illness. All team member call in's related to illness are currently being followed up and tracked by site HR or Site Safety.
12. All team members exposed or potentially exposed to COVID-19 will be notified by site leadership within 24hrs.
13. All visitors, Vendors or contractors are required to fill out the COVID 19 questionnaire prior to entering the facility. Any team member, vendor or contractor that answers yes to any question will not be permitted on site.
14. The OR-OSHA COVID-19 hazard poster has been posted throughout the facility.
15. All team members are expected to utilize proper hand washing, safe hygiene practices and proper utilization of face covering. See posted signage throughout facility.
16. Works stations have been gated off to allow team members to work at their own workstation. Radio, eye or verbal contact must be made prior to approaching team member to allow ample time for face coverings to be put on. See posted signage throughout facility.
17. Workplace hazards regarding COVID-19 will be reported to department supervisors and hazards will be addressed and communicated to team members.

The deep-seated culture of caring for one another and maintaining our health & safety remains at the center of everything we do. Every one of us has a role in this effort and in our success of remaining COVID-19 free.

I **acknowledge** that I have read and understand RFP's expectations around COVID-19 spread prevention and the specific requirements based on public health organization information.

Failure to follow these expectations can lead to disciplinary action.

Initials

I have read and understand the **Coquille COVID-19 Operating Plan**

\_\_\_\_\_

I have reviewed and understand these expectations and I will contact my supervisor or manager if I have questions or concerns

\_\_\_\_\_

**Print Name** \_\_\_\_\_

**Sign Name** \_\_\_\_\_

**Date** \_\_\_\_\_

Note: Supervisors submit signed documents to site safety.

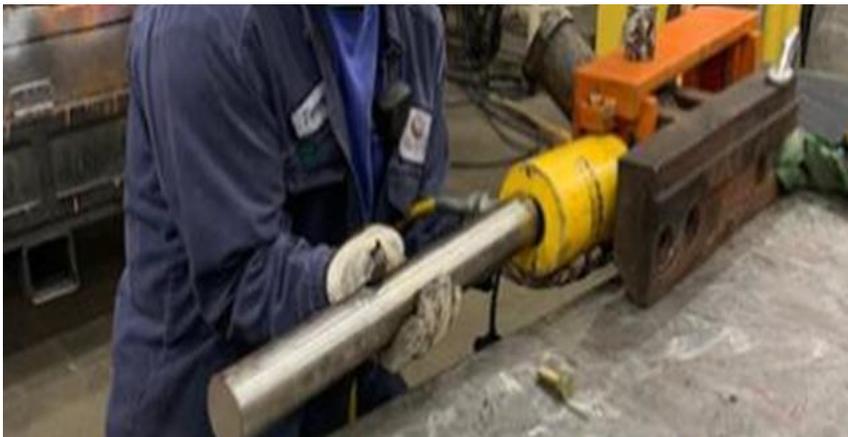
[Return to main page](#)

## RoyOMartin - OSB Pin Removal Bracket

Contact: Robert Ryder, Safety Manager of the OSB Business  
Email: [Robert.ryder@royomartin.com](mailto:Robert.ryder@royomartin.com)

### 1. Describe in detail the innovative/novel solution that was developed and implemented.

A millwright at Oakdale specializing in hydraulics and press maintenance identified the need to come up with a device to improve the safety of the job task to remove pins (Pic#1) from arms to the press. There are 4 arms (two on each side of press) with 13 large diameter pins at each level, holding the arms on the press. Team members in the past had to put a 30 ton port-a-power (hydraulic ram) on the end of the pin, then hold a backup pipe (one person having to hold both at the same time due to space limitations-Pic#2).



### 2. How was this innovation developed and implemented?

The millwright at Oakdale that specializes in hydraulics and press maintenance came up with the idea after becoming concerned about the positions team members were put in to take out the pins and the time it took to complete the task especially in summer time when team members are exposed to higher temps around the press and cutting down the time a task takes to complete is very important for team member safety.

