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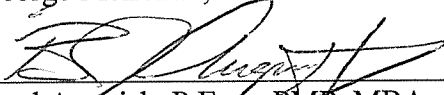
10.1.7

Halifax Regional Council
August 9, 2005

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY:


George McLellan, Chief Administrative Officer


Brad Anguish, P.Eng., PMP, MBA
Director, Environmental Management Services

DATE: July 28, 2005

SUBJECT: Aerotech/Airport Water System Transfer

ORIGIN

2004/2005 Environmental Management Services/Wastewater Treatment Business Plan and Aerotech/Airport Water System Transfer Information Report to Council dated January 25, 2005.

RECOMMENDATION

It is recommended that Council:

- (1) Request the Halifax Regional Water Commission Board to accept the transfer of ownership of the Aerotech Park water treatment and distribution infrastructure from Halifax Regional Municipality (HRM) to the Halifax Regional Water Commission (HRWC) effective April 1, 2006.
- (2) Request the Halifax Regional Water Commission Board to accept the transfer of operations and maintenance responsibilities and contractual obligations of the Aerotech Park and the Halifax International Airport Authority (HIAA) water systems from Halifax Regional Municipality (HRM) to the Halifax Regional Water Commission (HRWC) effective April 1, 2006.

BACKGROUND

On January 25, 2005, an information report, Attachment "A", was presented to Council which described the history of this utility presently operated by Environmental Management Services (EMS) and including rationale for a transfer of this service to the Halifax Regional Water Commission.

The action list to be completed as contained in the report included:

- Financial assessment of the Rate Recovery Study by HRWC and HRM staff in order to determine customer cost impact and revenue options;
- Legal assessment of HRWC as the successor to HRM under the 1987 Agreement;
- Consultation with HIAA regarding amendments to the 1987 Agreement; and
- HRWC staff to advise the HRWC Board of the potential request by HRM Council to transfer the Aerotech/Airport water system to the HRWC.

DISCUSSION

All of the actions outlined in the January 25, 2005 report to Council have been completed.. HRM Legal Services has confirmed that the HRWC would legally be a successor to HRM with respect to obligations under the 1987 Halifax County-Transport Canada Agreement (1987 Agreement). The HRWC Board has been advised and accepted, in principle, the transfer of the Aerotech Park water system and all operating obligations.

The full cost Rate Recovery Study (CBCL/W.H. Gates) only applied to the Aerotech/Airport water systems operations. The new rate structure would apply under either an HRM or HRWC operating scenario under the 1987 Agreement and reflects additional costs associated with the new regulations imposed by the NS Department of Environment and Labour.

Presently, the combined water and sewer charge approved by the HRM Council is \$1.34 per cubic metre (\$.865 m³/water and \$.475 m³/sewer) for the entire area serviced by the Aerotech Water and Wastewater facilities. The current rate does not cover the full cost of water and sewer operations and results in an annual short fall of approximately \$176,000 which is funded from the pollution control reserve (Q105). As outlined in Attachment B, depending on the rate structure scenario, customers serviced by the Aerotech facilities will likely be required to pay a new combined water and sewer rate ranging toward \$ 2.28 per cubic metre, or more subject to NSURB and Regional Council approval.

Upon Council's approval of this report's recommendations, the HRWC will seek endorsement from its Board and submit an application to the Nova Scotia Utility and Review Board (NSURB) requesting approval of the transfer and ownership which would include approval of rate and regulations governing operations. It is expected that a public hearing will take place in the fall of 2005 after which the NSURB will render their decision on the transfer of ownership and future rates. If necessary, key stakeholders such as HRM, HIAA, and customers will have the opportunity to present opinions to the NSURB during the public sessions.

Upon transfer of the Aerotech Water Treatment Facility to HRWC, water rates will ultimately be determined by the NSURB. Wastewater rates will continue to be determined by Regional Council. Pending negotiations between the HRWC/HRM and the HIAA relative to the 1987 Agreement, two possible rate structures follow (further defined in Attachment B):

- (1) 1987 Agreement. Should the 1987 Agreement remain in place with HIAA, the present rate structure (formula) will remain in place. In accordance with the Agreement the HRWC will have the ability to recover all operational costs and adjust the water rate as per the Rate Recovery Study. As the Agreement does not contain language for base water metre charges, those equivalent revenues will have to be incorporated within the water rate(\$1.30/m³). HRM would continue to levy a sewer charge which is based upon 55% of the water rate.
- (2) Public Utilities Act approach. Any newly acquired water systems by the HRWC are included in the “stand alone” category as per the requirements of the Public Utilities Act as administered by the NS Utility and Review Board. It is intended that these systems will recover all water system operations and maintenance costs through direct water rates and based solely on water consumption. At \$1.47/ m³, this option presents the best return for HRM as related to the present formula for recovering wastewater service costs.

