

REPORT Arena and Parks Department

TO: Parks, Facilities and Tourism Committee

FROM: Amanda Ferraro, Director of Community Services and Hunter Gardner, Arena and Recreation Manager

DATE: June 19, 2023

REPORT: PR-12/23 FILE NO.

ATACHMENT: Energy Saving Report April 2023

SUBJECT: Arena Energy Savings Report

BACKGROUND:

Since 2021 the Uxbridge Arena has worked with Elexicon and their Envision program to analyze utility usage associated with the Township's twin-pad facility and to develop strategies to maximize savings.

The installation of the *REALice* (a water deaeration system for ice resurfacing) was one major project in 2022 that was predicted to have significant savings.

From Report RC 11-22 we highlighted that:

REALice is designed specifically for ice rinks and treats the ice resurfacing water, eliminating the need for hot water use when building and resurfacing ice. *REALice* uses Vortex Process Technology to treat water prior to resurfacing, essentially removing any micro air bubbles and decreasing water viscosity. This changes the melting behaviour of the ice surface and results in harder, more uniform ice. *REALice* is used with cold water, in contrast to the current hot water process. With no water heating, there is reduced gas consumption (BTUs) and reduced electric consumption (kWh), as brine temperatures can be raised four to five degrees Fahrenheit, lessening the load on the chiller and allowing for less usage of compressors. *REALice* is currently the only water treatment system of its kind for ice rinks. It exists in over 350 facilities across North

America, 23 of those located in Ontario. With the operation of *REALice*, EGI estimates an annual energy savings of approximately \$34,000 (23% natural gas savings, 10% electricity savings), making the payback period just over 12 months.

DISCUSSION:

Elexicon's April 2023 Energy Savings Report (attached, page 4) looks at the arena's gas and electricity consumption since the installation of REALice last Fall and has calculated a total savings of \$24,460 from October 2022 – April 2023 (7 months, excluding January data due to 2022 COVID impact). The total energy savings for the month of April 2023 alone, shown on page 4, is \$4,328. This level of savings is on track, if not better, for Elexicon's annual estimated savings for our facility. The actual cost of the REALice supply and installation was \$45,000, making the return on investment just over 12 months.

Not only will this savings be reflected in our operating budget, but it will also assist with our Capital investments. The twin pad facility currently has three (3) refrigeration compressors, which now require less daily usage and draw, therefore adding to the lifetime use of the mechanical equipment. The report on page 2 shows the before and after usage in kWh for the three (3) compressors.

ALIGNMENT TO STRATEGIC PRIORITIES:

- 5.1.2 Community Well-Being
 - Seek means to reduce our carbon footprint and find energy efficiencies.
- 5.3.7 Community Well-Being
 - Maintain and plan for future investments in civic infrastructure.
- 5.5.6 Community Well-Being
 - Identify opportunities to enhance community facilities.

RECOMMENDATION

THAT Report PR-12/23 of Amanda Ferraro, Director of Community Services and Hunter Gardner, Arena and Recreation Manager be received for information;

Respectfully Submitted by:

Amanda Ferraro, Director of Community Services and Hunter Gardner, Arena and Recreation Manager