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

The old process of removing pins on the press arms would take several maintenance team members in awkward positions 12 hours to completely remove all 13 pins. With this new bracket, the job have been cut down to 1 ½ hours which greatly improves team member exposure to pinch points in tight places and working in elevated areas not to mention improved down time by 10 hours.

**4. When was this innovation implemented and when were positive results first apparent?**

The innovation was first implemented during an outage in June 2020 to replace a press arm. After removing press arm in 1 ½ hours compared to 12, it was apparent the bracket would greatly improve safety and decrease maintenance costs of the job task.

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## **Tolko Industries Ltd. - Pandemic Response Team**

Contact: Troy Connolly, VP Solid Wood

Email: [margaret.berube@tolko.com](mailto:margaret.berube@tolko.com)

**1. Describe in detail the in detail the innovative/novel solution that was developed and implemented.**

Please see attached.

**2. How was this innovation developed and implemented?**

Please see attached.

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

Please see attached.

**4. When was this innovation implemented and when were positive results first apparent?**

This innovation/process was implemented March 2020. Results were immediately apparent.

## AT THE READY: TOLKO'S PANDEMIC RESPONSE TEAM

*"This pandemic is the worst public health crisis for a generation"... "This is the beginning of a long road ahead..."*

Most of us have probably heard similar comments over the past few months. What began as a distant but growing concern in a country halfway around the world soon became a looming risk to our personal safety and the global economy. We are witnessing a public health crisis the likes of which most people today have never seen. Although a major event like a worldwide pandemic sounds like something out of a Hollywood movie, when it actually happens, it can spark disbelief, shock, uncertainty, and legitimate concern for our health, our jobs, our future, and our family and friends.

During its 64-year history, Tolko has faced and overcome many challenges, and as Brad has mentioned in his ongoing employee communications, it is by living the Tolko values of Safety, Respect, Integrity, Progressiveness, Open Communication, and Profit both at work and at home that we will make it through these difficult times together. It's important to plan ahead for a variety of potential situations, which is why Tolko had a crisis communication plan and an outline for pandemic response planning in place prior to COVID-19, so when it was officially declared a pandemic, we were ready.

When Canada's federal government and provincial health authorities officially declared COVID-19 a worldwide pandemic in early March, Tolko's Pandemic Response Team (PRT) was activated to respond to the ongoing situation. The PRT is made up of knowledgeable and experienced managers in strategic business areas including Operations; Woodlands; Safety; Sales, Marketing and Logistics; Purchasing and Supply Chain; Human Resources; Communications; Finance and Accounting; and Information Technology to ensure that employees are kept safe and well-informed during this emergency. We recently spoke with four members of Tolko's PRT to learn more about the team.



David Gillespie  
General Manager, Operational Services

David's role in the PRT is ensuring that Tolko mills remain operational by providing front-line employees with the ability to work safely, manufacturing the products and co-products that contribute to the local, national, and global pandemic supplies required to help fight COVID-19.

His top priority as a member of the PRT is working with Marsha Bell and Scott Wynn, Regional Occupational Health & Safety Supervisors to provide employees with workplace infection measures and health and safety education materials.

"Employee education is the pillar that supports all COVID-19 workplace health and safety activities," says David. "Making sure that visitors to Tolko divisions have completed COVID-19 prescreening in advance of a visit is also extremely important. Visitors may not be aware of our health and safety precautions and expectations during these challenging times."

David believes that the PRT's most valuable contribution is enabling a more collaborative Tolko-wide approach that leverages our departmental strengths. This collaboration allows us to quickly implement operational COVID-19 infection prevention measures while adjusting these measures as required during a rapidly changing environment.

“For me, the COVID-19 pandemic has confirmed that staying committed to Tolko's values provided a solid decision-making foundation during an unprecedented and highly fluid operating environment.”



Cathy Tucker  
Manager, Total Rewards, Human Resources

For Cathy, the most important issue she has helped to address on the PRT has been to develop strategies to ensure that employees are kept safe wherever they work –whether it's onsite or at home. One of her responsibilities is to develop consistent, health authority-supported protocols for handling various scenarios, such as when an employee is exhibiting COVID-19 symptoms and when they're asymptomatic but need to self-isolate for other reasons.

