

January 2025

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January 31, 2025 at 10:00 AM

Since 1925, [Avon Lake Regional Water \(https://avonlakewater.org/\)](https://avonlakewater.org/) (Avon Lake) has had a rich history, starting with providing water to 1,200 Avon Lake residents. The initial investment of \$390,000 (in 1925 dollars) covered the cost of the land, the original water plant, and the administration buildings, which were constructed a year later. Today, Avon Lake operates as a \$60,000,000 utility with water and wastewater treatment facilities, serving more than 200,000 Ohio residents across a 680-square-mile service area.

In September 2021, Robert Munro assumed the role of Chief Utilities Executive at

Avon Lake, bringing with him over two decades of public service experience. From managing wastewater treatment facilities in Erie, Pennsylvania, to his current leadership in Avon Lake, Mr. Munro has remained committed to continuous improvement and innovation.

“Continuous improvement is not just a bullet point that we put on documentation,” Mr. Munro shared. “It’s ingrained in our lifestyle.”

Under his leadership, Avon Lake has become a hub for technological innovation, exemplified by its groundbreaking [TechWin pilot project](https://avonlakewater.org/2024/06/avon-lake-pilots-first-electrochemical-water-treatment-process-in-north-america/) (<https://avonlakewater.org/2024/06/avon-lake-pilots-first-electrochemical-water-treatment-process-in-north-america/>), which could set a new standard for water treatment in North America. This month, Mr. Munro shared details of this initiative with AMWA staff, along with the utility’s unwavering commitment to resilience, collaboration, and shaping the future of water treatment through leadership, adaptability, and community-focused innovation.

A Foundation Built on Leadership and Continuous Improvement

“Our continuous improvement initiative is something that has been near and dear to our board,” Mr. Munro said, emphasizing the unique governance structure of Avon Lake’s utility, with oversight from an elected Board of Municipal Utilities.

Today, continuous improvement permeates every department at Avon Lake, from water filtration to customer service, the team has championed robust documentation, rigorous [root cause analysis](https://avonlakewater.org/waterquality/) (<https://avonlakewater.org/waterquality/>), and the elimination of complacency.

“We hate the old adage: ‘That’s the way we’ve always done it,’” he said. “Sometimes, it may still be the best way, but we’re always looking to improve.”

Additionally, Mr. Munro believes in empowering his team to take ownership of their roles. He encourages open dialogue and constructive feedback to identify areas of improvement and spark innovation.

“Our team knows they have a voice,” he said. “We’re not afraid to try something new. If it works, great. If it doesn’t, we learn and move forward. That’s how we innovate.”

The TechWin Pilot: Transforming Water Treatment

Among the utility's innovative ventures is the TechWin pilot project, a partnership with the [Cleveland Water Alliance](https://www.clevelandwateralliance.org/) and South Korea-based [TechWin](http://www.techwin.co.kr/eng/main.php). The project explores the potential of an onsite hypochlorite generation system that produces high-strength (12 percent) sodium hypochlorite, which is a significant improvement over the standard 0.08 percent solutions commonly generated by U.S. utilities.

"This project is a first of its kind in North America," Mr. Munro explained. "We're taking something that has been successful in South Korea and testing its viability here."

As their partnership blossomed, two years of planning culminated in the delivery of TechWin's equipment in late 2024, and Avon Lake is now preparing for the system's pilot launch in March or April, with plans to run comprehensive tests over 12 to 18 months.

According to Mr. Munro, the stakes are high. "We're in the midst of a \$32 million improvement project at our water filtration plant," he said. "If the TechWin system proves successful, it could become a permanent solution, potentially manufactured here in northeast Ohio."

The project is more than just an upgrade, it represents a leap forward in how water utilities approach disinfection and chemical management. If successful, it could pave the way for broader adoption across the U.S., improving operational efficiency and safety for many utilities.

Additionally, the project is more than a technological experiment; it's a response to vulnerabilities exposed during the COVID-19 pandemic, such as supply chain disruptions and increase in chemical costs.

"During the pandemic, we saw 300-400 percent price increases on chlorine gas," Mr. Munro said. "It became clear that having an onsite generation capability was essential for resilience. If we can't disinfect drinking water, the consequences are catastrophic."

While the financial savings for ratepayers remain uncertain, the broader benefits are clear.

"Ensuring a reliable disinfection product is invaluable," Mr. Munro emphasized.

Beyond the immediate benefits, the project also positions Avon Lake as a leader in addressing industry-wide challenges. “The lessons we learn here could be shared across the sector,” Mr. Munro said. “It’s about creating a model that others can replicate.”

Innovation Rooted in Community

At the heart of Avon Lake’s success is a culture of collaboration and community engagement. For example, the TechWin pilot provides exposure not just for the utility but for the region, as potential clients from across North America will visit Avon Lake to see the system in action, reinforcing its reputation as a leader in water innovation.

“Our partners from South Korea have invested \$6 million in this project,” Mr. Munro noted. “In exchange, we’ll own the equipment and provide them with invaluable data and operational insights.”

Looking ahead, Mr. Munro sees enormous potential for Avon Lake to influence the water sector.

“We’ve always been a well-run utility,” he said. “Our residents enjoy the lowest water rates among incorporated cities in Ohio because we’ve been able to distribute costs over a larger customer base, and projects like TechWin help us continue that legacy while addressing future challenges.”

Looking ahead, Mr. Munro is optimistic not just for Avon Lake, but for the broader water industry. “Innovation is not an option; it’s a necessity,” he said. “We’re proud to be part of shaping the future of water treatment.”

A Legacy of Leadership and Progress

As Avon Lake continues to push boundaries, its efforts serve as a testament to what can be achieved through visionary leadership and a commitment to excellence. From the TechWin pilot to its broader initiatives, the utility is laying the groundwork for a more resilient and innovative water industry.

“At the end of the day, it’s about serving our community and ensuring they have access to safe, reliable water,” Mr. Munro said. “That’s what drives us every day.”

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