Minute No. 473
Report – Standing Policy Committee on Infrastructure Renewal and Public Works – June 18, 2013

Item No. 2 **2012 Annual Report - Winnipeg Sewage Treatment Program Agreement between the City of Winnipeg and Veolia (VWNA Winnipeg Inc.)**

COUNCIL DECISION:

Council concurred in the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works and adopted the following:

1. That the report be received as information.

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – June 18, 2013

DECISION MAKING HISTORY:

Moved by Councillor Vandal,

That the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works be adopted by consent.

Carried

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On June 19, 2013, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On June 18, 2013, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

ADMINISTRATIVE REPORT

Title: **WINNIPEG SEWAGE TREATMENT PROGRAM 2012 ANNUAL REPORT PROGRAM AGREEMENT BETWEEN THE CITY OF WINNIPEG AND VEOLIA (VWNA WINNIPEG INC.)**

Critical Path: **Standing Policy Committee on Infrastructure Renewal and Public Works - Executive Policy Committee - Council**

AUTHORIZATION

Author	Department Head	CFO	CAO
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RECOMMENDATIONS

That Council receive this report as information.

REASON FOR THE REPORT

A thirty-year consultant services agreement with Veolia was executed on April 20, 2011. This agreement requires the City to report on results of the program to City Council on an annual basis.

IMPLICATIONS OF THE RECOMMENDATIONS

This Annual Report to Council summarizes the accomplishments and financial results that were realized in 2012, the second year of the thirty year program, as well as the plans and objectives that have been set for 2013.

Veolia continues to deliver value to the City of Winnipeg and the 2012 was another successful year for the program. This report summarizes the:

- 2012 accomplishments
  - Progress on capital program
  - Achievement of 2012 deliverables reported to Council
  - Achievement of 2012 key performance indicators reported to Council
  - Savings of approximately $800 thousand ($500 thousand in consulting fees and $300 thousand in operating savings) that accrued to the City of Winnipeg
- 2013 key deliverables and performance targets
- 2012 financial results

In 2011, the inaugural year for the Program, the focus was to set up a foundation of policies and procedures that would facilitate day to day activities, communication, and reporting relationships. There was also a need to define an end-to-end process to deliver capital projects, develop a detailed user manual and establish management information systems and procedures that would carefully measure program results and manage program risks.
In 2012 the WSTP focused on advancing the large capital projects and identifying and implementing operational improvements.

The 2012 accomplishments and 2013 objectives are described in further detail in this report.

HISTORY

On April 20, 2011, the City entered into a consulting services agreement with Veolia. The scope of the agreement includes advice on operations and capital upgrades at the City's three sewage treatment plants for the 30 year duration of the agreement.

The City retains full ownership and control of the sewage treatment plant system and the City-Veolia contractual relationship abides by the following program principles:

- City employees are managing and operating the facilities
- Decisions are being made on the basis of whole-life costs
- Best for job and best for program decisions are being made
- Full open book accounting and audit of direct costs is occurring
- The City and Veolia work collaboratively, openly and honestly within a no fault/no blame culture
- Compensation is based upon performance

The contract has been implemented by key participants from the Department's Engineering, Wastewater Services and Finance Divisions, who along with dedicated on-site Veolia staff members, form the Winnipeg Sewage Treatment Program (WSTP).

The WSTP day-to-day operations are governed by the Management Team (MT). The MT provides advice and recommendations on the WSTP activities to the Director and on the administration of the WSTP to the Leadership Team (LT).

The LT meets monthly and is comprised of senior leaders from Veolia North America as well as Divisional Managers from the Water and Waste Department. The LT makes recommendations to the Director of the Water and Waste Department on matters including WSTP activities, objectives, budgets and compliance with licences. However, it is the Director who has the ultimate authority to approve all decisions related to the WSTP.

