



## STAFF REPORT

### REPORT FROM THE ASSISTANT DIRECTOR OF PUBLIC WORKS

Re: Spiral Heat Exchanger

#### OBJECTIVE

To provide Council with information regarding the proposed purchase of one (1) Dorr-Oliver equivalent spiral type heat exchanger for use at the Elliot Lake Wastewater Treatment Facility.

#### RECOMMENDATION

That Council approve the purchase of a spiral heat exchanger from Vector Process Equipment Inc. in the amount of \$87,300.00; and

That the funds be withdrawn from the water and waste water reserve.

## BACKGROUND

The City of Elliot Lake wastewater treatment plant utilizes anaerobic digestion as a critical component of the treatment process. The control of temperature in the digesters is necessary to promote proper decomposition of waste solids and to aid in the production of the methane gas used to offset heating costs at the facility. This heating and temperature control is currently achieved using a spiral type heat exchanger. The unit is designed to be compact, with a minimum footprint and a heating surface area which efficiently transfers heat from the boilers to digested sludge circulating through the unit.

The heat exchanger was installed as original equipment at the wastewater facility and has remained in continuous operation since 1982. In 2015 the heat exchanger was replaced with the same Dorr Oliver unit. This new heat exchanger lasted until July of 2024 and developed holes in the internals of the spirals.

Prior to releasing the tender, various newer technologies were explored including a tube in tube type heat exchanger. Staff looked at various heat exchangers and the foot print required was in excess of the area that was available.

Tender 2024-03 was generated in order to secure pricing for supply and delivery of one (1) spiral type wastewater sludge heat exchanger, equivalent in design, and specification, to the existing Dorr-Oliver unit in use at the Elliot Lake Wastewater Treatment Plant.

The tender was put on Bids and Tenders and the following bid was submitted.

## ANALYSIS

The pricing received through the tender process included supply and delivery of a spiral heat exchanger along with a 2 year warranty. Being a specialized field there are not many companies that make heat exchangers and the manufacturer has distributors that supply these products to municipalities. With an exact replacement for the heat exchanger there will be no requirement for specialized engineered drawings as well as no approvals required by the Ministry of Environment, Conservation and Parks.

There was only one firm that submitted pricing for the supply of the heat exchange unit. The price for the Heat Exchanger was \$128,200 plus HST.

Staff research prior to the issuance of the tender determined that the market value of a new heat exchanger would be approximately \$90,000.00. Given the large variance between market value and the price of the bid received through the tendering process, staff invoked Section D of the Procurement Policy – Negotiation Method. Subsection (e) of the Negotiation Method states that the Purchasing Agent may enter into negotiation with one or more vendors for the supply of goods or services when all bids are not acceptable. By utilizing this section of the Procurement Policy, staff were able to source the required unit from another supplier for a cost of \$87,300.00.



## **FINANCIAL IMPACT**

The 2024 budget did not include a replacement of the heat exchanger. The failure of this critical piece of process equipment was unexpected. Installation of the heat exchanger will be done in-house by Plant staff.

## **SUMMARY**

The existing heat exchanger has been in service for 10 years and is approaching end of life. The replacement unit offered by Vector Process Equipment Inc. for \$87,300.00 plus HST meets the requirements of the tender and is an exact replacement.