Subject to Council’s approval of the report recommendations, both HRM and HRWC staff will commence activities in order to achieve a smooth transition by the April 1, 2006 transfer date. Prior to April 1, 2006, an Information Report will be presented updating Council regarding the issues related to the system transfer.

BUDGET IMPLICATIONS

There are no direct budget implications resulting from the report recommendations at this time. Budget implications for both HRWC and HRM can only be determined once the new water and sewer rates have been established by the NSURB and the Regional Council respectively. Both HRM and HRWC staff will be recommending rates that attempt to recover the full costs of their respective operations. HRM staff will bring forward new recommended sewer rates for both the Airport and non-Airport customers serviced by the Aerotech Sewage Treatment Plant as part of the 06/07 budget process.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality’s Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

Status Quo or continued HRM ownership and operations of the Aerotech water system. This is not recommended by staff due to the benefits to customers and HRM as contained in Attachment “A”.

ATTACHMENTS

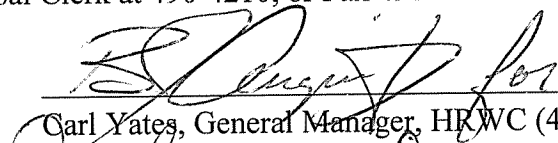
Attachment "A" - Aerotech/Airport Water System Transfer Information Report dated January 25, 2005.

Attachment "B - Water and Wastewater Rate Recovery Scenarios.

Attachment "C"- Executive Summary: "Aerotech Park/HIAA Water System:Water Rate Study"
(CBCL/W.H. Gates)

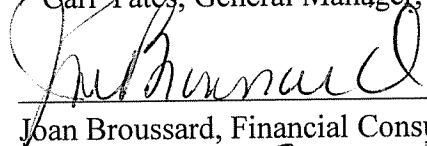
Additional copies of this report, and information on its status, can be obtained by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Approved by:



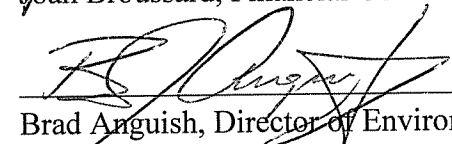
Carl Yates, General Manager, HRWC (490-4840)

Financial Review:



Joan Broussard, Financial Consultant (490-6267)

Report Approved by:



Brad Anguish, Director of Environmental Services (490-4825)

Report Prepared by:

Alan Brady, Manger of Wastewater Treatment (835-9566)

Attachment A - Aerotech / Airport Water System
Transfer Information Report

2.

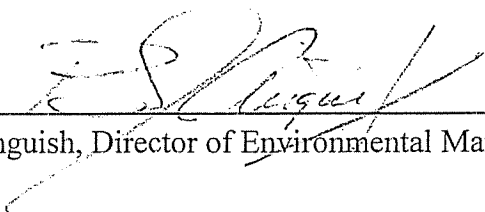


PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Halifax Regional Council
January 25, 2005

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY:



Brad Anguish, Director of Environmental Management Services

DATE: January 20, 2005

SUBJECT: Aerotech/Airport Water System Transfer

INFORMATION REPORT

ORIGIN

2004/2005 Environmental Management Services/Wastewater Treatment Business Plan.

BACKGROUND

The Aerotech Park Industrial Park was officially opened in 1987 by the Halifax County Industrial Commission. Approximately \$25M was spent on infrastructure which included roads, site development, street lighting, water treatment/distribution, and wastewater treatment/collection systems.

Prior to 1987 Transport Canada had operated and maintained a sewage treatment plant and a water pumping station at the Halifax International Airport. As this infrastructure did not meet provincial and federal regulatory guidelines, an operating agreement was established between the Halifax County Industrial Commission and the Government of Canada whereby Halifax County provided new water and wastewater servicing to the Halifax International Airport in return for a payment of \$4.5M.