(See Appendix A for the current composition of the MT and LT)

PROGRAM ACCOMPLISHMENTS – 2012

Sewage Treatment Plant Capital Upgrades

Capital Program Delivery

South End Sewage Treatment Plant (SEWPCC) Upgrade

The IFAS technology (Integrated Fixed-film Activated Sludge) has been identified as the optimal treatment process to be integrated into the design of the upgrades planned for SEWPCC. Additionally in 2012 the procurement strategy was selected and the project definition for the upgrade was completed including:

- Hauled Liquid Waste Strategy
- Regulatory Framework
- Validation of Design Flows and Loads
- Biosolids Handling Treatment
- Operational Philosophy
- Conceptual Development
- Civil Asset Condition Assessment
- Risk Analysis and Mitigation Strategies

October, 2012, saw the release of the first significant RFP for work on this project. The scope of the RFP included detailed engineering design and contract administration services. The evaluation of the bids is complete and the contract for detailed design and contract administration services has been awarded.

North End Sewage Treatment Plant Upgrade

The process selection for the NEWPCC has been finalized. The IFAS technology has also been selected for the plant's upgrades and having consistent technology between the NEWPCC and SEWPCC facilities is one of the many benefits of this decision. Progress on the master plan for the NEWPCC also continues and will be completed in 2013.

Key Deliverables

	2012 Program Deliverables Reported to City Council	Status
1	Bio-solid recommendation report by MT	✓
2	Automation Master Planning issued by the MT	✓

	2012 Program Deliverables Reported to City Council	Status
3	NEWPCC Process selection report and Plan for Bill 46	✓
4	Produce Operational Improvement Report	✓
5	Implementation of Safe work method Practices	✓
6	SEWPCC Target Cost (TC%)	✓
7	SEWPCC Preliminary Design	n/a*
8	SEWPCC Target Cost (TC)	n/a*

✓ Completed
*n/a –These activities are directly related to the SEWPCC detailed engineering services which were awarded in April 2013.

1. Bio-solids Handling Recommendation

The treatment of bio-solids is a significant component of the overall sewage treatment plant upgrade program and the WSTP has developed a strategy and a plan forward.

The MT issued a report recommending future treatment of the bio-solids (sludge by-product of the sewage treatment process) that will comply with the future Environment Act license to be issued by the Province of Manitoba.

The report identifies options for treatment and reuse/disposal of biosolids from the three sewage treatment plants. Composting, which is one potential reuse solution for sludge handling, is being piloted at the Brady Road Landfill.

Research has been undertaken to determine the marketability of four different biosolid products in Manitoba. This work is scheduled for completion in 2013 and will form the foundation of the Biosolids Master Plan.

2. Automation Master Planning

The MT completed the automation master plan that now establishes the vision for all the sewage treatment plants with respect to the plant SCADA (Supervisory Control and Data Acquisition) and instrumentation. These are the program logic, computerized systems that operate, monitor and control the various processes within the sewage treatment plants and are necessary for safe and reliable operations. This automation master plan is an industry best practice, allows standardization across all three plants and is a critical input to the design and functional requirements for the sewage treatment plant upgrades.

3. NEWPCC Process selection report and Plan for Bill 46

In accordance with the requirements of Bill 46, *The Save Lake Winnipeg Act*, the team produced a conceptual design report and submitted same to the Minister of Conservation and Water Stewardship. The Act prescribed that the North End Sewage Treatment plant nutrient removal process limit use of chemical. The process that has been selected by the WSTP is for biological nutrient removal which is a requirement of this Act. The process selection and conceptual design report involved a comprehensive review of available biological treatment technologies by City staff and Veolia experts.

4. Produce Operational Improvement Report

The MT held an operational improvement opportunity workshop in 2012. Building on a baseline operations assessment, a full plant asset condition assessment and an assessment of operating risks, the MT examined how to improve operations in terms of service reliability and cost. The MT completed an operational improvement register for each of the three sewage treatment plants that identified priorities for implementation. Veolia's operational expertise was instrumental in identifying opportunities and each will be accompanied by a complete business case analysis prior to implementation. In addition a business process was created within the IMS to facilitate the tracking, governance and implementation of operational improvements.

