

Minutes - Standing Policy Committee on Finance - February 12, 2015

REPORTS

**Item No. 2 North End Sewage Treatment Plant (NEWPCC) Biological Nutrient
Removal Upgrade Financial Status Report No. 2 for the Period from
October 1, 2014 to December 31, 2014**

STANDING COMMITTEE DECISION:

The Standing Policy Committee on Finance recommended:

1. That the fourth bullet of the first paragraph on page six of the Winnipeg Public Service report be amended to read as follows: “195 million committed by the Province of Manitoba in its 2007 Throne Speech.”
2. That the amended report be received as information.

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DECISION MAKING HISTORY:

Moved by Councillor Pagtakhan,

That the amended report of the Winnipeg Public Service be received as information.

Carried

ADMINISTRATIVE REPORT– FOR DISCUSSION

Title: NORTH END SEWAGE TREATMENT PLANT (NEWPCC)
BIOLOGICAL NUTRIENT REMOVAL UPGRADE FINANCIAL
STATUS REPORT NO. 2 FOR THE PERIOD FROM OCTOBER 1,
2014 TO DECEMBER 31, 2014

Critical Path: STANDING POLICY COMMITTEE ON FINANCE

AUTHORIZATION

Author	Department Head	CFO	CAO
G. K. Patton, P. Eng. Manager of Engineering Services	D. P. Sacher, P. Eng. Director, Water and Waste Department	M. Ruta	M. Jack A/CAO

RECOMMENDATIONS

That this report be received as information.

REASON FOR THE REPORT

At its meeting held on December 16, 1999, City Council adopted a policy whereby all capital projects with a total estimated cost of \$10 Million or more be submitted by the associated Civic Department to the Standing Committee on Fiscal Issues (now the Standing Policy Committee on Finance) for review and recommendation prior to any bid solicitation being issued.

Administrative Directive No. FM-004 requires quarterly reporting to the Standing Committee on Fiscal Issues (now the Standing Policy Committee on Finance).

IMPLICATIONS OF THE RECOMMENDATIONS

- A project design build procurement methodology for the NEWPCC Upgrade has been approved by the Major Capital Project Steering Committee. Funds will be adjusted to reflect project consolidation in the proposed 2015 capital budget submission. This will allow for the consideration of a design build project award and the costs associated with a design-build delivery method.
- The NEWPCC Upgrade will include a digestion facility, therefore integration of a portion of the Biosolids – Alternative Disposal Delivery and Management System budget into the NEWPCC - Nutrient removal/Upgrade is being considered.

- There are tight project constraints associated with the installation/removal of high voltage lines into the plant that can only be carried out by Manitoba Hydro in the fall or spring due to high power demands in the summer and winter.

HISTORY

In 2003 Clean Environment Commission Hearings on the City's wastewater collection and treatment systems, Manitoba Conservation and Water Stewardship (the Regulator) notified the City that it intended to issue a licence for the North End Sewage Treatment Plant (NEWPCC) that would require control of nutrients discharged to the Red River.

Between 2004 and 2014, Council has approved \$43,214,000.00 for the Nutrient Removal/upgrade at the NEWPCC.

On May 6, 2009 the Environment Act Licence (EAL) No. 2684 RRR was issued for the NEWPCC.

On June 16, 2011, the Save Lake Winnipeg Act amending sections of the Water Protection Act (Act) came into effect. Section 4.2(3) of the amended Act requires the City to submit a plan that details how the City will comply with subsections 4.2(1) and (2).

The NEWPCC Upgrading Plan was submitted to the Regulator in compliance with Section 4.2(3) of the amended Water Protection Act on June 15, 2012. The Regulator approved the Upgrading Plan on October 2, 2012. The Department submitted the NEWPCC Master Plan and the revised NEWPCC Master Plan on September 27, 2013 and April 28, 2014 respectively. The Master Plan was approved by the Regulator on May 29, 2014.