The Airport wastewater collection system was extended from the Airport to the Aerotech Park wastewater treatment facility. Potable water was provided to the Airport from the Bennery Lake treatment facility via an extension of the water distribution system from Aerotech Park to the Airport. The 1987 Agreement (between Transport Canada and HRM) provided for:

- a guaranteed water supply meeting Canadian Drinking Water Standards and wastewater secondary treatment maximum capability of 2,000,000 liters/day each;
- the ability to establish a combined water (65%) and sewer (35%) rate in order to recover operations and maintenance costs;
- continuation of the Agreement to successor organizations;
- joint approval pertaining to any additions or changes to the Airport water distribution or wastewater collection systems;
- specific water pressure and flow rate guarantees; and
- HRM operation and maintenance of the Government of Canada (Halifax International Airport) owned water distribution system, wastewater collection and fire protection infrastructure.

In 1987 a decision was made by the Halifax County Engineering and Public Works that the Aerotech water and sewer operations would be the responsibility of the Wastewater Treatment section as opposed to the Halifax County Water Utility. This was based upon on larger scale Wastewater Treatment operations expertise and cost considerations related to having two separate operations groups being located at Aerotech Park.

Amalgamation did not change the operations status of the Aerotech Park/Airport system. In February 1996 HRM Council considered various structure for the delivery of water services. In April 1996 a supplementary report was sent to Council to transfer all assets related to the supply of water (except those of Aerotech Business Park) to the Halifax Regional Water Commission - which is a public utility owned by the Halifax Regional Municipality. Provincial legislative changes were requested to retain the Halifax Regional Water Commission, and to dissolve the other utilities from the previous municipal units. Due to the complexity of amalgamation, senior staff agreed to defer discussions around the operation and ownership of the Aerotech/Airport water system to a future time. This discussion is occurring now as a recognition of the benefits of enabling EMS Wastewater Treatment to focus on their core service, and to move responsibility for Aerotech/Airport water services to the Halifax Regional Water Commission.

The Aerotech Water Treatment Plant located adjacent to Bennery Lake, is a 7.7 million liters per day (design capacity) conventional filtration plant similar in design to the Halifax Regional Water Commission's Pockwock and Lake Major plants. This treatment facility, which produces water that meets the guidelines for Canadian Drinking Water Quality, essentially consists of alum coagulation/flocculation, settling, and filtration followed by final pH adjustment and chlorine disinfection. A manganese removal process is incorporated during the summer months when high manganese levels are produced in the raw lake water.

Revenues for the water and wastewater operations and maintenance are generated by a water/sewer charge in accordance with the 1987 Agreement. Currently the combined Aerotech/Airport rate is \$1.324 per cubic metre. Additional revenue is realized from an allocation of fire protection rate revenues from HRM to the Aerotech operations budget. The 2005/06 gross operations and maintenance budget for the Aerotech/Airport water and wastewater services is \$710,000. Revenues generated in 2005/06 are expected to total \$534,000 with the balance of \$176,000 provided from the EMS/Wastewater Treatment operations budget. Staff expect to return to Council in 2005/06 to recommend approval of a rate increase. The Aerotech/Airport system is currently designated a commercial water utility which is not under the jurisdiction of the Nova Scotia Utility and Review Board.

In 2003 the Protected Water Area designation was approved by the Nova Scotia Minister of the Environment and Labour for the Bennery Lake Watershed. This process was initiated by staff and received HRM Council approval to proceed in December 1998. Land use regulations were developed in order to ensure maximum protection of Bennery Lake water quality. Development of the Bennery Lake Watershed Regulations included key stakeholders: Environmental Management Services and Planning and Development staff, NSDEL and Department of Natural Resources staff, Halifax/Halifax County Watershed Advisory Board, watershed landowners and the general public.

In accordance with Provincial requirements, the Aerotech (Bennery Lake) water treatment plant was issued a new permit in 2003 and a comprehensive systems audit was performed by CBCL Limited Consulting Engineers in 2004.

DISCUSSION

The purpose of this report is to provide Council with an overview of the Aerotech/Airport water system operations and explain the present staff position regarding the future of this service.

On several occasions (including Program & Service Review), various Councillors have questioned whether Halifax Regional Water Commission (HRWC) should be responsible for the Aerotech water operations. The Walkerton, Ontario disaster certainly highlighted the importance of properly operated water treatment and distribution systems. E. Coli contamination in Walkerton was a result of staff and regulatory agency negligence and having contaminated ground water (well) supply adjacent to cattle operations. The Walkerton system provided only minimal treatment consisting of periodic chlorine disinfection. Bennery Lake is a surface water supply having a protected watershed with a full conventional filtration treatment process.

