



OPERATIONS COMMITTEE AGENDA

Operations Committee Meeting
Monday, March 18, 2019
Tom Davies Square

COUNCILLOR DEB MCINTOSH, CHAIR

Mark Signoretti, Vice-Chair

4:00 p.m. OPERATIONS COMMITTEE MEETING
COMMITTEE ROOM C-11

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DECLARATIONS OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

PRESENTATIONS

1. Operations Committee Outlook 2019
(ELECTRONIC PRESENTATION) (FOR INFORMATION ONLY)

- Tony Cecutti, General Manager of Growth & Infrastructure

(This presentation outlines the expected work of the Operations Committee for 2019.)

2. Report dated February 14, 2019 from the General Manager of Growth and Infrastructure regarding Water and Wastewater Energy Savings Initiative.

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(ELECTRONIC PRESENTATION) (FOR INFORMATION ONLY)

- Mike Jensen, Director of Water/Wastewater Services
- Michael Loken, Process Engineer

(This presentation outlines the various energy savings initiatives, energy rebates and energy cost avoidance programs Water and Wasterwater have undertaken since 2012.)

CONSENT AGENDA

(For the purpose of convenience and for expediting meetings, matters of business of repetitive or routine nature are included in the Consent Agenda, and all such matters of business contained in the Consent Agenda are voted on collectively.

A particular matter of business may be singled out from the Consent Agenda for debate or for a separate vote upon the request of any Councillor. In the case of a separate vote, the excluded matter of business is severed from the Consent Agenda, and only the remaining matters of business contained in the Consent Agenda are voted on collectively.

Each and every matter of business contained in the Consent Agenda is recorded separately in the minutes of the meeting.)

CORRESPONDENCE FOR INFORMATION ONLY

- C-1. Report dated March 4, 2019 from the General Manager of Growth and Infrastructure regarding Winter Control Operations Update for December 2018.

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(FOR INFORMATION ONLY)

(This report provides the financial results of the 2018 winter roads operations up to and including the month of December 2018.)

MOTIONS

- M-1. **Request for Change of Winter Overnight Parking Ban**

As presented by Councillor Leduc:

WHEREAS By-law 2010-1, as amended, being a by-law to regulate traffic and parking in Greater Sudbury currently prohibits parking a vehicle on any highway during the hours of 12:00 midnight to 7:00 a.m. from December 1st in one year to March 31st in the following year, with the exception of specified holidays;

AND WHEREAS the winter overnight parking ban is in effect in order to allow the City to clear snow on our roadways during those hours;

AND WHEREAS snow removal on our roadways does not necessarily only occur during overnight hours;

AND WHEREAS there are ongoing efforts in the community to promote strategies to prevent impaired driving;

AND WHEREAS by-law 2010-1 has been amended to permit parking on highways on specific holidays during the Christmas season;

AND WHEREAS it has been requested by several residents that the overnight parking restrictions be reduced to the hours of 2:00 a.m. to 6:00 a.m.;

THEREFORE BE IT RESOLVED that the City of Greater Sudbury direct that staff bring forward a report to the Operations Committee for its consideration by September of 2019 to consider reducing the current overnight parking prohibition to the hours of 2:00 a.m. to 6:00 a.m. from December 1st to March 31st.

ADDENDUM

CIVIC PETITIONS

QUESTION PERIOD AND ANNOUNCEMENTS

NOTICES OF MOTION

ADJOURNMENT

For Information Only

Water and Wastewater Energy Savings Initiative

Presented To:	Operations Committee
Presented:	Monday, Mar 18, 2019
Report Date	Thursday, Feb 14, 2019
Type:	Presentations

Resolution

For Information Only

Relationship to the Strategic Plan / Health Impact Assessment

This report refers to a priority identified in the 2015-2018 Corporate Strategic plan under Responsive, Fiscally Prudent, Open Governance. More specifically, the report outlines how engaging in programs to avoid costs and obtain rebates at our water & wastewater facilities, while examining what can be done by our staff to identify process efficiencies supports better decision making.

Report Summary

This report outlines the various energy savings initiatives, energy rebates and energy cost avoidance programs Water and Wastewater have undertaken since 2012.