5. Implementation of Safe Work Practices

The Program Operational Safety Management Plan was created which was structured to help the City of Winnipeg achieve its safety and health objectives. The plan was created by looking at the City's and Veolia's existing safety programs and taking the best parts of each and combining them into a specific safety plan for the Program. Goals were identified and prioritized, and assigned to various individuals or teams to carry out. Progress will be reviewed in 2013 and additional or new goals will be developed.

6. SEWPCC Target Cost (TC%)

The SEWPCC target cost percentage was defined. A key principle in the agreement, this definition involved engineering, operations and finance experts and is a significant metric for measuring Veolia's performance and compensation related to the preliminary detailed design on the capital upgrades.

7. and 8. SEWPCC Preliminary Design and SEWPCC Target Cost (TC)

The SEWPCC preliminary design and target cost was not completed in 2012 as they are directly related to the SEWPCC detailed engineering services which were awarded in April 2013. There was a delay in the award as a result of the enhanced due diligence undertaken by the program – significant effort in preparation of the Request for Proposals to ensure a clear scope of assignment, and a comprehensive review of submissions to ensure value for money .

Key Performance Indicators

1. **Implementation of operations cost model and establishment of baseline operations target cost**

   The setting of target costs is an important concept outlined in the Agreement necessary for the purposes of evaluating whether the Program team has generated savings on either operations or a particular capital project. As part of the compensation model, Veolia shares in both savings (gains) and in cost overruns (pain) that are realized in both operations and capital projects.

   In spring of 2012, the target cost for operations was completed. This was a significant effort involving Veolia resources, management team members and sewage treatment plant operations and maintenance staff. The target cost is built from various components including a detailed maintenance model that has been established for each plant and a cost model that addresses major cost drivers like chemicals, electricity, sludge hauling, etc. Each cost driver was analyzed in great detail, often down to the specific asset level, which combined with industry norms, manufacturer specs and historical data on actual performance, consumption and cost, were all factored in to establish a reasonable baseline. Every year end, a variety of inputs such as actual influent flows, loads, and chemical prices will be entered into the model to establish what the BOTC for that particular year is. The 2012 year end was the first year this model was used and operational pain/gain as a compensation component was levied. The baseline target cost was created from these models.

   The financial results and operations gain on operations are discussed later in the report.

2. **Implementation of Integrated Management System for the program**

   The IMS is the structure that documents policy framework, process maps, detailed procedures, tools/templates and progress in each major program area. It is structured along the major program activities of capital planning, design and implementation; governance, structure and program management; and operations and maintenance. In 2012 the IMS was completed and rolled out to the project engineers in the Department's engineering division.

3. **Development and implementation of Document Management System (DMS) for the program**

   The program has been working with the City information technology experts to clearly define the business requirements for the document management systems.

   The DMS is the tool that will allow collaboration across the large program team as well as contractors and global Veolia resources that will participate in program delivery. The DMS will allow efficient control of a multitude of electronic documents that will be generated over the course of multiple projects during the program. The system will have tracking features and allow automation of workflow for review and approvals and document all decisions made by the City with respect to the program.

A technical solution has been designed and is ready for development. The unavailability of local technical resources delayed implementation of this system. The WSTP has now accessed international resources to implement in 2013.

4. Establishment of a risk management plan and controls

The team undertook a comprehensive review of risks in operations, capital and overall program management – the framework and objectives were defined in the first year and risk registers were implemented in 2012. Risk management is integral to program control.

Operational risks were identified at a workshop involving supervisors and maintenance staff from all 3 sewage treatment plants. Risk registers and performance dashboards were developed for six capital projects in 2012 which are in various phases of delivery from planning to contract award. This risk dashboard serves as a tool to monitor and mitigate risks.