Environmental Management Services staff believe the transfer of the Aerotech water operations to the HRWC should be considered for the following reasons:

- EMS/Wastewater Treatment should be concentrating on its core service - Wastewater Treatment. This division will be experiencing a large degree of operations and maintenance

growth during the next four to five years especially in relation to the Halifax Harbour Solutions treatment facilities, other existing plant expansions/upgrades and management of the overall biosolids program. HRM staff would no longer require dual certifications for both water and wastewater treatment;

- HRWC should concentrate on its core service and be responsible for management of all potable water treatment and distribution systems in HRM. HRWC has the expertise, organizational capacity and financial resources to provide a higher level of watershed protection, additional private (watershed) land purchases, water service approvals, capital planning, infrastructure depreciation, full cost recovery, security planning and overall due diligence. Further, ownership by HRWC will put the Aerotech water system at arm's length from the political process, as with other water systems in HRM. It is not known at this time if the water system operation and maintenance costs will increase or decrease as a result of ownership transfer to HRWC. Full details will be disclosed to Council once the analysis of the Rate Recovery study is complete;
- HRWC has historically assisted HRM with the Aerotech water operations. HRWC Design and Construction Standards are applied for both Aerotech Park and HIAA new water distribution projects, extensions, and modifications. The HRWC performs all leak detection procedures, and provided documentation and advice related to Security Planning. HRWC Pockwock and Lake Major watershed regulations provided the basic template for the Bennery Lake Watershed Protected Water Area regulations.

To date, the following actions have occurred regarding the potential transfer:

- Formation of an EMS/HRWC joint committee for information sharing and milestone planning;
- Meeting with HIAA to inform them of the possibility of the water system transfer; and
- Commissioning of a Rate Recovery Study (W.H. Gates/CBCL) by HRM in 2004. The purpose is to identify full operations and capital cost recovery for the water treatment and distribution systems. The final report will be issued in February, 2005.

Next steps:

- Financial assessment of the Rate Recovery Study by HRWC and HRM staff in order to determine customer cost impact and revenue options;
- Legal assessment of HRWC as the successor under the 1987 Agreement;
- Consultation with HIAA regarding amendments to the 1987 Agreement;
- HRWC staff to advise the HRWC Board of the potential request by HRM Council to transfer the Aerotech/Airport water system to the HRWC; and
- Report and recommendation to HRM Council by EMS staff (Spring 2005).

If approved by Council and accepted by the HRWC Board, the HRWC will proceed with an application to the Nova Scotia Utility and Review Board in June 2005 followed by a public hearing between September and November of 2005 and a final decision in early 2006. If approved, the projected transfer date is expected to be April 1, 2006.

BUDGET IMPLICATIONS

n/a

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

n/a

ATTACHMENTS

None

Additional copies of this report, and information on its status, can be obtained by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Alan Brady, Manager of Wastewater Treatment

Report Approved by:


Brad Anguish, Director of Environmental Services (490-4825)

ATTACHMENT "B"

Water System Rate Recovery Study Required Revenues (05/06)

- Fire Protection Charge transfer from HRM: \$ 88,136
 - Water consumption and meter charge revenues: \$340,441
(Based upon 261,000 m3 20004/05 consumption)
- \$428,557

Water and Wastewater Rate Scenarios

<i>Revenues</i>	<i>1987 Agreement</i>	<i>Public Utilities Act</i>
Water charge	\$1.30 m3	\$1.47 m3
Wastewater charge*	55% of \$1.30 = \$.715 m3	55% of \$1.47 = \$.809 m3
Fire Protection transfer	\$88,136	\$88,136
HRWC Revenues	\$428,557	\$471,413
HRM Dividend	n/a	\$42,856
HRM Wastewater Costs	\$350,000	\$350,000
HRM Wastewater Rev.	-\$187,128	-\$211,149
Internal Operations Transfer**	-\$55,000	-\$55,000
Q105 Reserve Transfer	\$107,872	\$83,851

Present Water/Sewer Rate	HRWC/1987 Agreement	Public Utilities Act*
\$1.34 m3	\$2.015 m3	\$2.28 m3

* Assumes HRM would follow the formula of the 1987 Agreement

** from Aerotech Lagoon

Attachment C - Executive Summary - Aerotech/HIAA Water Rate Study.