DISCUSSION:

1. MAJOR CAPITAL PROJECT STEERING COMMITTEE

Administrative policy for projects with capital cost exceeding \$10 million requires formation of Major Capital Project Steering Committee. The Committee has been formed and its members are:

Michael Jack, Acting Chief Administrative Officer
Michael Ruta, Chief Financial Officer
Diane Sacher, Director of Water and Waste
Moirra Geer, Manager of Finance and Administration, Water and Waste
Jackie Veilleux, Project Director, Winnipeg Sewage Treatment Program, Water and Waste

The Committee has reviewed this report and recommended that the report be sent to the Standing Policy Committee on Finance.

2. DESCRIPTION OF PROJECT

The Project objective is to upgrade the NEWPCC to meet anticipated Licence limits while accommodating year 2037 forecasted influent flows and loads. The Regulator advised that the current Licence will be amended after the NEWPCC Master Plan and the Biosolids Master Plan

have been approved. An updated Environment Act licence for NEWPCC is anticipated in 2015. The Project design will also consider future regulatory trends and long term planning to year 2067 to facilitate effective process or facility modifications should they be required.

During performance of the Project works including construction, impact to the current facility treatment capability will be minimized to the greatest extent possible. The expanded and upgraded facility is to have an economical whole life cost and be an efficient and safe workplace for operational personnel.

The digestion facility at the NEWPCC is proposed to be upgraded as part of the NEWPCC Upgrade Project to reduce the risks associated with the phasing of the tie-ins and process commissioning, to improve the biosolids implementation schedule and to facilitate a more optimized plant layout.

3. RISKS AND RISK MITIGATION STRATEGIES

An ongoing risk management strategy has been implemented for the NEWPCC Power Supply Project. It includes a proactive process of identifying, performing qualitative and quantitative risk analyses, response plan strategies and risk control.

Formal risk and opportunity analyses of the project are scheduled to be performed by the Winnipeg Sewage Treatment Program (WSTP), the design consultant and key City stakeholders during conceptual and preliminary design. Since detailed design and construction will be carried out through a design build contract; the WSTP will be transferring as much risk as possible to the design builder through the design build contract.

A project risk register will be kept throughout the project and will be updated by formal analyses. The project will also incorporate structured Hazard and Operability Analysis and Construction Hazard Assessment Implication Review.

4. CURRENT PROJECT STATUS

The WSTP has developed design flows and loads for the NEWPCC and has selected the Biological nutrient removal (BNR) with integrated fixed film activated sludge (IFAS) as the principal treatment process to be employed.

The NEWPCC Master Plan was submitted to the Regulator and was approved in May, 2014. The WSTP is in the process of finalizing the NEWPCC Facility Plan.

NEWPCC Power Supply Upgrade:

A new power sub-station is required at the NEWPCC due to the additional power demand of the upgrades at the facility. The power supply upgrade is being delivered as a separate project. The objective is to upgrade the NEWPCC Power Supply before the future NEWPCC BNR Upgrades.

The delivery method for NEWPCC Power Supply Project is a design build (DB). The main reason for selecting DB procurement model over the traditional Design bid build (DBB) for the NEWPCC Power Supply Project is to reduce the construction time frame.

A Request for Proposal (RFP) for Professional Engineering Consulting Services for the NEWPCC Power Supply Project was awarded to KGS Group Consulting Engineers on November 7, 2014.

The Department is working on engaging the services of a fairness advisor to monitor the NEWPCC Power Supply Upgrade design build procurement process.

NEWPCC Upgrade:

The Major Capital Project Steering Committee approved the recommendation of the WSTP to procure the NEWPCC Upgrade as a fixed fee DB with the exception of the rehabilitation works which will be procured as DBB. The main reasons for selecting DB to procure the NEWPCC Upgrade is for risk transfer and schedule optimization.

The Department will engage the services of a professional consulting firm to act as both the owner's advocate for the DB and the consultant for the DBB. The Department is currently developing the consultant RFP.

5. ISSUES/RISKS REQUIRING FURTHER ATTENTION

Cost risk

The project preliminary budget is based on a Class 5 cost estimate with an expected accuracy range of between -50% and + 100%. It is anticipated that the cost estimate will be refined based on cost estimates from design consultants for the NEWPCC Power Supply and the NEWPCC upgrade projects.