“Having a cross-functional team has helped me better understand the issues we're facing,” says Cathy. “We're able to share ideas, support each other, and make better informed decisions for the company as a result.”

“I think Tolko has been quite nimble and quick to adapt to all the changes that have (and continue) to happen,” adds Cathy. “Tolko is living our value of safety at work and encouraging employees to live this value at home and in our communities.”

Cathy has been inspired by how quickly Tolko's managers and employees have pulled together and adapted to so much change in such a short period of time.

“In particular, living the value of open communication has meant that we've been providing our employees with the best information we have at the time we communicate,” says Cathy. “Sometimes we've had to adapt our answers and approach on the fly, but I think employees understand how fluid the situation is and that we're doing our best to live the values of integrity and open communication every day.”



Brett VanderHoek  
Manager, People and Services

Brett has been with Tolko for eight years and oversees teams in Human Resources, Office Administration (OAC), and, more recently, Corporate Communications. His focus during the pandemic has been getting the right messages to the right people at the right time. “Employees are our most important audience, and we're doing everything we can to keep them informed, safe, and engaged,” says Brett. “We're also communicating with external stakeholders such as our vendors, customers, and the communities in which we work and live to ensure they know that Tolko is operating safely and open for business.”

The development of a pandemic communications strategy has been critical to deliver frequent messaging in a complex and ever-changing environment. The framework was developed with

Tolko's values in mind and a commitment to communicate information as it becomes available as well as solicit and acknowledge feedback from our employees and external stakeholders.

"We've really appreciated feedback from employees whether it's about something they liked, something we need to adjust or improve, or a question we hadn't considered that we can research, follow up on, and add to the FAQs," says Brett. "The benefit of having a PRT in place is having access to immediate feedback from all areas of the business so we can address concerns, keep pace with rapid changes and continuously improve our approach."

He also believes that it's because of the way Tolko operates that we're better prepared to face the pandemic. For example, the PRT members regularly refer to Tolko's values to guide key decisions and use change management best practices. Most importantly, Brett wants to sincerely thank his team and all of Tolko's employees for their perseverance and for continuing to work safely.

He adds, "We've been through a lot since 1956, and we've been able to plan and adapt to continue to operate safely and successfully. It's amazing what we're able to accomplish working together."



Glen Willms  
Information Technology Manager

Keeping Tolko's employees connected and ensuring that the company's information and systems are kept safe, secure, and available is a challenging task during the best of times. In a situation where many employees are now working from home or have altered technology requirements, it takes an entire IT team to make it work.

For Glen, enabling remote work and collaboration tools for hundreds of people in a short period of time is the most significant issue he has helped address while on the PRT. He notes that when employees begin to work remotely, they quickly realize that a lot of their job activities require conversations with colleagues on a regular basis.

To support video meetings and conversations, IT has promoted Microsoft Teams, a secure online communication and collaboration platform that allows people to connect with their peers and managers using their computer and a webcam. Glen believes that technology advancements around the world and at Tolko have made responding to this pandemic a much less painful exercise than if it had occurred even just 10 years ago. If Tolko hadn't made the technology investments it did, we may not have been able to mobilize our workforce and keep Tolko's service groups and operations running effectively. He is extremely proud of his team and of how the IT department has responded quickly and efficiently to ensure that employees across the company have the technology support they need so that they can continue to do their jobs.

## REAL-WORLD SCENARIO:

### TOLKO'S CAPITAL PROJECT AND THE COVID-19 PANDEMIC

A multi-million capital project at Athabasca, which expands our Engineered Wood Products capabilities, was substantially complete before being put on hold when COVID-19 was officially declared a worldwide pandemic in March. Because our PRT had a response strategy in place, we were able to quickly react to the situation and implement several additional provisions to ensure the safety of our employees.

