

PENTAIR® X-FLOW™ NANOFILTRATION SIMPLIFIES TREATMENT IN CANADA

ONTARIO, CANADA



TWO SKIDS



1,000 RESIDENTS



PROBLEMS

- ◆ The residents served by Washagamis Bay's West and East Public Water Systems, including the indigenous, First Nations population, need a cleaner, reliable water supply.
- ◆ Drinking water advisories from the Canadian Government required the First Nations to resort to boiling water or purchasing bottled water because the water from the tap was insufficient quality.
- ◆ The challenge of how to get the drinking water to high quality and meet the Canadian Drinking Water Guidelines called for a sustainable solution.

SOLUTIONS

- ◆ A 12-month pilot through the Windigo Island Demonstration Plant was defined by Delco Water.
- ◆ Two nanofiltration skids equipped with Pentair X-Flow HFW1000 Membrane Elements installed in 2020.
- ◆ These chlorine tolerant membrane elements are designed to tackle surface water with excess amounts of dissolved organic carbon.
- ◆ Leveraging their full potential, each skid is able to produce 4.08 L/s (65 gpm), and is free of any feed water conditioning, such as coagulant dosing or pH correction.
- ◆ The pretreatment is a 130 micron strainer that works without any chemical addition. The removal mechanism of the strainer as well as the nanofiltration membranes (size exclusion) is not temperature sensitive and allows the nanofiltration unit to work at a temperature as low as 1°C/32°F.



PROJECT RESULTS*

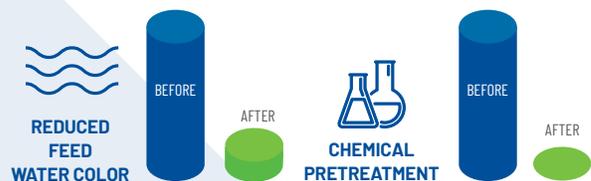
- ◆ Pilot demonstrated drinkable water straight from the tap was possible for the community.
- ◆ Feedwater color was reduced significantly from over 70 PtCo units to less than 10 PtCo.
- ◆ UV transmission improved from approx. 75 percent to the detection limit of the instrument's level of detection.

* actual results and performance may vary based upon site and operating conditions.

"Normally, we would expect to use coagulation and Ultrafiltration, or Ultrafiltration without coagulant followed by Nanofiltration or brackish RO, to get the necessary Disinfection byproduct (DBP) precursor removal in addition to 3-log Cryptosporidium and Giardia, and 4-log virus reduction of these cold waters. However, the Pentair X-Flow Hollow-fiber Nanofiltration Membrane Element was able to meet the requirements in the 12-month Windigo Island demonstration plant, during which it was distributed to the local community."

*Grant Guenther
Chief Engineer, Delco*

**LEARN MORE AND VISIT
XFLOW.PENTAIR.COM/EN/NANOFILTRATION**



All indicated Pentair trademarks and logos are property of Pentair. Third party registered and unregistered trademarks and logos are the property of their respective owners. Because we are continuously improving our products and services, Pentair reserves the right to change specifications without prior notice. Pentair is an equal opportunity employer.