
HALDIMAND COUNTY

Report WWE-02-2022 Budget Revision – Nanticoke Industrial Pump Station Pumping Upgrades and Refurbishment Projects



For Consideration by Council in Committee on August 23, 2022

OBJECTIVE:

To obtain approval for budget amendments to the funding of capital projects associated with upgrades and refurbishments of Industrial Raw Water Supply Pumps Three and Seven located at the Nanticoke Industrial Pumping Station.

RECOMMENDATIONS:

1. THAT Report WWE-02-2022 Budget Revision – Nanticoke Industrial Pump Station Pumping Upgrades and Refurbishment Projects be received;
2. AND THAT the revised budgets as outlined in Report WWE-02-2022 be approved.

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Reviewed by: Phil Wilson, C.E.T., PMP, Manager, Water & Wastewater Engineering

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Approved: Craig Manley, MCIP, RPP, Chief Administrative Officer

EXECUTIVE SUMMARY:

Design of necessary and incentivized industrial pumping upgrades and refurbishments at the Nanticoke Industrial Pump Station (IPS) was initiated in 2019. The pumping upgrades and refurbishments are directly associated with infrastructure dedicated to the supply of raw water to two industries, Stelco and Imperial Oil, and as such these two industries are funding the majority of the project costs. The proposed upgrades and refurbishments also qualify for significant funding through an Independent Electricity System Operator (IESO) Save On Energy grant program.

The final design that was agreed to by the industries, was tendered in June 2022 to obtain competitive pricing for the work. Three bid submissions for tender WWE-81-2022 were received and the cost breakdowns were reviewed with the industries and the design engineer. Due in most part to current market conditions related to electrical and mechanical divisions and some minor additional scope changes, the recommended and lowest bid from Sutherland Schultz Ltd. exceeds current approved budgets.

Budget revisions totalling an additional \$996,300 are required in order to award the work to the recommended bidder. Of this incremental increase amount \$985,300 is to be funded from the industry and \$11,000 would be required to be funded from the County. There are no impacts to the rates as established in the 2022 Water and Wastewater Rate Support Budget. In addition to budget revision approvals, given the significant cost allocations to industry, both industries will be required to enter into a Project Funding Agreement with the County prior to the work proceeding.

BACKGROUND:

The Nanticoke IPS is located on the same property as the Nanticoke Water Treatment Plant (WTP) and supplies raw water from Lake Erie to Stelco, Imperial Oil and the Nanticoke WTP. There are currently nine industrial pumps dedicated to the supply of raw water to Stelco and Imperial Oil and two pumps that are used exclusively to provide water to the Nanticoke WTP.

In response to aging infrastructure, increasing annual repair costs and available funding incentives offered by Save On Energy grant program, a 2019 Detailed Engineering Study (DES) confirmed the need for industry dedicated pump upgrades, verified that significant hydro savings could be achieved and served as a basis for a grant application to the IESO.

In June of 2020, Haldimand County received a Project Approval Letter from the IESO identifying incentive funding of \$693,800 to complete the project. The in-service deadline to qualify for this funding has recently been extended to June 2023. While considered an aggressive timeline, it is believed that the June 2023 in-service date can be achieved.

The scope of work that was ultimately tendered, included the following:

- Removal and off site refurbishment of existing Pumps Three and Seven;
- Supply and installation of two new motors for Pumps Three and Seven;
- Supply and installation of two Variable Frequency Drives (VFD's) for Pumps Three and Seven;
- Associated electrical and mechanical replacements;
- Replacement of the existing roof access hatches for pump removals; and
- Pump instrumentation and control upgrades.

The project component that has cost sharing implications with the County is the replacement of the existing roof access hatches that allow for pump removals as well as some minor instrumentation and control upgrades. The balance of the work directly benefits Stelco and Imperial Oil, who will be fully funding these components of the project.

