
DATE: April 30, 2010

REPORT TITLE: **PRE-PURCHASE OF ULTRAVIOLET LIGHT EQUIPMENT FOR THE LAKEVIEW WATER TREATMENT FACILITY CAPITAL PROJECT 07-1936 DOCUMENT 2010-022P CITY OF MISSISSAUGA, WARD 1**

FROM: Dan Labrecque, Commissioner of Public Works

RECOMMENDATION

That the contract (Document 2010-022P) for the pre-purchase of ultraviolet light equipment for the Lakeview Water Treatment Facility be awarded to Trojan Technologies Inc. at an estimated cost of \$1,500,000 (excluding applicable taxes), under Capital Project 07-1936, in accordance with Purchasing By-law 63-2008.

REPORT HIGHLIGHTS

- As part of the preliminary design of the Lakeview Water Treatment Facility expansion project, the preferred disinfection method was determined to be ultraviolet light (UV). This system will be installed as part of a multi-barrier treatment approach and will be in service by mid-2013.
- The Region of Peel issued Request for Proposal 2010-022P to obtain ultraviolet light equipment for the Lakeview Water Treatment Facility. Staff have reviewed the proposals based on technical merit and life-cycle costing.
- The proposal was competitively bid and Trojan Technologies Inc. is recommended for award.
- From the total award amount of \$1,500,000 (excluding applicable taxes), \$1,018,500 will be recovered from York Region based on the 67.9 per cent agreed cost split between the two municipalities.

DISCUSSION

1. Background

Phase 2 of the Lakeview Water Treatment Facility (WTF) is to satisfy growth, in accordance with the Water and Wastewater Master Servicing Plan. The Lakeview WTF is unique in Canada and was the first to adopt advanced water treatment at such a large scale. Phase 1 of the expansion has been in operation since 2007.

Historically, the Region of Peel has relied solely on the use of chlorine as a method of disinfection in the process of producing drinking water. Although chlorine remains a safe and

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reliable disinfectant, the Region of Peel continues to look at alternatives as we expand and improve our facilities. In 2007, Peel Region began using ozone as a disinfectant for Phase 1 of the Lakeview WTF. Ozone met two goals of the project which were to increase the level of disinfection provided at the facility and improve taste and odour control.

Subsequently, as part of the Lorne Park WTF, the Region is implementing UV disinfection. This decision was made to avoid the construction of contact tanks in Jack Darling Park. Contact tanks are required as part of the ozone process and based on the site constraints, would have made ozone more expensive than UV. The UV system can also be used as an advanced oxidation process for taste and odour control, through the addition of hydrogen peroxide and the installation of larger UV units. This is also being implemented.

At the time of design for Lakeview Phase 1 (2003-2004), UV disinfection systems had not been used at the scale required for this facility and were not cost competitive compared to ozone. Ozone was therefore the only viable and economical solution. Since that time, UV systems have advanced greatly to the point where they are more economical to install over ozone. The operating costs are similar. Therefore as part of the Environmental Assessment process, UV disinfection was selected for Phase 2 of the Lakeview expansion. Ozone will still be used for pretreatment for organics removal and taste and odour control. While the use of hydrogen peroxide and UV was most economical at Lorne Park for taste and odour control, at Lakeview, ozone is still preferred.

2. Selection Process

The Region of Peel issued Request for Proposal Document 2010-022P to two firms who have experience in supplying and maintaining UV systems of this size and complexity.

A selection committee consisting of Region of Peel staff from Public Works, OCWA, and our consultant, CH2M Hill Canada, evaluated the proposals. The evaluation included the vendor's experience, equipment reliability, operations and maintenance requirements, and after-sales service, as well as life cycle costs over a 20 year period. As the installation, operating and maintenance costs vary from vendor to vendor, it is important to evaluate each vendor over the life of the equipment rather than just the initial cost.

The results of the evaluation are listed below.

Vendor	Location	Overall Ranking	Technical (80 per cent)	Financial (20 per cent)
Trojan Technologies Inc.	London, ON	1	1	1
Calgon Carbon Corporation	Pittsburgh, PA	2	2	2

3. Proposed Direction

The submission by Trojan received the highest overall score when assessing the combination of technical proficiency and price. Trojan provided the lowest net present value cost based on electricity and chemical usage. Based on the ranking above, Trojan Technologies Inc., provided the best value system for the Region.

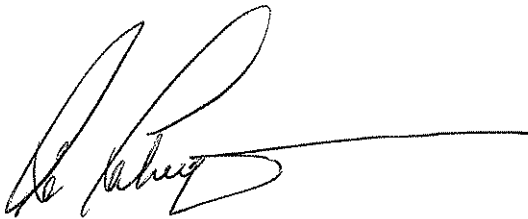
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Currently Trojan is supplying UV disinfection for the Lorne Park Water Treatment Facility Expansion. To date they have performed their contract to the satisfaction of the Region. In addition, the operations and maintenance of a common UV system between both plants will reduce costs and improve reliability.

FINANCIAL IMPLICATIONS

There is sufficient funding available under Capital Project 07-1936. From the total award amount of \$1,500,000 (excluding applicable taxes), \$1,018,500 will be recovered from York Region based on the 67.9 per cent agreed cost split between the two municipalities.



Dan Labrecque
Commissioner of Public Works

Approved for Submission:



D. Szwarc, Chief Administrative Officer

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