NEWSLETTER

Issue 2 **February 2010**

MUNICIPAL/PROVINCIAL JOINT ADVISORY GROUP ON WATER & WASTEWATER MANAGEMENT IN NOVA SCOTIA

Antigonish County/Province Invest in Mobile Dewatering Technology

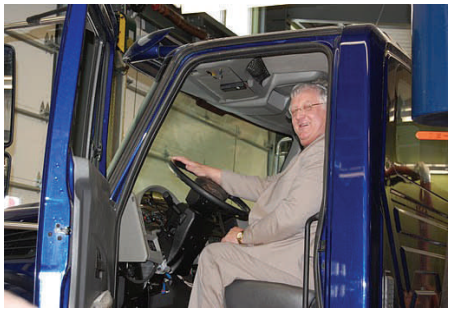
The Municipality of the County of Antigonish is pleased to partner with the Environmental Trade and Innovation Branch of Nova Scotia Environment to purchase and operate a dewatering truck. The Municipality's short-term objectives of this project are to:

1. Reduce fuel consumption and emissions from regularly hauling sludge from municipal treatment plants to and from holding lagoons;
2. Close the Municipality's septage lagoons, neither of which currently comply with provincial guidelines; and
3. Convert a problematic waste product into a usable compostable material.

In the past, the Municipality owned and operated a sludge (vacuum) truck to transport waste solids from its five municipal wastewater treatment plants. Adaptation of mobile dewatering technology will result in the closure of two septage lagoons and reduce associated air pollutants. The dewatered solids will be managed by an aerobic composting process.

The Municipal Council also feels there will be significant long-term benefits to incorporating a 'Pre-Paid Pumping Program' of on-site sewage disposal systems as part of the Municipality's 'Integrated Community Sustainability Plan'.

Preliminary operations and results for solids removal using the Municipality's dewatering truck is between 10-20%, thus returning 80-90% of the supernatant back into the sewage treatment facility.



Environment Minister Belliveau

Nova Scotia Environment Minister Sterling Belliveau was on hand on January 19th for the the Municipality's unveiling of their new dewatering truck.

Although the dewatering process is based on technology developed in Norway, local economic benefits wil be realized through the production and assembly of the dewatering truck by ABCO Industries. Operator training will also be based in Nova Scotia.

The unit also provides the municipality the ability to cost-effectively maintain their underground wastewater collection systems and sewage lift stations by utilizing the high pressure wash capabilities built into the dewatering truck. This will reduce the costs associated with this work as well as the dependence on outside contractors.

Along with municipal, regional and provincial partners, Nova Scotia Environment continues to analyze opportunities for the purchase and application of innovative sludge dewatering technology in the province.

A comparison analysis (conventional truck vs. dewatering truck) indicates a significant savings for lower cost and time to pump septic tanks, and reduced dependence on septage lagoons. Results of the analysis indicated the following estimated savings using the dewatering technology:

- Fuel: 83%
- Km Traveled: 92%
- Volume (tonnes): 92%
- Cost per Tank: 58%

Inside this issue:

Provincial Water Strategy Update:

- ***Currently developing draft 'actions'***
- ***Consultation document and discussion with stakeholders early 2010***
- ***Final strategy to be completed later in 2010***

MWWE Strategy Update

By Stefan Furey, NSE

The Canada-wide Strategy for the Management of Municipal Wastewater Effluent (MWWE) was endorsed in February 2009 by the Canadian Council of Ministers of the Environment (CCME). The Strategy aims to ensure that owners will have regulatory clarity in managing municipal wastewater effluent under a harmonized framework that is protective of human health and the environment. To achieve this goal, the Strategy focuses on two outcomes:

- Improved human health and environmental protection;
- Improved clarity about the way municipal wastewater effluent is managed and regulated.

After the Strategy was endorsed by the CCME, a coordinating committee was established, with representatives from all 14 jurisdictions and a local government observer, to oversee the implementation process. The coordinating committee will provide a forum for jurisdictions to discuss implementation issues, support coordination of wastewater science and research, and development of federal-provincial agreements on administration of the Strategy.

The coordinating committee held its first face-to-face meeting in Halifax this past spring and has been meeting on a monthly basis via conference call. A second face-to-face meeting was recently held in Ottawa in conjunction with the annual 'Window on Ottawa' conference of the Canadian Water and Wastewater Association (CWWA).