Financial Implications

Energy savings have been reflected in the operating results of the plants. Sustainable savings will be reflected in future budgets.

Signed By

Report Prepared By

Mike Jensen
Director of Water/Wastewater Services
Digitally Signed Feb 14, 19

Division Review

Mike Jensen
Director of Water/Wastewater Services
Digitally Signed Feb 14, 19

Financial Implications

Jim Lister
Manager of Financial Planning and
Budgeting
Digitally Signed Feb 14, 19

Recommended by the Department

Tony Cecutti
General Manager of Growth and
Infrastructure
Digitally Signed Feb 14, 19

Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
Digitally Signed Feb 14, 19

Evaluation of Water/Wastewater Treatment & Energy Savings Data

Summary:

During the past few years Water/Wastewater Treatment & Compliance (WWTC) has taken a number of steps to avoid significant energy costs through participation in conservation initiatives, obtaining funding through available rebate programs and increasing operational efficiency through capital investment in existing assets. This work has resulted in the following accomplishments:

- \$510,600 in electricity cost avoidance at the Sudbury Wastewater Treatment Plant (SWWTP) through participation in the Industrial Conservation Initiative (ICI) since 2016;
- \$466,500 in rebates for the installation of energy efficient equipment and associated engineering studies through the Industrial Accelerator Program (IAP) since 2012;
- \$180,000 in anticipated annual electrical savings resulting from maintenance performed at the Sudbury Wastewater Treatment Plant in 2018.

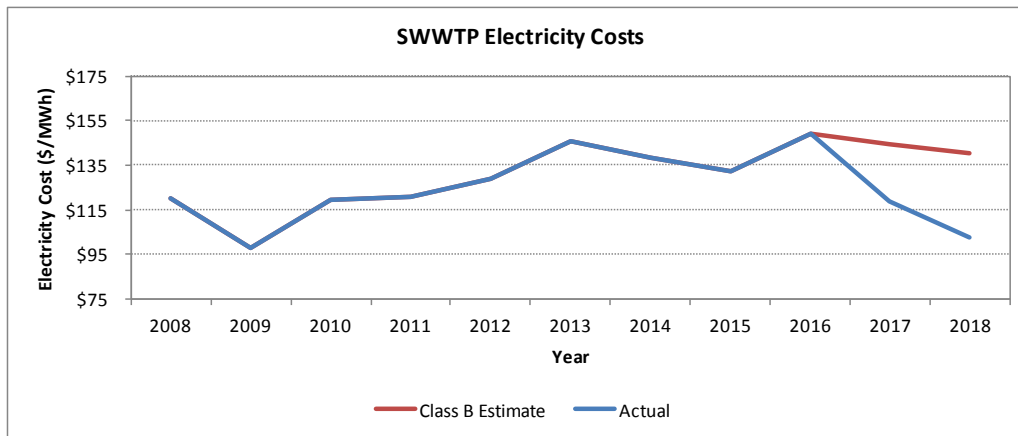
These savings have had a significant impact on the cost of services delivered, and have been achieved while maintaining our high quality treatment and effluent standards.

Cost Avoidance:

Global adjustment (GA) is the portion of total electricity costs that contributes to building new infrastructure, maintaining existing resources and funding conservation and management programs across Ontario. The GA charge for “Class A” industrial facilities, those with a peak demand of 1 Megawatt (MW) or greater, is determined by measuring their percentage contribution to the top five hours of peak electricity demand in Ontario from May 1st to April 30th each year. This value is then used to calculate a billing factor which determines the amount of total GA charges for the province (also known as the “Global Adjustment Pool”) that are allocated to each customer for the following year.

Due to the size of the annual Global Adjustment Pool, these charges can represent a significant portion of total energy billing. Within Water/Wastewater only one facility classifies as a “Class A” customer, the Sudbury Wastewater Plant, where approximately 54% of total billing from 2015-2018 was due to GA. In an effort to mitigate these expenses, the facility participates in the Independent Electricity System Operator of Ontario (IESO) Industrial Conservation Initiative (ICI) Program (also known as “peak power response” or “high five response”). By reducing consumption during the 5 peak demand hours, staff can significantly reduce the GA billing factor for the facility.

