

COMMUNICATION 136001

Received From: Ross Rankin, Property and Project Manager
Addressed To: Committee of the Whole
Date: January 14, 2025
Topic: Arena 1 Emergency Repairs Update

SUMMARY

The purpose of this report is to provide Council with an update on the Arena 1 Refrigeration Plant Plate and Frame Chiller Failure at the Carleton Place Arena.

BACKGROUND

The Town has invested in the Arena Refrigeration Plant by replacing major components of the Plant beginning in 2019. The Lifecycle Capital Replacement Program has included replacing the Arena 2 Refrigeration Plate and Frame Chiller (2019); the Arena 1 Refrigeration Plant Plate and Frame Chiller (2020); Arena 1 and Arena 2 Condensers (2022); Arena 1 and Arena 2 Dehumidifiers (2024); and Arena 1 and Arena 2 Brine Pumps (2024) at a cost of \$950,000.

The installation of the two (2) Plate and Frame Chillers in 2019 and 2020 replaced the Shell and Tube Chillers. The advantage of Plate and Frame Chillers versus Shell and Tube Chillers is there is less of an Ammonia Charge. The disadvantage is the Plate and Frame Chillers require their gaskets to be replaced every 10 years at a cost of \$25,000. The cost to install the Arena 1 Refrigeration Plate and Frame Chiller was \$138,000.

During the dismantling of the Arena 1 Brine Pump on May 2, 2024, the contractor identified an Ammonia smell. At this time staff were notified and a Brine sample was taken to identify if there was Ammonia mixed with the Brine. Staff was provided with the results on May 29, 2024 that the Brine had significant amounts of Ammonia in the Brine and that all the Brine under the Arena floor would have to be disposed of, pipes cleaned and new Brine installed.

Staff were also notified that one (1) of the plates had a noticeable blemish when they were taken apart and inspected. The end plate, first plate and all the gaskets were required to be replaced. To complete this repair a quote of \$17,098 was received.

On May 31, 2024 Staff informed Council of the projected cost to complete the repair and disposal of the contaminated Brine. The estimated cost to complete the Ammonia removal and brine replacement was \$30,000 to \$60,000 plus the above repair to the plate.

COMMENTS

Our contractor, CIMCO Refrigeration, was contracted to complete the repairs and manage the testing and disposal of the contaminated Brine. Prior to each flushing of the lines, the Brine was tested for levels of Ammonia. The first test was completed on May 28, 2024 and identified **0.2 % @72F** and **Significant amount of ammonia is detected in**

vapour phase of the sample. This may indicate a leak in the system. Arrangements were made to contract the disposal of the contaminated Brine to Tomlinson Environmental Services Ltd. The Brine pump replacement and repair to the Plate and Frame Chiller was required before the Brine could be removed.

CIMCO Refrigeration flushed the brine pipes for extended periods of time to collect the Ammonia. Tomlinson Environmental Services Ltd. drained and disposed of the 2000 gallons of contaminated Brine three (3) times over a period of two (2) months.

On August 2, 2024 all repairs were completed, the new Brine was installed and the plant started to meet the scheduled opening of Arena 1.

Staff continued to express their concerns with CIMCO Refrigeration, the supplier and installer of the equipment, that a failure such as this should not occur with a four (4) year old piece of equipment. Understanding that the warranty was one (1) year parts and labour, the manufacturer should take some ownership. Staff addressed a letter to CIMCO Refrigeration requesting that they work with the manufacturer, Alpha Laval, to come to an agreeable financial solution and to express that the Town of Carleton Place was not satisfied that the works would not be covered by the warranty.

After several months, all parties agreed to Alpha Laval providing a \$7,637.32 credit and CIMCO Refrigeration discounting their labour rate by 40% and their material and sub mark ups by 50%. Total cost for the repairs is \$83,376.20 plus HST and shown in the chart below.

ITEM	AMOUNT
CIMCO Refrigeration	\$ 29,252.99
Tomlinson Environmental Services Ltd	\$ 61,760.53
Alpha Laval - credit	(\$ 7,637.32)
TOTAL	\$ 83,376.20

By replacing the gaskets, the next scheduled maintenance date will be changed from 2030 to 2034.

FINANCIAL IMPLICATIONS

The total unfunded budgeted amount for these works is \$83,376.20 plus HST. In discussions with the Treasurer, she recommends that this amount be funded through the 2024 year-end surplus, if any, or from the Strategic Reserve.

STAFF RECOMMENDATION

THAT Council receive the report from the Property and Project Manager on the emergency repairs to Arena 1's Refrigeration Plant Plate and Frame Chiller; and

THAT the budget deviation of \$83,376.20 be funded through the 2024 year-end surplus, if any, or from the Strategic Reserve.