5. Development of general design criteria for all sewage treatment plant capital projects

The MT developed minimum requirements and standards for consultant services management. This document will be used as an attachment to all RFPs for each new capital project, and subsequently during the execution of the consulting services. It highlights the minimum requirements requested by the City from the awarded consultant during the preparation and execution of the contract. The team expects, with the use of this document, to improve the quality of the controls in place during the execution of the services and place more accountability on hired services. Subsequently, it will also improve control of delivery of construction contracts by having a more clearly defined scope and schedule.

The team also developed a contract administration manual defines the City's processes and minimum standards for contract administration. This will also be attached to all RFPs when the consultant will be performing contract administration services on behalf of the City. A more formal process will result in better control over delivery of these services.

6. Process Management Control Plans (PCMP) at the three sewage treatment plants

Out of the lessons learned from the process upset at the SEWPCC in the fall of 2011, the decision was made to implement PCMPs at all three treatment plants. The PCMP consists of two main documents. The first document describes the overall process control management approach, assigns process control responsibilities, explains how communications and reporting will be achieved and describes the approach and use of the unit process control strategies. The second document provides the unit process control strategies for each facility.

Fifteen unit process control strategies have been created in 2012 covering all the unit process at the SEWPCC and WEWPCC and one unit process at the NEWPCC. The remaining seven unit process strategies will be created in 2013.

Included with these plans was implementation of structured weekly process review and planning meetings at the SEWPCC which laid a foundation for full implementation of the approach in 2013.

Informal exception reporting has been established at all three treatment plants to improve communication on operational issues as they develop.
Because of the PCMP implementation, staff were able to ensure that the SEWPCC continued to meet regulatory licence requirements by taking timely, appropriate action when several process parameters began to trend outside of normal operating ranges in the fall of 2012 staff.

2013 ANNUAL PLAN AND KPI'S

KEY PROGRAM DELIVERABLES

Operations

PCMP	• Complete the remaining 7 unit process strategies • Create an implementation plan for the PCMP at the three facilities and implement the plan including training for staff on the use of the PCMP, the development of formal process monitoring strategies and full use of weekly process meetings and reporting tools • Create a business case for systemizing implementation of the PCMP
Operation improvements	• Issue a series of business cases for non-financial operational improvements
Maintenance Facility Schedule	• Produce a maintenance plan and detailed schedule for the facilities • Prepare information to support the Replacement and Refurbishment Management Plan.
Consumables	• Develop and implement a process to track operational parameters throughout the year: NEWPCC chemical usage; electricity usage at the three facilities; natural gas usage at the three facilities; Sludge thickness at the SEWPCC and WEWPCC; Biosolids cake dryness at the NEWPCC
Procurement optimization	• Develop plans for finding savings through procurement in the areas of: -Liquid sludge hauling; -Polymer; -UV lamps and maintenance materials
Wastewater Services organization	• Plan to ensure adequate resources are in place to support Program initiatives
Plant compliance improvement	• Perform root cause analysis of plant exceedances (within the license parameters) and develop a plan to reduce/eliminate these events at all the sewage treatment plants.

Capital Planning and Project Delivery

Biosolids and Nutrient Master Plan	• Develop conceptual design for NEWPCC and SEWPCC • Continue to work on conceptual strategy for the treatment and reuse of biosolids that maximizes nutrient utilization and sustainable reuse of the biosolids products
NEWPCC Master Plan	• Establish a long-term vision and plan for the facility development • Comply with the regulatory requirement of providing a plan to the Province before October 2, 2013
Asset Replacement and Refurbishment plan	• Produce a plan for the NEWPCC and WEWPCC on the next 1 to 7 years • Prioritize improvements to be undertaken based on the risk assignment scores for the NEWPCC, SEWPCC and WEWPCC to ensure the sustainable and safe operation of the facilities
Capital Project Delivery	• Project definition for SEWPCC • NEWPCC o Repair and rehabilitation of digester 11 and holding tanks 5&7 o Refurbishment of secondary clarifiers • WEWPCC o Replacement of raw sewage pump P3 o Installation of a new maintenance shop crane • SEWPCC o Electrical classification upgrades o Ventilations upgrades o Delivery Strategy for the sludge package • All Plants o Stabilization of the existing DCS HMI System and process control environment