Based on the current Class 5 cost estimate, project costs are now anticipated to be \$569.37 Million instead of \$547.45 Million, as included in previous approved Capital Budgets and the 2014 Five-Year Capital Forecast (2015 to 2019). The reasons for this revised estimate are as follows:

- increase in the Manitoba Retail Sales Tax (MRST) rate from 7% to 8%
- Manitoba Retail Sales Tax Act clarifications affecting Engineering Design Services
- cost estimates associated with energy service agreement with Manitoba Hydro
- design build costs (such as honorarium, fairness advisor services).

The design consultants will be directed to provide cost estimates for the projects at the completion of the conceptual design and preliminary design phase. These estimates will be used as a basis for future budget assessments.

It is AACE International accepted practice that cost estimates are adjusted as design progresses.

Schedule

The Regulator approved the NEWPCC Master Plan on the condition that the City must complete the work as described in the plan on or before December 31, 2019.

Project schedules for the NEWPCC Power Supply and BNR upgrades will be included in future reports when design commences.

Sewage Treatment Program Funding

The Province of Manitoba has committed \$234.8 million towards the sewage treatment plant upgrades:

- \$25 million is committed from the Canada Strategic Infrastructure Fund program
- \$11 million is committed from the Green Infrastructure Fund program
- \$3.8 million is committed from the 2004 Urban Capital Projects Allocation
- \$198.8 million committed by the Province of Manitoba in its 2007 Throne Speech.

Of the total \$234.8 million committed to sewage treatment plant upgrades, the City projects provincial funding of \$195 million towards the north end sewage treatment plant upgrade.

There are no federal funds committed for this project.

Funding for the NEWPCC and the WSTP is outlined in Appendix 1.

6. WINNIPEG SEWAGE TREATMENT PROGRAM (WSTP)

Under the WSTP, Veolia is to provide advice to the City of Winnipeg in the design and construction of the sewage treatment upgrades and for operation and maintenance of the sewage treatment plants for the duration of the 30 year agreement. As indicated in the 2013 WSTP Annual Report (tabled at City Council on June 23, 2014), Veolia is delivering value to the City of Winnipeg. In this project, the City of Winnipeg is benefitting from:

- Savings from reduced rates in consulting services.
- Provision of expert advice on NEWPCC Power supply upgrade and procurement strategy of the future NEWPCC upgrade.
- Sharing in the risks of the capital project delivery.

7. FINANCIAL ANALYSIS

The status of current Requests for Proposal and Bid Opportunities are as follows:

RFP or Bid Opportunity	Description	Current Status	Contract Value (GST & MRST extra as applicable)
40-2014	Request for Proposal for professional engineering consulting services for the NEWPCC Power Supply Upgrade	Contract awarded	\$1,180,110.00

8. PROJECT FUNDING

The approved capital and current projected budget are as follows:

YEAR	CAPITAL PROGRAM	ACTUAL + PROJECTED CASH FLOWS	CUMULATIVE CAPITAL BUDGET REMAINING
Up to 2014	43,214,000 ¹	2,416,000	40,798,000
2015	100,000,000 ²	3,605,000	137,193,000
2016	130,000,000 ²	25,442,000	241,751,000
2017	130,000,000 ²	31,063,000	340,688,000
2018	106,236,000 ²	18,870,000	428,054,000
2019	38,000,000 ²	143,792,000	322,262,000
Beyond 2019		322,262,000	0
Total	547,450,000³	547,450,000	

¹Capital budget approved by Council

²Capital Program requirements included in the 2014 - 2019 Capital Budget Estimates

³Does not include the 2015 budget submission

A summary of the budget to forecast comparison is included in Appendix 2.

Project funding sources are as follows:

This project will receive \$195 Million in Provincial funding. The balance of \$352.45 Million will be funded using a combination of cash, Environmental Projects reserve and debt funding. Each of these sources is internally funded by rates as forecast in the Council approved rate report. The increase in project costs will be debt funded.