Here are some highlights:

- As of mid-March 2020, we required a signed self-disclosure form from our project contractors in advance of coming on-site, declaring they had not travelled to any high risk areas in the previous 14 days and had not experienced any COVID-19 symptoms during that same period;
- We required the owner of each contracting firm to confirm in writing that everyone they were sending to site had not worked anywhere else in the last 14 days (inside and outside of Canada) and that they had not been in contact with anyone who had returned from travelling outside of Canada within the same 14 days. In one case, a contractor whose father had just returned from Germany and visited him and his wife in their home nine days previously was temporarily disqualified from coming on-site;
- Only one contractor group (up to a maximum of 12 people) is allowed on-site at any given time, provided they adhere to the appropriate social distancing guidelines. For example, we required our electrical contractors to commit to staying until their electrical work was completed, then after they left the premises, the mechanical team came in until their full scope of work was completed. Once the mechanical team left the premises, only then did the HVAC contractors come in to finish their work.”
- Contractors are to use separate entrances to our mills, with no interactions with Tolko employees. They also have their own meeting rooms, lunch areas, and washroom trailers. All areas must be cleaned regularly, and they are to use the wash stations and/or alcohol wipes that are provided in all rooms. Contractors have to follow the same social distancing rules as Tolko employees – no prolonged exposure within two metres of another person.
- During rare occasions where contractors must work closer to each other, they are required to complete a PASS card (pre-work assessment safety survey). This card must be approved and signed by a supervisor prior to commencing work. In all cases in areas of close proximity, minimum protection is a respirator and face shield. Working in close proximity is a matter of last resort to ensure the safety of all workers.
- Two of the contractor groups have voluntarily implemented daily temperature checks of their employees and have daily self-assessments of potential COVID-19 symptoms.
- Tolko reserves the right to require a contractor to leave Tolko's facilities immediately if any of these COVID-19 precautionary measures are not followed. While the above measures added some costs to the project, this is a matter of safety first, which is always a priority at Tolko. We appreciate the cooperation of our contractors and have been very pleased that there have been no safety incidents in the contractor group since this new program was implemented.

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## **Tolko Industries Ltd. - Restructure and Stabilize Log Yard Terrain**

Contact: Phil Bean, Plant Manager  
Email: [phil.bean@tolko.com](mailto:phil.bean@tolko.com)

### **1. Describe in detail the innovative/novel solution that was developed and implemented.**

The log yard was excavated and restructured to improve overall stability of the ground. This was accomplished by excavating a large portion of the upper layer ground and placing concrete supports created from concrete rail ties welded together as a foundation for the new rock and gravel mixture. Once the rail tie supports were in place, gaps were filled in with 3/4 crush and tamped down, geo mesh laid over top, and 8-12" of pit run rock was tamped down on top of that to create a firm, level pathway through the log yard.

### **2. How was this innovation developed and implemented?**

This innovation was developed and implemented by our Veneer Superintendent, Roger McDowell, who had struggled with various problems with the logyard terrain over the past two years. Roger used the premise of rig matting for oil rigs and used the concrete ties as a better foundation. It was introduced as an inhouse plan to revive the logyard pathways and provide a stable roadway for truck drivers to drive through the logyard to be unloaded as well as for loaders to more effectively travel in the logyard. Roger utilized maintenance workers and contractors to weld together the old rail ties in between regular projects and begin laying out the welded concrete tie sections in 25' long strips by 26' wide (3 tie sections butted up). Once each section was completed, the 3/4 crush, geo mesh, and pit run rock was tamped in sequence.

### **3. Describe the improvements that have been achieved by the implementation of this innovation.**

Improvements from this innovation have helped reduce truck damage during unloading due to loaders driving into ruts/bouncing, improved the overall flow of the log yard, reduced the number of stuck equipment requiring extraction from muddy conditions, improved fuel efficiency, and provided more road space for managing truck unloading and log yard equipment mobility.

