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| TO: | CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON MONDAY, APRIL 28, 2014 |
| FROM: | JOHN BRAAM, P. ENG. MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES & CITY ENGINEER |
| SUBJECT | SUPPLY OF TURBO BLOWER SYSTEMS FOR VAUXHALL, ADELAIDE AND OXFORD WASTEWATER TREATMENT PLANTS |

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| RECOMMENDATION |
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That, on the recommendation of the Managing Director, Environmental and Engineering Services & City Engineer, the following actions **BE TAKEN** with respect to the Supply & Delivery of five (5) turbo blower systems for Vauxhall, Adelaide and Oxford Wastewater Treatment Plants, RFP14-04:

- a) The quoted price of \$742,000.00 excluding HST, as submitted by APGN Inc., **BE ACCEPTED**;
- b) The funding for this purchase **BE APPROVED** as set out in the Source of Finance Report attached hereto as Appendix 'A';
- c) The Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this contract; and,
- d) The approval hereby given **BE CONDITIONAL** upon the Corporation entering into a formal contract or having a purchase order relating to the subject matter of this approval.

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| BACKGROUND |
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The age of the existing aeration equipment at the Vauxhall, Adelaide and Oxford wastewater treatment plants ranges between 15-25 years. While the equipment is still in good working condition, the installation of more efficient and properly sized blowers will reduce ongoing operational costs and carbon footprint. Incentives totaling \$334,000 is being offered through the Ontario Power Authority's (OPA) Process and System Upgrades (PSU) program which will help offset the purchase and installation of the new equipment.

With the cooperation of London Hydro, the OPA authorized three projects involving the installation of more efficient blowers and dissolved oxygen (DO) control systems. The estimated savings determined by Stantec Consulting and the OPA are:

Vauxhall 1190 MWh/year represents \$113,050 per year

Adelaide 300 MWh/year represents \$28,500 per year

Oxford 300 MWh/year represents \$28,500 per year

The total annual savings per year is \$170,050.

Note: assumed hydro rate is \$95/MWh

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Installation and Engineering costs are included in the payback calculations. The Vauxhall project will include both blower installations and enhanced aeration DO control and will be carried out as part of a general contract. Oxford and Adelaide upgrades are less complex as the existing DO control systems are adequate. The installations will be completed by our own staff or through a small installation contract. Table 1. provides a financial summary of the three projects.

Table 1: Financial Summary

| Blowers Purchase Price | Instrumentation costs(installation included) | OPA Incentive | Blower install Cost | Operational Savings | Payback |
|---------------------------|--|---------------|---------------------|---------------------|-------------|
| \$729,400.00 ¹ | \$370,000.00 | \$334,000.00 | \$105,000.00 | \$170,050.00 | Average 5.1 |

Note 1: There is an addition \$12,600 in extra refresher training that was identified in the proposal submitted by APG that when added to the \$729,400 will total the \$742,000 bid. This training may not be required and was not included in the above table.

Purchasing Process:

Given the importance of blower performance in overall life cycle cost, a Request for Proposal (RFP) was issued through Biddingo and the Londoner. Three submissions were received and APGN received the highest score with the lowest overall life-cycle cost; APGN's price was second lowest. Proponents were required to submit the following criteria which formed the basis of the evaluation.

- Projected Life Cycle Costs
- Shop Drawings, and Product Delivery Lead Times
- Blower Efficiency
- Blower Quality
- Reference Installations
- Service Network and Availability of Parts

Financial Impact

Funding for this contract is provided in the Replacement of Equipment capital account ES5084-11

Conclusion

OPA incentives have been approved to help offset the purchase and installation of new aeration equipment at three of London's wastewater treatment plants. The equipment selection was based on the lowest overall life cycle cost as determined through the RFP process with the balance of the purchase and installation costs funded from an existing capital replacement Equipment account (ES5084-11). These types of efficiency improvements are critical in maintaining sustainable rates in the face of rising energy costs.

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Acknowledgements

This report was prepared by Mark Spitzig, Manager, Operations – Wastewater Treatment Operations Division, and Geoff Smith CSCMP, Purchasing & Supply.

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| PREPARED BY: | PREPARED BY: |
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| MARK SPITZIG MANAGER, OPERATIONS – PCP OPERATIONS | GEORDIE GAULD DIVISION MANAGER |
| REVIEWED BY: | RECOMMENDED BY: |
| | |
| JOHN LUCAS, P. ENG. DIRECTOR, WATER AND WASTEWATER & TREATMENT | JOHN BRAAM, P. ENG. EXECUTIVE DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER |

Attachment: Appendix 'A' – Source of Financing Report

cc. John Freeman, Manager, Purchasing & Supply
APGN Inc.