
MEMORANDUM

PWC-C 49-2020

Subject: Response to Councillor Information Request re 2020-T-116 Port Dalhousie Wastewater Treatment Plant Upgrades

Date: December 8, 2020

To: Public Works Committee

From: Bruce Zvaniga, P.Eng., Commissioner of Public Works (Interim)

This memo provides the additional information requested by Committee on November 10, 2020 concerning Tender 2020-T-116 - Port Dalhousie Wastewater Treatment Plant (WWTP) Upgrades.

In doing so, given that this is still an active procurement process and in order to preserve and support the integrity and transparency of that process, Staff also wishes to remind Council of the following lobbying restrictions contained within section 31 of the Region's Procurement By-law No. 02-2016, as amended:

31. (a) Suppliers, their staff members, or anyone involved in preparing a Bid, shall not engage in any form of political or other Lobbying whatsoever or seek to influence the outcome of the Bid Solicitation process or subsequent Award. This restriction extends to all of the Corporation's staff and anyone involved in preparing a Bid Solicitation or participating in a Bid evaluation process, and members of Council.

(c) During a Bid Solicitation process, all communications shall be made through Procurement and Strategic Acquisitions. No Supplier or person acting on behalf of a Supplier or group of Suppliers, shall contact any elected official, consultant or any employee of the Corporation to attempt to seek information or to influence the Award.

(d) Elected officials shall refer any inquiries about a Bid Solicitation process to the Commissioner of Corporate Services /Treasurer.

Staff also note that suppliers who believe they have been treated unfairly in a bid solicitation process can refer to the bid dispute process outlined in Section 30 of the Procurement By-law.

Niagara Region retained Hatch Corporation through a competitive bidding process (2016-RFP-14) to complete the detailed design, tendering, contract administration and inspection services for the Port Dalhousie WWTP Upgrades project.

Five (5) General Contractors were Prequalified in a competitive public pre-qualification process (2020-RFPQ-47) and were invited to bid on 2020-T-116 Port Dalhousie WWTP Upgrades Contract 1. In accordance with Niagara Region Procurement By-law 02-2016, as amended, and under the guidance of the Region's Procurement Department, Niagara Region initiated a competitive public tender process (2020-T-116) on August 28, 2020 to solicit bids from those prequalified companies. The tender closed on November 5, 2020 and four (4) bid submissions were received and opened. Report PW 44-2020 has been submitted to Council for consideration and includes staff recommendations to award to the lowest compliant bidder.

Project Design Manual and Approved Product and Equipment List (APEL)

Since 2005, the W-WW Services Division has used the Water-Wastewater Project Design Manual (Appendix A) which provides design preferences and guidelines for staff and consulting engineers involved in the implementation of W-WW capital works projects within the Niagara Region. Included in this manual is a section pertaining to product and equipment selection and the use of an Approved Product and Equipment List (Appendix B).

The APEL is used to ensure that equipment specified in water and wastewater design and construction projects is appropriate in nature, and when possible, is similar to equipment already in use. This evaluation and limitation of products and equipment allows the Region to: ensure compatibility of individual components to the complete system; reduce the amount of spare parts needed in inventory; and, limit the number of different pieces of equipment that staff must be familiar with in order to provide effective maintenance and time-sensitive emergency repairs. Designers refer to the APEL to determine which products and equipment are included in design and contract specifications. In producing a complete design, the designers choose components to produce an entire functional system. This process frequently results in a number of components which must be specified to a single product in order to ensure compatibility.

The W-WW Product Review Committee (PRC) was formed to update and maintain the APEL on an on-going basis. The PRC is currently comprised of 18 W-WW staff members representing various subject matter experts from across the division. For some specialized equipment categories (e.g. SCADA software and controllers) it is paramount that equipment be standardized to ensure compatibility with existing

infrastructure and to ensure staff have the required tools and product specific training to effectively troubleshoot and maintain this equipment.

The current version of the W-WW PRC Terms of Reference (Appendix C), the APEL and the product Request for Consideration form are posted on the Niagara Region's public website.

Turbo Blowers

Turbo Blowers remain a relatively new technology for the W-WW industry. They are most often used in wastewater treatment aeration processes as a high efficiency alternative for meeting the oxygen demand and providing the necessary mixing action for efficient biological wastewater decomposition.

