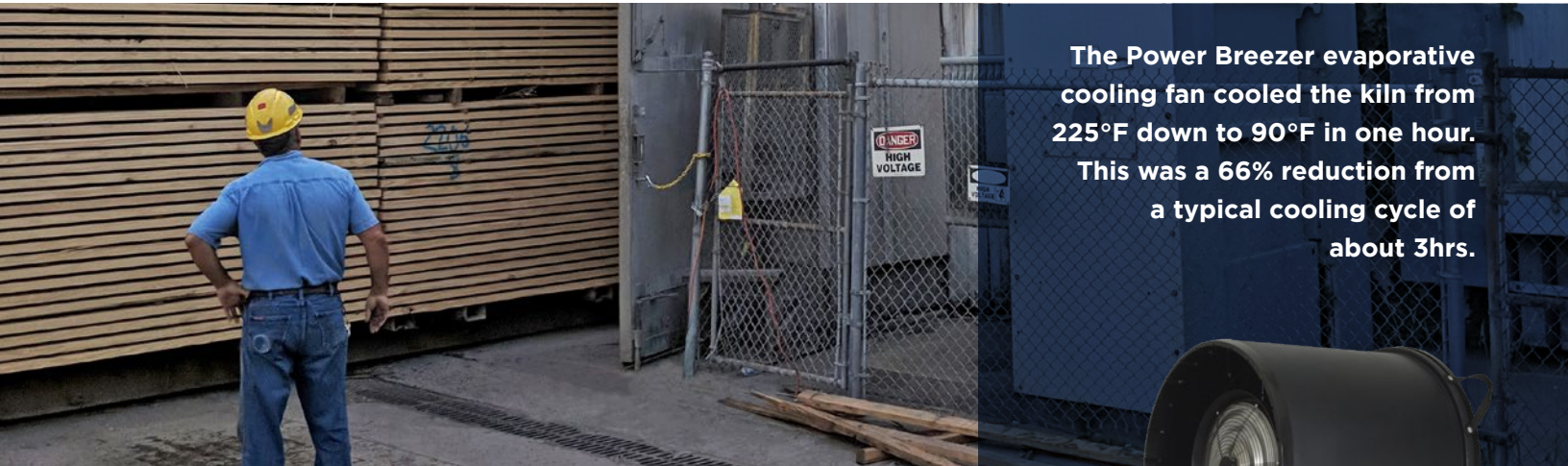


Increasing kiln throughput by 6% gaining an extra \$2.9M in annual revenue



The Power Breezer evaporative cooling fan cooled the kiln from 225°F down to 90°F in one hour. This was a 66% reduction from a typical cooling cycle of about 3hrs.

SUMMARY

An industry leading forest product producer was seeking to increase safety, decrease downtime and increase production throughput of soft lumber in their Batch Drying Kilns (BDK). Breezer, the fastest growing industrial open space cooling company provided a high volume cooling air solution that resulted in a BDK cool down cycle reduction of 66%.

The Company's sawmills had an issue with its Batch Drying Kilns (BDKs). The sawmill's four kilns took 23 hours each to finish a charge. Unplanned emergency shutdowns, as well as preventative maintenance procedures (PM's), resulted in 80 hours of lost production time a month, representing an 11% utilization loss. This extended waiting period created a production bottleneck.

The sawmill's safety manager had a vision: reduce the BDKs' internal temperatures faster, whether for scheduled PM's or emergency shutdowns. He then set out to accomplish economic gain in three major domains:

1. Reduce the repair time by more than half. This would allow employees to enter the kiln safely in less time while preparing for the next charge, thus reducing downtime and production loss.
2. Increase air change over rates and determine how much the existing bottleneck was costing the sawmill each month.
3. Identify economical, safe, corporate-wide scalable solutions that would ensure a high ROI.



To accomplish these goals, the Breezer and Company teams analyzed the cost per minute of the above goals by calculating the revenue loss and labor cost per idle minute, kiln size, charge size, charge cycle, PM cycle, unplanned downtime statistics, and labor costs were all factored into the calculation.

SOLUTION

The team's goal was to create the highest air change over rate in the kiln, without interrupting or slowing the kiln functions. Several different locations for the cooling solution within the kilns were tried and data was collected. Ultimately, the **Power Breezer evaporative cooling fan** located at the top maintenance access doors cooled the kiln **from 225°F down to 90°F in one hour**, creating a safe zone for the employees to enter. **This was a 66% reduction from a typical cooling cycle of about 3hrs.** Several more sites and kiln types are now reviewing for implementation.

ECONOMIC OUTCOME

1. Throughput gains
 - a. PM downtime dropped to 1.5 hours increasing monthly production time by 20 hours valued at \$43,120 dollars per BDK
 - b. With an average of 8 unplanned emergency shutdowns per month, a further gain of 12 hours per month valued at \$25,872 was accomplished
 - c. Increasing the throughput rate by a staggering 5.56% per year
 - d. Top line gain (dollar and %) \$2,879,666 / 5.88%
2. Bottom line gain (dollar and %) \$1,570,727 / 54%
3. Return on investment days on cooling solution - 2.03 days

The above analysis and results have shown dramatic economic gains with a simple safe and rapidly deployed solution. Success and strong ROI have yielded extended lead times. [Click here](#) to speak with a Breezer Mobile Cooling heat mitigation expert and book your site evaluation today.

¹ Market-based lumber index was used to calculate revenue based on NASDAQ LSU18 August 27, 2018 trading price - <https://www.nasdaq.com/markets/lumber.aspx>



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