

North Cowichan – Fuller Lake Arena – REALice Success Story

Taking off load of your plant

If large loads are an issue with your ice plant, read Fred Kilner's story about the Municipality of North Cowichan's rink and how REALice has helped.

It was a weeknight in mid-October, just before 7:00. Two mens teams were set to hit the ice, which had just been resurfaced, and the North Cowichan, BC arena's ice maker was shaking his head in amazement. The ice was freezing.

As Fred Kilner tells this story, the arena had been having problems with their ice plant since August when they'd put their ice in. All three compressors at his facility were running flat out close to 24-hours a day, trying to keep the ice frozen, and just before game time, his slab was running hotter than ever before. The slab was up to 24°F, which meant the surface temperature of the ice was probably at 27°F and still climbed a couple more degrees. The ice was a little soft and damp but still usable.

"If we didn't have REALice," Kilner says, "I'm going to bet my pay cheque that we would have lost our ice."

This was the Municipality of North Cowichan's second season using REALice, a valve that removes the small micro air bubbles in water. REALice takes the place of hot water for making and maintaining ice. Indoor ice arenas have traditionally made ice with water that has been heated up to 160°F or more to remove those tiny air bubbles, an extremely energy-intensive method to make ice.

"Before REALice, we'd resurface using 160°F hot water when we did our floods. That night, if we'd have flooded it with 160°F, we probably would have lost our ice -- if not with that flood, with subsequent floods."

Kilner says that night was the turning point for him.

"It used to be that if you were caught putting cold water on the ice, you'd probably be next in line to get fired. Now we're thinking differently. Now we're trying to see how we can save money and put alternative solutions to use." Kilner says his slab can be run as high as 21°F now, but before they'd installed the REALice valve, it was kept at 15-16°F.

The arena's refrigeration problems were fixed and Kilner is impressed with how REALice has lessened his plant's load.

"REALice is saving us in hydro because the plant's not running as hard or as long as it used to. Go into the compressor room and maybe one 50hp compressor is running – at heavy use times sometimes 2 but rarely three," he says. "Roughly speaking in the fall and winter our hydro bills could be \$5,000 a month compared to \$1,500 during ice out in spring and summer. With the REALice system, we see less run time on the ice plant, which converts to dollar savings. We are still working out dollar values but for us, we're probably up to 25% less run time so far.

Kilner says the team of North Cowichan ice makers ("we don't call them 'ice cleaners' but 'ice makers' because that's what they do") can read the ice and see immediately what's wrong.

"We've learned to drive slower," Kilner says of their ice resurfacers. "And we will, at times, flood with a little bit warmer water, somewhere in the 68-70°F range when we're following bigger user groups, if the ice is really banged up -- or after for major games. If the ice is beat up, we want to slow the the freezing of the ice a little bit so the flood water fills in the cuts and gouges better and melts some of the loose snow powder left on the ice."

The Municipality of North Cowichan has seven icemakers on staff, all who have the training and free reign to change the temperature of the ice slab or the brine as they see fit.

"Right now we are working to see what higher temperatures we can get away with and when is a good time to do this without affecting ice quality," Kilner says. "There are days where we don't need to change the temperature at all. But night time can get busy with big groups, and they're allowed to drop the temperature if they feel they need to."

Kilner says their experimentation is working.

"We're finding we can raise and run the slab temp warmer and keep the same ice quality which is a win-win. The ice is good and the ice plant is running less."

When we installed the REALice system, my order to them was to find out what we can get away with and what we can't get away with." Kilner says. "Turns out, with REALice, we can get away with a lot more."