



O'Leary Community Sports Centre

O'Leary, Prince Edward Island

PROJECT SUMMARY

Refrigeration Plant Replacement—Ammonia to Opteon™ XP10

Background: The O'Leary Community Sports Centre sought ways to leverage government funding for upgrades at the aging arena facility. The community center's Board of Directors raised additional funding in partnership with Federal Incentive Funding to undergo the major retrofit project.

The Solution: In 2019 I.B. Storey Inc. executed the firm's Triage Assessment framework to develop an action plan for upgrades prioritizing system stability and sustainability. This led to a follow up engagement for Expert Rink Engineering Services to design and oversee the implementation of priority action items. The priority was enhanced safety including lifecycle renewal through the replacement of the aging refrigeration plant with a new low-maintenance / long-warranty plant using Opteon™ XP10 refrigerant (R513a). Additional benefits included heat recovery infrastructure allowing for future fuel-usage reductions.

Refrigeration Plant

Plant kWh Savings
9%

Capacity Increase –TR
18%

Toxic Refrigerant Used
0 lbs

Sustainability Improvements

20 yr Total Equivalent Warming Impact Reduction
114,594 lb Coal

Annual Compressor Overhaul Spending
\$0

Equivalent Tree Seedlings Planted
193

About XP10

- ◆ Non-Toxic
- ◆ Non-flammable
- ◆ 630 GWP

Contact Chemours for more information on Opteon™ Refrigerant products at nhl.com/opteon



Opteon™

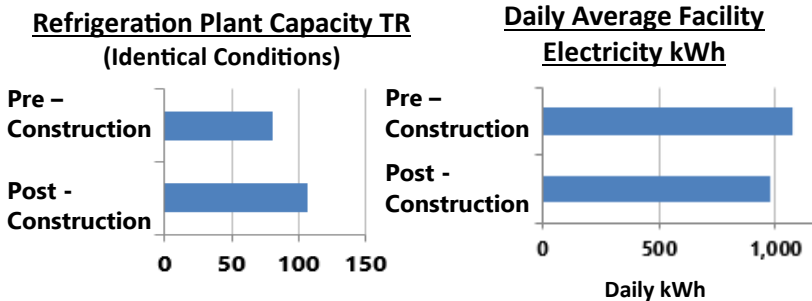


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Project Challenges Addressed

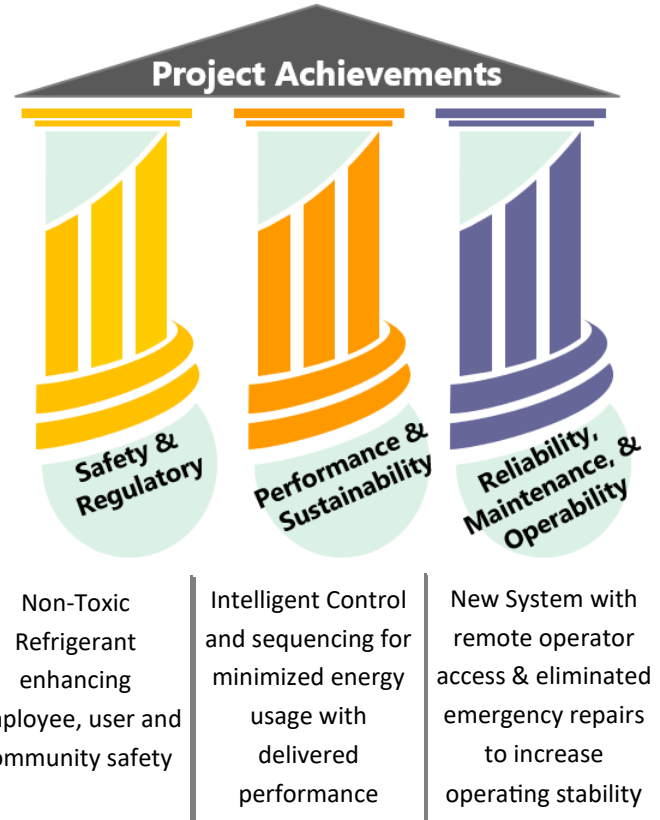
- ◆ **Safety, Regulatory and Capital:** Utilizing Opteon™ XP10 Refrigerant addressed concerns over the presence of toxic ammonia-refrigerant within the heart of the community and further eliminated the requirements for plant room upgrades to meet current code requirements.
- ◆ **Operating Cost:** Modest utility savings were achieved which allows the facility to continue to serve the community at affordable user fees
- ◆ **Maintenance & Operability:** The existing ammonia-based plant required periodic addition and draining of oil, as well as compressor overhauls. This placed additional maintenance costs and operator requirements on the facility, straining the demands of rink staffing. The new system does not have any of those requirements allowing for easier on-boarding and training of new rink attendants.

Refrigeration Upgrade & Billing



Project Details & Achievements

The project consisted of a full plant replacement installing a packaged industrial refrigeration plant with new pumping system, full heat recovery infrastructure, low water condenser and direct digital controls all expertly sequenced.



About the Facility

O'Leary Community Sports Centre is a community arena serving local hockey and skating organizations seasonally (6 month ice season) while serving as a community hub for local events during the summer months. With the upgrades completed, the 30 year old facility is poised to serve the community for many years to come.

About I.B. Storey

Recognized as the leading Application Specialists in rink engineering, I.B. Storey has been providing customized, innovative approaches for over a decade. The firm's experience is unparalleled in finding solutions for a wide ranging client base from community to semi-professional and professional facilities across North America.

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- ◆ Post Construction Savings obtained from Measurement & Verification completed in compliance with EVO 1000-1:2016 Industry Standards and per Manufacturers Ratings
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