EXECUTIVE SUMMARY

In March of 2004, the Halifax Regional Municipality (HRM) commissioned CBCL Limited (in association with W.H. Gates Utility Consultants and Syntel Consultancy Inc.) to complete a full cost recovery water rate study for the Aerotech Park/Halifax International Airport Authority (HIAA) water supply and distribution system. The attached report presents the finding of the rate study.

The following items have been considered during the course of the rate study exercise:

- Present operation and maintenance (O&M) costs and revenues generated by the water system;
- Construction costs of the various assets within the existing water supply and distribution system;
- A depreciation/capital reserve fund for the water system;
- Water system requirements as related to the Nova Scotia Department of the Environment and Labour (NSDEL) drinking water strategy. This included an assessment of gaps and deficiencies arising from the recently completed *Aerotech/Airport Water System Assessment Report*; and
- Potential capital works upgrade programs to be completed on the system within the next three to five years.

At one point, the capital and operational impacts of the potential development of a water pumping system from Grand Lake to Bennery Lake (the source of supply for the Aerotech/HIAA water system) were also to be considered in the water rate study analysis. However, after further discussion with the HRM, it was decided that the time frame for the construction of this system was likely outside the three to five year horizon for the rate study.

In developing the findings of the rate study analysis the following tasks have been completed:

- Liaison and consultation with the HRM to determine present and projected O&M costs for the water system. Actual costs to operate the water system were taken from accounts of the HRM for the year ended March 31, 2004. Projected future O&M costs were then determined based on historical annual cost changes, and expected water system upgrade requirements arising from the implementing new regulations.
- Review of HRM water system billing records for the year ended December 2004 to determine typical water usage by meter size.
- Determination of the historical asset valuation (i.e., original construction cost) of the existing water supply and distribution system components. This was conducted for the purpose of setting up the basis for depreciation of each asset class. In most cases, the various asset valuations were determined from an examination of the original construction costs records for each component. However, in some cases (where original construction cost records were not available), asset valuations were estimated based on historical construction indices.
- Identified potential development impacts for Aerotech Park and the HIA over a three

to five year time horizon that may have a significant impact on water consumption. In consultation with the HRM and the HIAA, it was agreed that over the next three to five years there will not likely be a significant increase in the number of water system users and overall water consumption.

- Reviewed with the HRM and the HIAA the requirement for any water system capital works program over the next three to five years that could impact on water rates. These projects included a planned upgrade to the existing Airport water storage reservoir and fire pumping system, a future program to install drain lines in all existing buried valve chambers within the water distribution system, installation of plate settlers at the Aerotech Water Treatment Plant, and the installation of flow meters on currently un-metered reservoirs located throughout the HIA.
- Used established computer models to develop the required full cost recovery water rates by class of customer. These rates are summarized as follows:

1. Customer Charges:

Meter Size	Base Charge (\$per quarter)		
	2004/05	2005/06	2006/07
5/8"	48.11	53.12	55.62
3/4"	65.19	72.55	76.14
1"	99.35	111.40	117.18
1 1/2"	184.74	208.55	219.79
2"	287.22	325.12	342.92
3"	560.49	635.99	671.26
4"	867.92	985.71	1040.65
	Consumption Charge (\$per cubic Metre)		
	1.01	1.05	1.07

2. Fire Protection Charge:

An annual fire protection charge of \$76,903 is sufficient for 2004/05 to cover fire protection expenses. However, this charge will need to increase to \$94,347 by 2006/07 to cover related expenses.

Other recommendations that have been presented as part of the rate study analysis include:

- It is customary for the owner/operator of a water supply and distribution system to own all the individual water meters within the system. This is not the case, however, at the Aerotech/HIAA system. Therefore, this report recommends that the HRM

purchase and/or replace all existing customer water meters. In the case where existing meters are purchased by the HRM, each meter should subsequently be tested for measuring accuracy.

- The HRM believes that much of the unaccounted for water within the Airport/Aerotech water supply and distribution system is used to fill private fire fighting reservoirs through un-metered water supply lines. This report recommends that water meters be installed on all the individual water supply lines feeding private fire fighting reservoirs. It is also recommended that the private reservoir owners be responsible for the construction and maintenance of the respective metering chambers.