The SWWTP was re-classified as a “Class A” customer in July 2017, and started participating in the ICI program at that time. The change in billing structure, and participation in peak power response had an immediate impact, as shown in the following chart:



For the second half of 2017 the total cost of electricity was reduced to \$93/MWh, lowering the average cost paid in 2017 from an estimated \$144/MWh to \$119/MWh. This represented approximately \$211,900 in savings compared to estimated “Class B” pricing for the year. Average costs in 2018 were further reduced from an estimated \$141/MWh to \$102/MWh, representing approximately \$298,700 in cost avoidance.

Estimating the performance of the plant based on the top 5 electrical demand hours currently registered for the period from May 1st 2018 to April 30th 2019 indicates that the SWWTP electrical costs should drop an additional \$91,500 (for the period from May 1st 2019 to April 30th 2020) over the current level of savings achieved in 2018. It is important to note that these actual and estimated savings are somewhat independent of plant flow rates as they are calculated based on the GA factor determined during the 5 peak hours.

The potential also exists to completely eliminate GA costs for the facility with the installation of a new standby generator. The planned capital project for a new generator will allow the SWWTP to completely remove itself from the Ontario power grid during the top five hours of peak electricity demand in Ontario, completely eliminating the GA charge. This would be a total cost savings of \$500,000-600,000/year compared to estimated “Class B” prices.

Equipment Rebates

As part of the planned capital program to upgrade our Water & Wastewater facilities, we are continually identifying opportunities to install energy efficient equipment. When these opportunities represent measurable savings, we are also then able to obtain rebates for engineering studies and equipment procurement through the IESO Industrial Accelerator Program (IAP).

Since 2012, a number of initiatives ranging from engineering studies to capital improvements have been completed at both water and wastewater facilities, resulting in the following rebates:

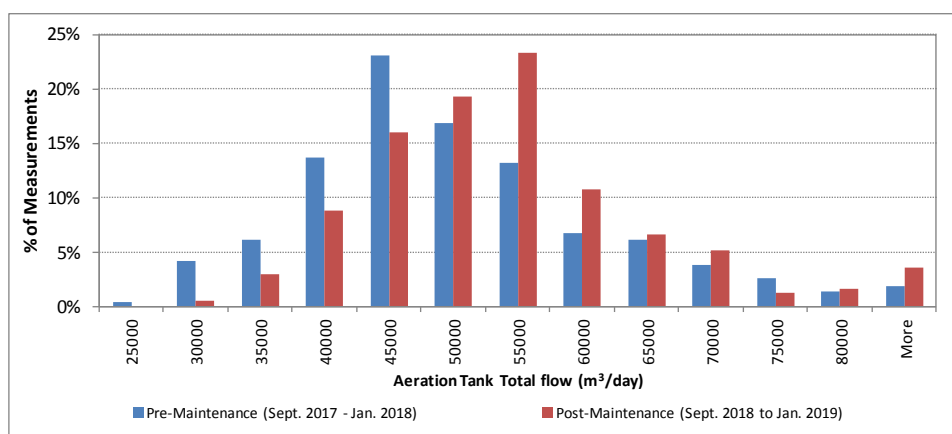
Facility	Rebates Received
Wanapitei Water Treatment Plant	\$ 111,773
David St. Water Treatment Plant	\$ 31,410
Sudbury Wastewater Treatment Plant	\$ 244,000
Azilda Wastewater Treatment Plant	\$ 42,471
Chelmsford Wastewater Treatment Plant	\$ 11,879
Valley East Wastewater Treatment Plant	\$ 10,000
Coniston Wastewater Treatment Plant	\$ 10,000
Levack Wastewater Treatment Plant	\$ 2,780
Dowling Wastewater Treatment Plant	\$ 2,252
Total Rebates Received	\$ 466,565

It is anticipated that as we complete capital assessments and upgrades at our outlying water and wastewater facilities in the coming years we will continue to participate in the IAP to access additional rebates.