The Region has had limited experience utilizing turbo blowers that resulted in some operational challenges. As a result, in 2015 the PRC, at the direction of the Director of W-WW Services of the time, temporarily removed the turbo blower sub-category and the two previously approved manufacturers from the APEL. Staff were directed to re-design all on-going capital works projects to use conventional blowers where feasible. The Director agreed to proceed with the installation of turbo blowers at the Niagara-on-the-Lake WWTP as a trial study to continue to test the technology and because the plant was already under construction. He made this decision based on the substantial cost and time delay for the Region to change the design specifications at that phase of the project. The installation of the APG Neuros turbo blowers at the Niagara-on-the-Lake WWTP was agreed to be a 12-month trial study to assess and evaluate the performance of this product with consideration to reinstate them on the APEL if the equipment performed well. The plant was put in to service in January 2020. The trial study is expected to conclude in January of 2021 at which time the PRC will review operational records and render its decision whether to reinstate APG Neuros on the APEL by the end of Q1 of 2021.

Recent advances in turbo blowers, specifically the introduction of the magnetic bearing technology, has led to new potential for the use of this technology in wastewater. On April 26, 2018 the PRC reviewed a submission for Sulzer ABS Turbo Blowers where the committee decided that the product would remain under evaluation during the completion of a 12-month pilot study. A key factor in this decision was the unique design features of the product, specifically the use of magnetic bearing technology in comparison to air bearings used by the Region's previous turbo blower manufacturers. The benefits of magnetic bearing technology include extended life and service intervals, no need for additional cooling systems, built in condition/vibration monitoring system,

high bearing damping and overload capacity and enhanced operational flexibility. The PRC identified an upcoming capital project at a facility suitable for the pilot. Similar to the approach with the Niagara on the Lake WWTP and the APG Neuros product, the Port Dalhousie Wastewater Treatment Plant was chosen as a suitable test site and Sulzer ABS Turbo Blowers were included as the sole acceptable turbo blower manufacturer in Tender 2020-T-116 to facilitate the pilot study. Staff would note that as a practical matter this is not a direct purchase of the turbo blowers by the Region; but rather they are a component of a larger project that was competitively procured by the Region; and it is the contractor who is responsible for retaining the necessary subcontractors and equipment to undertake the project (and they are not bound to follow the Region's procurement policies in doing so in any event). Staff would however further note that the testing/trial use of a good or a service is a supportable basis for a single source purchase in alignment with the Procurement by-law:

18. (a) Bid Solicitations are not required for Single Source Purchases, provided that any of the following conditions apply:

(ii) a Good or Service is Purchased for testing or trial use;

Port Dalhousie WWTP Upgrades Contract 1 project was executed through a competitive public tender process (2020-T-116) with included detailed specifications for this new blower technology adhering to the approved Product Review Committee (PRC) Terms of Reference. Phase II Upgrades scheduled for 2023 will also be issued as a competitive procurement process.

Staff acknowledge that the above actions were not accurately reflected on the APEL at the outset of Tender 2020-T-116. These errors were identified and corrected in Addendum #1 dated September 21, 2020 and a clarification communication was issued to the impacted equipment manufacturer on October 7, 2020.

Given the potential benefits, the PRC remains committed to adopting turbo blowers onto the APEL. While it is uncommon for the PRC to undertake a pilot study of this scale, the PRC determined that it was necessary to prevent risk to plant operations and to have conclusive evidence of acceptable performance of the different turbo blower technologies. The pilot study adheres to the approved PRC Terms of Reference and is consistent with the previous large scale pilot study initiated in 2016 for the Fujiwara Automatic Scum Removal System at the Niagara-on-the-Lake WWTP. If the results of the trial studies of the two types of turbo blowers are found to be acceptable, this equipment will be reinstated on the APEL.

Other Pertinent Reports

PW 44-2020 Award of Contract 2020-T-116 Port Dalhousie WWTP Upgrades Contract 1 (December 8, 2020)

Respectfully submitted and signed by

Bruce Zvaniga, P.Eng.
Commissioner of Public Works (Interim)
Public Works Department

Appendices

Appendix A W-WW Project Design Manual

Appendix B W-WW Approved Product and Equipment List (APEL)

Appendix C W-WW Product Review Committee Terms of Reference