

NIAGARA ICE SMASHER READY FOR ACTION



The Niagara Queen II is all tuned up and ready for another winter of kicking ice on the Niagara River.

First commissioned in 1992, the dependable icebreaker, owned and operated by OPG, just completed a regulatory maintenance check by Transport Canada that's conducted every five years.

The 85-tonne vessel, which is powered by two 1,720-horsepower diesel engines, received the green light and is now ready to help keep the water flowing to OPG's Adam Beck hydroelectric stations, which generate almost 2,000 megawatts of power for the province.

And this small ice smasher has got many more years of service left in it. "Presently, there are no plans to replace it," said Peter Kowalski, Operating Manager at OPG's Niagara River Control Centre (NRCC). "These vessels can go for 30-plus years. With regular maintenance, they can go even longer than that."

Kowalski is in charge of the 24/7 operation of regulating the water flow in the Niagara River and over Niagara Falls. In the winter, this also involves monitoring for ice buildup in the river, in an area called the Chippawa-Grass Island Pool, upstream from the control centre. If ice threatens to clog the hydroelectric intakes that deliver water to the stations downstream, the NRCC team will call on the Niagara Queen II and its three-person crew – a captain, an engineer, and a deck hand – to deal with the problem.

"Ice on the surface that's two inches thick can grow to six feet thick or more in a hurry if it's allowed to stack and build up on the intake wall," Kowalski said.

"Adding to that, while working on the Niagara River, the water flows are very dynamic, and you're typically breaking very thick ice in moving water. It can be quite challenging."

Depending on the weather, a typical winter sees the icebreaker running for 300 to 400 hours in a season, and it can be out clearing ice as early as Dec. 20 and as late as May.

OPG's predecessor Ontario Hydro first began deploying an icebreaker in the early 1960s with the Niagara Queen, a modified tugboat icebreaker. Today, depending on the location and severity of the ice problem, Kowalski can call upon the Queen II or the larger William H. Latham icebreaker that is owned and operated by the New York Power Authority.

The Latham, which has a spoon-shaped bow, can break up a large field of ice by riding on top of it, whereas the Queen II has a knife-edged bow better suited for slicing through ice, especially near the intakes.

In cases of extreme weather, like the cold wave that blanketed North America in 2014, both icebreakers are called to help maintain the flow of water. But there are times when the ice packs can become overwhelming even for these specialized beasts.

"These ice floes, if they're eight to 10 feet thick, the boat won't be able to cut through it," Kowalski said. "We're very careful about not putting the boat out at the wrong time, since employee safety is paramount. And we make sure to send it out with a companion vessel where the conditions would warrant that."



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