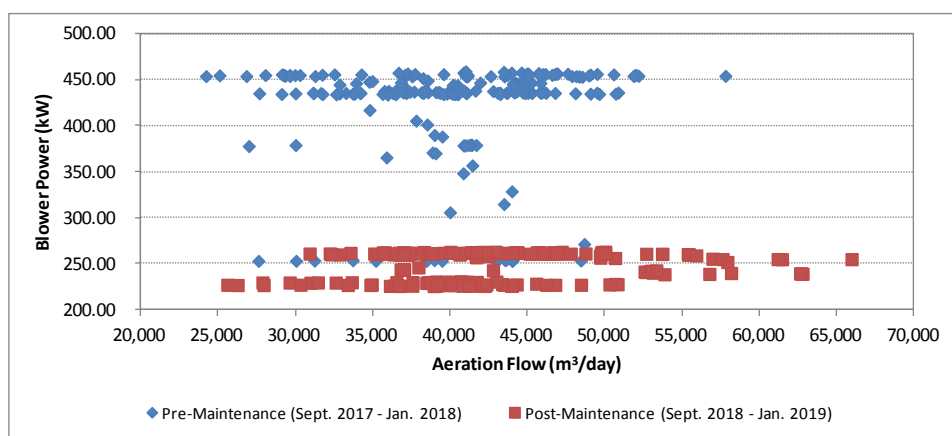
Operational Savings

The complex nature of water and wastewater treatment facilities provides ample opportunities to achieve measurable savings through process optimization. For example, planned maintenance was completed in September 2018 to clean and repair the diffusers in three of the eight aeration tanks at the SWWTP. It was anticipated that by performing this work that the amount of air required to achieve the targeted treatment could be significantly reduced, thereby achieving energy savings.

To assess the improvements made, data from September 15th to January 10th was compared for 2017/2018 and 2018/2019. For the purposes of the analysis it is important to note that although the summer had noticeably less precipitation, the inlet flows to the SWWTP were slightly higher during the fall and winter of 2018/2019 (average 42,667 m³/day) compared to 2017/2018 (average 40,581 m³/day), as shown below:



After repairs to the aeration diffusers were complete, operators were able to maintain average Dissolved Oxygen (DO) levels at approximately 1.0 ppm while using one blower instead of two. This resulted in a step change in energy consumption, which is evident in the total blower power data below:



The cleaning work was completed by an external contractor, with the diffuser maintenance done by WWTC operators. Overall costs for the setup, cleaning and equipment components were approximately \$117,200, and it is estimated that the plant will save approximately \$180,000 in electrical costs over an average year as a result of not having to run the second blower.

Additional cleaning and maintenance is planned for 2019, which will allow for further optimization. It is also expected that with the increased process efficiency the savings will be sustainable regardless of variations in average annual precipitation levels. Future budgets will then be adjusted to reflect actual savings once sufficient data has been collected and verified.

Ongoing and Future Projects

The Growth & Infrastructure department is committed to maintaining the effective operation of water & wastewater facilities while optimizing our processes to benefit water ratepayers within the City of Greater Sudbury. To support this goal, Infrastructure Capital Planning is working with operations staff to upgrade existing facilities, increase operational efficiency and improve safety while meeting regulatory requirements through the following projects:

- Wanapitei WTP – Installation of new energy efficient blower;
- Azilda WWTP – Assessment of completed capital upgrades to aeration system & installation of refurbished aeration blower;
- Chelmsford WWTP – Assessment of completed capital upgrades to aeration system, including the installation of three new energy efficient blowers;
- Valley East WWTP – Planned upgrades to the existing aeration and electrical systems for 2019;
- Coniston WWTP – Capital needs assessment as part of Asset Management Plan for 2019, and;
- Sudbury WWTP – Installation of second energy efficient blower and Standby Generator Project planned for 2019.

For Information Only

Winter Control Operations Update for December 2018

Presented To: Operations Committee

Presented: Monday, Mar 18, 2019

Report Date: Monday, Mar 04, 2019

Type: Correspondence for Information Only

Resolution

For Information Only

Relationship to the Strategic Plan / Health Impact Assessment

This report refers to operational matters.

Report Summary

This report provides the financial results of the 2018 winter roads operations up to and including the month of December 2018. The results for 2018 is an over expenditure of approximately \$2.4 million.