### **4. When was this innovation implemented and when were positive results first apparent?**

This was completed over a 2-week period in October – November of 2020. Positive results were noticed immediately by both loader operators and truck drivers. Feedback was spectacular. Given the mild winter we had in Kamloops, this project showed significant value and prevented the likelihood of many stuck pieces of equipment due to the wet conditions throughout winter.



**Concrete Rail Tie Sections**



**Madill with Log to Grade**



**Loader Placing Rail Tie Sections**



**Completed Section vs Previous Logyard**

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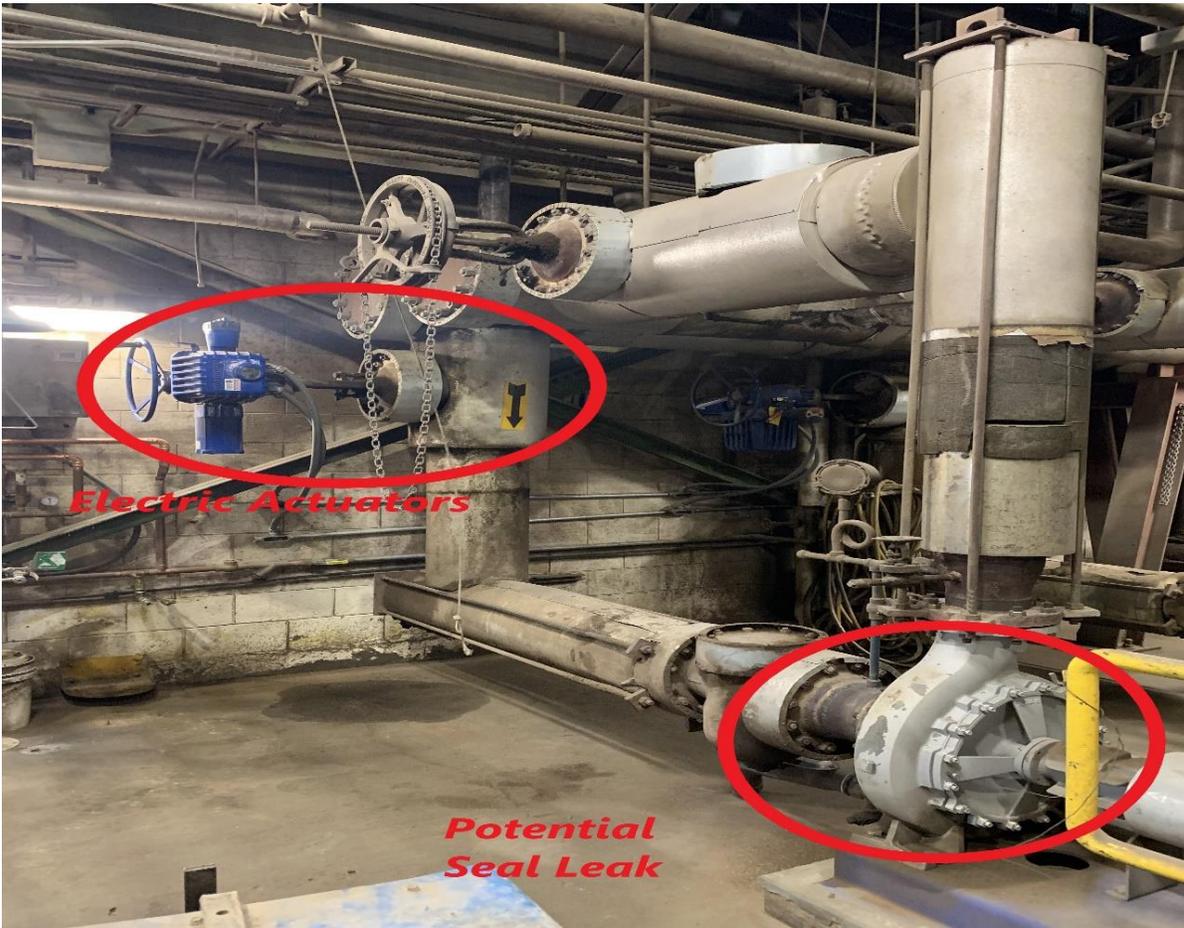
## Weyerhaeuser - DSE Hot Oil Valves