Completion and implementation of consultant administration manual, operations technical standards, mechanical and civil standards, security guidelines and capital project safety plans	• Clearly define the City's expectation of a Consultant hired to perform services and aid city staff in contract administration • Ensure consistency among projects and plants

KEY PERFORMANCE INDICATORS

The KPI's that have been set for 2013 reflect the WSTP priorities and schedule and are as follows:

Program administration	• Develop an internal communication strategy • Develop a standards control process for the Program • Develop an orientation document for engineering staff involved in the Program
Operations	• Continued development and implementation of operation improvements • Continued implementation of identified safety initiatives • Complete PCMP implementation plan and achieving schedule • Develop a plan for automated operational process data management.
Capital	• Develop capital project reporting standards • Develop a staff training program on project management scheduling best practises • Develop a capital management plan for the NEWPCC and the WEWPCC by specific date.

FINANCIAL RESULTS

Veolia earns the majority of its compensation in three ways – margins applied to direct costs, gain sharing on operations and capital target costs and meeting key performance indicators. The earnings of Veolia in any given year are credited to the Earnings At Risk Account (EARA). The EARA is then compared to the At Risk Amount (ARA) to determine if Veolia is entitled to withdraw any of those earnings. Veolia also earns an interest rate on the funds being held that are not eligible for withdrawal.

2012 marked the first year that gain sharing on operations and compensation from key performance indicators were applicable.

The financial results for 2012 are summarized in the following table:

Financial Summary as at December 31, 2012	
Reimbursement of Veolia Direct Costs	$3.5 Million
Earnings at Risk	$1.8 Million
At Risk Amount	$55 Million
Security posted by Veolia	$50 Million

The Earnings at Risk balance is comprised of the following components:

Balance, beginning of year		$ 384,119
Compensation earned in 2012		
Margin	$348,200	
Share of gain on operations	$310,607	
Key Performance Indicators	$784,467	
Interest on funds held	$ 14,064	$1,457.339
Balance, end of year		$1,841,458

As at December 31, 2012, the EARA balance was $1.8 million and the ARA balance was $55 million. As such, Veolia is again not eligible to draw any compensation out of the EARA account.

As required by the agreement, Veolia has posted $50 million security ($25 million letter of credit and $25 million performance bond). There is also a Parental Guarantee in place to protect the City.

In 2013, in accordance with Council policy, a Major Capital Steering Committee will be established for applicable sewage treatment plant upgrades and reports will be tabled at Standing Policy Committee on Finance.

FINANCIAL IMPACT

Financial Impact Statement

Date: May 28, 2013

Project Name:

WINNIPEG SEWAGE TREATMENT PROGRAM 2012 ANNUAL REPORT - PROGRAM AGREEMENT BETWEEN THE CITY OF WINNIPEG AND VEOLIA

COMMENTS:

There is no financial impact associated with the recommendation of this report. Financial implications are discussed in the Financial Results section of the report.

(Original Signed by)
Moira L. Geer, C. A.
Manager of Finance & Administration

CONSULTATION

In preparing this report there was consultation with:

WSTP Leadership Team

SUBMITTED BY

Water and Waste DepartmentFinance and Administration Division
Prepared by: Moira L. Geer, CA, Manager of Finance and Administration
Date: June 5, 2013
File No. 020-17-06-10-01

Appendix A

Leadership and Management Team Membership

