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West Fraser Mills 100 Mile House British Columbia Canada

Our large lumber mill in 100 Mile House, BC produces approximately 900,000 board feet of lumber daily. The operation of our mill was experiencing many unexpected shutdown occurrences thought the year, due to increased lightning activity in the area, as well as abnormal, unforeseen, costly re-boots of our sensitive electronic equipment and system controllers. These unexpected shutdowns often resulted in burned or shorted out electronic circuit boards or cards within our PLC cabinets, and had to be changed at the time by or electrical staff. The occurrences happened frequently, and would shut down our entire process, which had to reboot itself, and then go thru a long restart process in order to bring the line back up to full function.

The cost of these downtimes consisted of the time lost in production, the replacement of defective boards or electronic cards, the labor to troubleshoot the systems, as well as the actual loss of revenue from no timber being processed. These costs were part of our annual operating maintenance budget, and our downtime maintenance cost was estimated at approximately \$1000.00 per minute. A typical occurrence like the ones described could last from 1 hr to as much as 3 hrs for the system to be rebooted and started again.

I contacted Cratus Canada Ltd. in September of 2014 and inquired about receiving some information with regards to their SineTamer surge suppression equipment. They presented to our key maintenance staff as well as some management, a presentation on the background of their product, its capabilities, as well as the merits of using the SineTamer suppressors to solve our electrical issues.

We decided to layer the protection within the plant, starting at the MCC's, and working inwards towards the more delicate PLC cabinets, thereby reducing the effects of transients from harming our electronic equipment as well as stopping the sudden software confusion which was causing the erratic shutdowns.

Since the installation of the SineTamer units, we have experienced NO erratic shutdowns or power bumps, and have not replaced any circuit boards or electronic cards within the 6 month period since we installed the units. Other than normal wear and tear on our process line causing the odd problems, we are extremely happy on the decreased downtime and ZERO board replacement.

Immediately following electrical storms, our plant always shut down and had numerous board and card failures, along with having to reboot all the software programming. Since the installation of the SineTamer units, we have experienced a few major electrical storms, and have not experienced any problems which normally occurred after a lightning storm. No rebooting of the system, NO board or card replacements in the PLC cabinets, and NO lost time. This has saved us a tremendous amount of money on our annual maintenance budget, and the units are warrantied unconditionally for 15 yrs.

Future plans, have us protecting the remaining MCC panels, as well as all lighting and smaller panels within the plant, in order to fully benefit from SineTamers technology. We look forward to a long relationship with Cratus Canada Ltd. and the installation of their industry leading SineTamer brand of Surge Suppression in more of our mills across Canada and the U.S. Thank you Cratus and SineTamer.

Kevin Hutchinson Maintenance Superintendent West Fraser Sawmills 100 Mile House Division