Contact: Jim Palmer  
Email: [jim.palmer@weyerhaeuser.com](mailto:jim.palmer@weyerhaeuser.com)

- 1. Describe in detail the innovative/novel solution that was developed and implemented.**

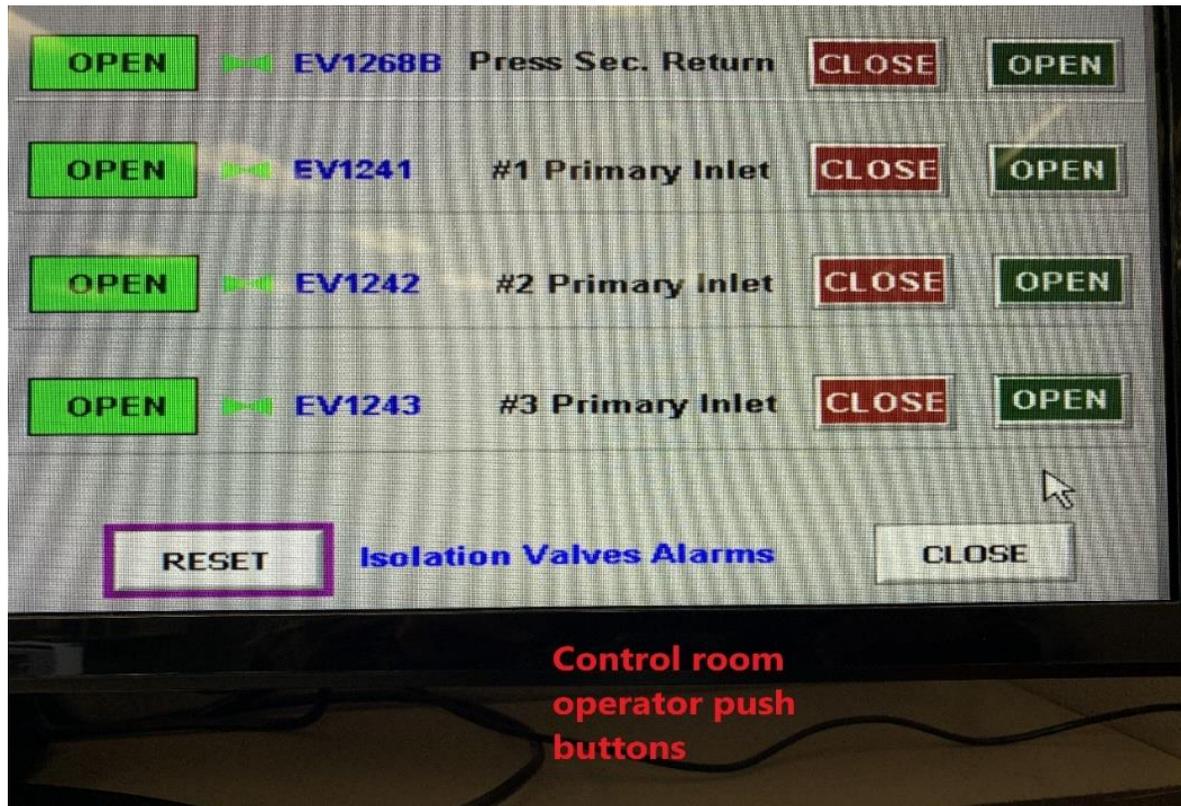
Installation of electric powered shut off valves for hot oil primary pump inlet piping





*Electric Actuators*

*Potential Seal Leak*



**2. How was this innovation developed and implemented?**

Awareness of personnel trying to shut this inlet valve by hand when hot oil (450 degrees) was leaking out of the pump seal nearby after seal had failed

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

With the electric actuators we can now stay clear of the area and close the valve with the push of a button in the control room which will stop the leaking of hot oil onto the floor where the operator previously would need to be to access the manual valve

**4. When was this innovation implemented and when were positive results first apparent?**

Installation was in December of 2020, now any personnel can call to the control room to stop the leak if needed.