FINANCIAL IMPACT

Financial Impact Statement

Date: **January 26, 2015**

Project Name:

**NORTH END SEWAGE TREATMENT PLANT (NEWPCC) BIOLOGICAL NUTRIENT
REMOVAL UPGRADE FINANCIAL STATUS REPORT NO. 2 FOR THE PERIOD
FROM OCTOBER 1, 2014 TO DECEMBER 31, 2014**

COMMENTS:

As this report is submitted for informational purposes only, there is no financial impact associated with this recommendation.

"Original signed by M.L. Geer, CA"

Moira L. Geer, C. A.

Manager of Finance and Administration

CONSULTATION

In preparing this report there was consultation with: N/A

SUBMITTED BY

Water and Waste Department
Engineering Services Division
Prepared by: R.Y. Adedapo, P. Eng.
Date: January 26, 2015
File No.: S-972

Funding: North End Sewage Treatment Plant (NEWPCC) and Winnipeg Sewage Treatment Program (WSTP)
Appendix 1

1) Funding for the NEWPCC is as follows:

NEWPCC Nutrient Removal/Upgrade (in \$millions)	Total Cost	Funded to Date		Funding Pending		Total Funding		City Share of Costs
		Canada	Manitoba	Canada	Manitoba	Canada	Manitoba	
Provincial Funding								
Environment Act Licence Driven	\$ 466.00		\$ 20.34		\$ 174.66	\$ -	\$ 195.00	\$ 271.00
Other	81.45							81.45
Estimated Program Costs	\$ 547.45	\$ -	\$ 20.34	\$ -	\$ 174.66	\$ -	\$ 195.00	\$ 352.45

2) Funding for the Winnipeg Sewage Treatment Programs is as follows:

WSTP All Projects (in \$millions)	Total Cost	Funded to Date		Funding Pending		Total Funding		City Share of Costs
		Canada	Manitoba	Canada	Manitoba	Canada	Manitoba	
NEWPCC Biological Nutrient Removal	\$ 33.00	\$ 5.07	\$ 8.19			\$ 5.07	\$ 8.19	\$ 19.74
NEWPCC Centrate and UV Disinfection	52.00	5.59	14.54			5.59	14.54	\$ 31.87
SEWPCC Nutrient Removal/Expansion	273.00	0.29	6.07	42.05	11.00	42.34	17.07	213.59
NEWPCC Nutrient Removal/Upgrade	547.45		20.34		174.66	-	195.00	352.45
Estimated Program Costs	\$ 905.45	\$ 10.95	\$ 49.14	\$ 42.05	\$ 185.66	\$ 53.00	\$ 234.80	\$ 617.65

Notes:

- WEWPCC Biological Nutrient Removal and NEWPCC Centrate and UV Disinfection have been completed.

**NEWPCC BNR UPGRADE
WATER AND WASTE DEPARTMENT - ENGINEERING DIVISION
APPENDIX 2
As at December 18, 2014**

Components	Approved Budgeted To Date ¹	Costs Incurred up to last report	COSTS		2014	PROJECTED COSTS TO COMPLETE			Total Costs Remaining to Complete	TOTAL Total Project Cost	VARIANCE Variance from Budget (Unfavorable)
			Costs submitted this report	Total Costs Incurred to Date (per G/L) 09-Dec-14		2015	2016	2017			
A PROFESSIONAL² SERVICES	54,715,000	2,088,000	60,000	2,148,000	166,000	3,605,000	15,442,000	15,663,000	17,691,000	54,715,000	0
B CONSTRUCTION	492,735,000	102,000	0	102,000	0	0	10,000,000	15,400,000	467,233,000	492,735,000	0
TOTALS	547,450,000	2,190,000	60,000	2,250,000	166,000	3,605,000	25,442,000	31,063,000	484,924,000	547,450,000	0

1 Total budget of \$547.45 Million for the NEWPCC Upgrading Project and Distribution of costs to Components A) and B) was done by the Water and Waste Department. These are estimates and will be revised as the project progresses.

2 Professional Services include Professional Engineering Services, other expert design and cost review, overhead and administration charges