ANALYSIS:

The design engineer and County staff have reviewed the recommended bid for completeness, arithmetic correctness and comparison to the opinion of probable cost (OPC) that was based on the final design. Below are the findings from the review:

- Mechanical component of pump upgrades and refurbishments exceeded OPC by approximately \$210,000;
- Electrical component of pump upgrades and refurbishments exceeded OPC by approximately \$845,000. All three bids received were within 15% of each other, indicating costs received are a reflection of true market value. The recommended bid carried the lowest price for this division; and
- Instrumentation and control upgrades exceeded OPC by approximately \$50,000.

County staff rely on the OPC's prepared by the design engineer to develop project budgets for Council approval. In this instance, the budgets established for this project are believed to be underestimated as a result of the following:

- Outdated pricing factored into OPC that did not account for current market conditions;
- Underestimated level of work associated with electrical component as a result of scope changes made between the 60% and final design.

Staff have discussed the recommended bid costing with the industries and with understanding of the rationale for the increased costs received, industry is in support of proceeding with the work and the award to Sutherland Schultz Ltd.

FINANCIAL/LEGAL IMPLICATIONS:

The following table shows the current approved budgets as well as the proposed revised budget amounts for the Nanticoke IPS pumping upgrades and refurbishment project in totality:

Nanticoke IPS Pumping Upgrades and Refurbishment Project	Current Approved Budget	Additional Funding Required	Proposed Revised Budget
Capital Expenditures:			
479027 – IPS Automation Improvements	\$45,000	\$0	\$45,000
479028 – IPS Automation Improvements Ph 2	\$35,000	\$10,000	\$45,000
479030 – IPS Roof Access Hatch Replacements	\$320,500	\$29,500	\$350,000
479037 – PS Pump Installation	\$2,400,000	\$0	\$2,400,000
479080 – IPS Pump #7 Restoration	\$1,500,000	\$956,800	\$2,456,800
Total Capital Expenditures	\$4,300,500	\$996,300	\$5,296,800
Financing:			
IPS Recovery - Stelco	\$3,403,810	\$549,564	\$3,953,374
IPS Recovery – Imperial Oil	\$863,840	\$435,778	\$1,299,618
CRRF Water *	\$32,850	\$10,958	\$43,808
Total Financing	\$4,300,500	\$996,300	\$5,296,800

* The additional \$10,958 to be added to the CRRF Water expenditure will be offset from project C.479021 for the decommissioning and restoration of the old Nanticoke filter building.

The total budget of \$5,296,800 (including non-rebateable HST) includes engineering costs of \$377,506, construction costs of \$4,919,294 and a contingency amount of \$500,000. The contingency value equates to approximately 10% of the project value and is being recommended to address unforeseen additional expenditures that could occur when dealing with the refurbishment of aged infrastructure.

Allocation of project costs to Stelco and Imperial Oil are contractually stipulated and are calculated based on their respective water usage, averaged over the past three years (2019-2021). Where applicable, tri-party cost allocations between the industries and the County are calculated using the same method.

Based on the budget revisions as shown in the above table, there are no impacts to the rates as established in the 2022 Water and Wastewater Rate Support Budget.

STAKEHOLDER IMPACTS:

The reliable provision of raw water to Stelco and Imperial Oil from the Nanticoke IPS is vital for their operations. This upgrade and refurbishment project is of key importance to maintaining that reliable

supply of raw water to industry. Furthermore, findings from the Detailed Engineering Study update indicated that there is the potential for the industries to realize upwards of \$360,000 annually in hydro savings.

Stelco and Imperial Oil are both significant stakeholders in this project. The proposed budget amendments as identified within this report have been reviewed with both parties and agreement reached to proceed with the work based on the tendering results.

Construction activities associated with the project may require brief interruptions of service. Staff have made industries aware of this potential and will ensure that temporary interruptions of service are well planned and communicated ahead of time to minimize impact.

Ontario Clean Water Agency (OCWA) who operate the Nanticoke facility on behalf of the County, will also have a key role to play in maintaining operation of the IPS throughout the construction phase of this project. OCWA's involvement in routine construction meetings and schedule review will be critical to the success of the project.

REPORT IMPACTS:

Agreement: Yes

By-law: No

Budget Amendment: Yes

Policy: No

REFERENCES:

None.

ATTACHMENTS:

None.