We have not had any seal failures to use them yet. They will be exercised quarterly to ensure they are ready for emergency use.

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## Weyerhaeuser - Bucket Heater Reset Tool

Contact: Rick Johnson  
Email: [rick.johnson@weyerhaeuser.com](mailto:rick.johnson@weyerhaeuser.com)

**1. Describe in detail the innovative/novel solution that was developed and implemented.**

Bucket Heater Reset Tool

**2. How was this innovation developed and implemented?**

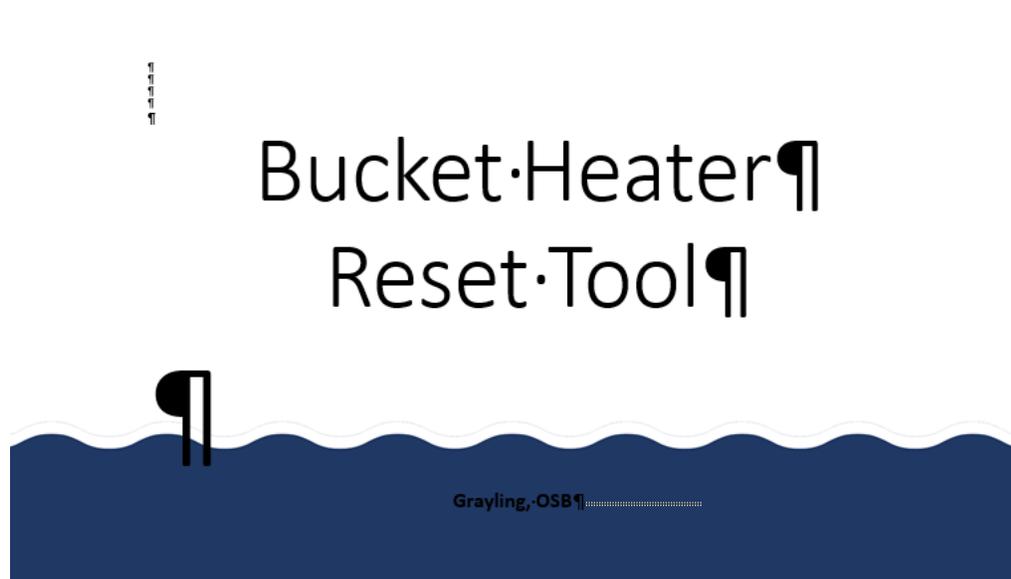
- The reset tool was fabricated to help reset the heaters, without having to open the bucket. This eliminates many potential electrical hazards of getting in the bucket to manually push the “reset” button.
- A heater will trip as a safety feature, if it is running in an overcurrent for too long and will then require a reset. Once reset, there is usually no further action needed.
- The reset tool is made up of a wooden handle
- After drilling out inside of the handle, insert a piece of limit wand (nylon rod).
- Optional– drill through the opposite end of the handle and attach a zip tie to allow for hanging in the MCC room.

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

Eliminates electrical safety hazards of an unqualified person opening a bucket to manually push the “reset button”.

**4. When was this innovation implemented and when were positive results first apparent (provide month and year for each)?**

Ongoing





## How To Fabricate the Tool

- The reset tool is made up of a wooden handle
- After drilling out inside of the handle, insert a piece of limit wand (nylon rod).
- Optional- drill through the opposite end of the handle and attach a zip tie to allow for hanging in the MCC room.



## What is it for?



- The reset tool was fabricated to help reset the heaters, without having to open the bucket. This eliminates many potential electrical hazards of getting in the bucket to manually push the "reset" button.
- A heater will trip as a safety feature, if it is running in an overcurrent for too long and will then require a reset. Once reset, there is usually no further action needed.

