



Calling Lake Jay Bird Arena Completes Safe, Energy-Efficient Refrigeration Upgrade

Municipal District of Opportunity No. 17 transitions to glycol-based cooling system with significant operational and environmental benefits

Project Summary

The Municipal District of Opportunity No. 17 has successfully completed a comprehensive refrigeration and control system upgrade at the Calling Lake Jaybird Arena ice plant. The project was completed on time for the 2025-26 hockey season and delivered under budget.

What Was Upgraded

The ice plant transitioned from a legacy ammonia-based cooling system to a modern Trane glycol chiller paired with a free cooling fluid cooler. The free cooler takes advantage of cold outdoor temperatures during winter months to provide cooling without running the compressors, significantly reducing energy consumption when outdoor conditions allow. The project also included replacement of the ice plant cold floor and warm floor pumps, which are now controlled by variable frequency drives that automatically adjust pump speed to match the actual cooling demand at any moment. This variable speed strategy eliminates unnecessary energy waste from running pumps at full capacity when only partial flow is needed.

The upgrade also installed a Trane Tracer SC+ building automation system for the ice plant and dehumidifier. This modern control system lets operators monitor system performance, view real-time data trends, and adjust schedules from their phone or laptop. The system provides an at-a-glance status check of all equipment and sends alarm notifications when issues need attention, making it easy for staff to catch problems early.

Benefits Realized

The new system eliminates hazardous ammonia handling, removing the safety risk and regulatory burden associated with ammonia refrigeration. Staff training is simpler and faster because the glycol system does not require specialized ammonia certification. Maintenance cycles are faster and less frequent, reducing downtime and keeping the arena operational. The combination of free cooling, variable speed pumps, and intelligent controls will deliver substantial energy savings once a full year of operation is complete.

"This upgrade reflects our responsibility to operate safe facilities while managing costs effectively for our communities," said Marcel Auger, Reeve of MD17. "The new system removes a significant safety risk and positions Calling Lake Jaybird Arena for reliable, efficient operation for years to come."

About the Municipal Climate Change Action Centre:

The Municipal Climate Change Action Centre is a partnership of Alberta Municipalities, the Rural Municipalities of Alberta, and the Government of Alberta. Funding for the Community Energy Conservation Program was provided by the Government of Alberta.