Financial Implications

Winter roads operations for 2018 resulted in an over expenditure of approximately \$2.4 million. As per the Reserve and Reserve Fund policy, any annual over/under expenditures in winter roads operations may be funded/contributed towards the Roads Winter Control Reserve Fund. The Roads Winter Control Reserve Fund has a balance of \$191,355 as of December 31, 2018. This is insufficient to fund the over expenditure. Further details regarding the sources of funding this overexpenditure will be included in the Year-End Operating Budget Variance Report.

Signed By

Report Prepared By

Steve Facey
Senior Budget Analyst
Digitally Signed Mar 4, 19

Health Impact Review

Steve Facey
Senior Budget Analyst
Digitally Signed Mar 4, 19

Division Review

Randy Halverson
Director of Linear Infrastructure Services
Digitally Signed Mar 4, 19

Financial Implications

Jim Lister
Manager of Financial Planning and Budgeting
Digitally Signed Mar 4, 19

Recommended by the Department

Tony Cecutti
General Manager of Growth and Infrastructure
Digitally Signed Mar 4, 19

Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
Digitally Signed Mar 5, 19

Background

This report provides the financial results of the 2018 winter roads operations up to and including the month of December 2018. As depicted in Table 1 below, the results for 2018 is an over expenditure of approximately \$2.4 million.

Table 1				
2018 Winter Summary				
As at December 31, 2018				
	Annual Budget	2018 YTD		
		Budget	Actual	Variance
Administration & Supervision	2,552,012	2,552,012	2,617,708	(65,696)
Sanding/Salting/Plowing	7,041,154	7,041,154	8,908,780	(1,867,626)
Snow Removal	598,464	598,464	339,579	258,885
Sidewalk Maintenance	1,049,084	1,049,084	982,975	66,109
Winter Ditching/Spring Cleanup	1,899,528	1,899,528	2,476,752	(577,224)
Miscellaneous Winter Roads	4,419,310	4,419,310	4,619,080	(199,770)
Totals	17,559,552	17,559,552	19,944,874	(2,385,322)

2018 Winter Control Activities

As shown in Table 2 below, the City received approximately 342 centimeters or 133% of the average annual snowfall. From January to April the City received approximately 208 centimeters or 127% of the average snowfall. November and December reflected 234% and 100% of the average snowfall, respectively.

The above average snowfall and freezing rain contributed to an over expenditure of approximately \$2.4 million in winter control activities. Significant over expenditures occurred in sanding/salting/plowing (\$1.87 million) with numerous freezing rain events during the year requiring an increased use of sand/salt. These expenditures were partially offset by savings in snow removal activities.

Table 2							
2018 Snowfall and Rainfall							
	Jan.	Feb.	Mar.	Apr.	Nov.	Dec.	Total
Normal 30 Year Avg. (cm)	60	52	35	17	30	63	257
2018 Actual Snow (cm)	78	33	19	78	70	63	342
% of Actual to Normal	131%	63%	54%	459%	234%	100%	133%

Miscellaneous Winter Roads

The annual budget for the miscellaneous winter roads cost centre totals approximately \$4.4 million, and the major expenses in this cost centre are outlined in Table 3 below.

Table 3	
2018 Miscellaneous Winter Roads	
Expense Type	Annual Budget (millions \$)
Employee Benefits	\$ 1.4
Asphalt Patching	\$ 0.9
Internal Recoveries (HR, Finance, IT)	\$ 0.7
Standby (Contracted Service)	\$ 0.7
Health & Safety	\$ 0.2
Other (Road Patrol, Emergency Response, Tool Repair, Property Restoration, etc.)	\$ 0.5
Total	\$ 4.4

Summary

In summary, winter roads operations for 2018 resulted in an over expenditure of approximately \$2.4 million. As per the Reserve and Reserve Fund policy, any annual over/under expenditures in winter roads operations may be funded/contributed towards the Roads Winter Control Reserve Fund. The Roads Winter Control Reserve Fund has a balance of \$191,355 as of December 31, 2018. This is insufficient to fund the over expenditure. Further details regarding the sources of funding this overexpenditure will be included in the Year-End Operating Budget Variance Report.