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## **Weyerhaeuser - Metal Wall**

Contact: Jody Seaver, Safety Manager  
Email: [jody.seaver@weyerhaeuser.com](mailto:jody.seaver@weyerhaeuser.com)

**1. Describe in detail the innovative/novel solution that was developed and implemented.**

Construction and implementation of a metal wall to prevent 20' long falling logs to enter travel/work area.

**2. How was this innovation developed and implemented?**

Unit Manager, Ross Gardner developed this idea and reached out to the Green End Manager, Jerry Pruitt. Together they responded by submitting a notification and selecting a contractor for the design and installation. The wall is 12' tall and 20' long constructed with steel plating on both sides to withstand impacts from logs. This project was installed in the north east corner of our debarker area. Commonly, logs are rejected from the process because they are out of specification or a detection of metal is present. Before the implementation of the metal wall, logs were "kicked out" of the process and fell into a reject log bunker. The major safety concern with this setup is they would often times bounce off the bunker into a roadway where mobile equipment and log trucks travel. This wall prevents the reject logs from "bouncing" out of the bunker, maintaining their position safely away from traffic.

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

The metal wall was installed in October of 2020, since that time no logs have left the bunker area. This design has eliminated a potentially fatal injury.

**4. When was this innovation implemented and when were positive results first apparent?**

Immediately following installation.





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## **Weyerhaeuser - Vat Fall Protection**

Contact: Daniel Murphy, Woodroom Function Lead  
Email: [daniel.murphy@weyerhaeuser.com](mailto:daniel.murphy@weyerhaeuser.com)

**1. Describe in detail the innovative/novel solution that was developed and implemented.**

Installed overhead gantry style fall protection systems for out Vat area. One system over vats 1 and 2 and the second over vats 3 and 4. System allows for two team members to tie off independently and work with 100% tie off in entire length of any vat. Old system was a cable that ran the length of the vats.

**2. How was this innovation developed and implemented?**

We developed a team consisting of maintenance, operations, engineering, and safety. We discussed what the safety (fall protection) that are required when making entry and working on/in a Vat. We then researched different companies and found SkyLine Fall Protection out of Grand Rapids, MI. Our team working with them to come up with a design. From start to finish the process took about 6 months.

**3. Describe the improvements that have been achieved by the implementation of this innovation.**

Team members can enter a vat and work safely with 100% tie off with a certified system.

**4. When was this innovation implemented and when were positive results first apparent?**

This was installed in November of 2020. Since installation we have not had to utilize the equipment as we have not yet had an upset condition that has required vat entry.



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## Weyerhaeuser - Use of Drones to Eliminate Hazard Areas

Contact: Jordan LeFever, Safety Manager  
Email: [jordan.lefever@weyerhaeuser.com](mailto:jordan.lefever@weyerhaeuser.com)

### 1. Describe in detail the innovative/novel solution that was developed and implemented.

The Weyerhaeuser Kalispell Plywood team has been utilizing drones in innovative ways to remove people from the action and to eliminate hazard exposure. Recently, the Kalispell Plywood team used a drone to perform scans of their rooftops for fall protection planning. This provided superior image quality and resulted in an immediate risk reduction as associates were not required to access the roof during the planning phase.



Drones have also proven useful in many other applications including emergency response and log yard inventory.

### 2. How was this innovation developed and implemented?

This was an employee-driven solution through the Safety Committee (“Safety Action Team”). The Kalispell Plywood team partnered with a local vendor to perform aerial scans.

### 3. Describe the improvements that have been achieved by the implementation of this innovation.

- a. The use of drones for rooftop aerial scans provided immediate risk avoidance through eliminating the need for associates to access the roof during rooftop fall protection planning.
- b. Log deck scanning provided accurate inventories much more efficiently. This also resulted in less foot traffic in the log yard, which during the winter months, is a significant risk reduction.
- c. During a recent emergency response, the drone provided much needed visibility to ensure safe resolution of the incident.

### 4. When was this innovation implemented and when were positive results first apparent?

This innovation was implemented in October 2020 and provided immediate risk reduction.

**\*\*END OF 2020 PRACTICES\*\***

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