Nova Scotia has also been working on its own implementation plan. A letter was sent to each municipality to identify some of the major requirements of the Strategy and followed-up with individual meetings. Nova Scotia is currently working with municipalities to collect data to complete the initial facility risk rankings as being either high, medium or low risk. This process is expected to be completed in the spring of 2010.

Some of the next steps for Nova Scotia include:

- Developing guidance on overflow objectives;
- Developing new standard approval templates based on the requirements of the Strategy;
- Provide further guidance on environmental risk assessments, small systems, economic feasibility, and other concerns expressed by municipalies.

Municipal stakeholder consultation will continue to be an important part of the process as we work together to achieve the goals of the Strategy.

Stefan Furey, MWWE Coordinating Committee.

M/P JAG Membership

Membership on the advisory group includes:

UNSM: Mayor Bob Taylor, Municipality of the County of Colchester; Councilor Kevin Saccary, Cape Breton Regional Municipality; Councilor John Kellegrew, Municipality of the County of Cumberland; Debbie Nelson (observer), Sustainability Coordinator, UNSM.

AMANS: Gordon Wilson, Deputy CAO, Municipality of the District of Digby; Kelly Rice, Clerk/Treasurer, Village of Lawrencetown; Richard MacLellan, Acting Manager, (SEMO), Halifax Regional Municipality.

NSE: David Briggins (Chair), Manager Water and Wastewater Branch (WWWB); Jeff Garnhum, Acting Regional Manager Central Region; Stefan Furey, Engineer Specialist, WWWB; Jessica Paterson, Water Strategy Coordinator, WWWB; ***Alternates:*** Jason Dauphinee-Muise; Alan Benninger.

SNSMR: Marvin MacDonald, Director, Grants and Programs; ***Alternate:*** Aileen Waller-Hebb, Manager, Corporate Services.

Drinking Water Treatment Standards & Guidelines

By Blake McDonald, Facility Engineer, NSE

The current drinking water treatment standards were developed in the fall of 2002 and finalized in early 2003. Since 2003 there have been a number of drinking water related changes and recommendations established by Health Canada. One important recommendation is that the treatment for surface water, and groundwater under the direct influence of surface water (GUDI), be based on protozoa removal: ***3-log reduction of Cryptosporidium and Giardia.***

Cryptosporidium cannot be inactivated with chlorine, whereas a 0.5-log reduction can be achieved for Giardia. The Nova Scotia surface water treatment standard is being updated to include the treatment requirements for Cryptosporidium (e.g. 3-log reduction via filtration and/or alternative disinfectants). Additionally, source water characterization will be required to determine the appropriate level of treatment for protozoa removal/inactivation as well as waste stream management for treatment residuals.

The treatment standards also need to be updated to include provisions for the use of alternate disinfection processes. Historically, Nova Scotia drinking water treatment facilities have used chlorine for both primary and secondary disinfection. A number of alternate primary disinfectants (e.g.: ultra violet (UV) radiation, chlorine dioxide, ozone, chloramines) are not currently addressed in the standard. Additionally, the use of membrane filtration technology in Nova Scotia has become common in recent years. The revised treatment standard requires minimum provision for membrane use, including the management of waste streams generated by these facilities which are not covered in the current treatment standards.

"These updates will bring Nova Scotia's water treatment standards in line with national guidelines," said Environment Minister Sterling Belliveau. " We are continuously working to improve our treatment process to ensure it meets the highest standards."

Nova Scotia's Guidelines for Monitoring Public Drinking Water Supplies are also being improved. "Nova Scotia's drinking water is safe. Meeting new guidelines will ensure that it remains that way," said Mr. Beliveau. "The province's municipal drinking water is tested regularly. These guidelines simply raise the standard for Nova Scotians."

Stakeholder consultation is an important step in the implementation of the treatment standard to ensure not only that the public health is protected, but that all stakeholders have the opportunity to provide helpful comments prior to implementation.

Comments can be made until March 31st, 2010. Information on the consultation process, and proposed updates, are available at *www.gov.ns.ca/nse/water*

Facility Profile—Town of Antigonish Water Treatment

Customer response to the improved water quality in the Town of Antigonish was evident almost immediately following a new water treatment plant going online in June 2006. The $7 million Brierly Brook Water Treatment Plant replaced the 26-year old James River treatment facility which did not comply with the province's drinking water treatment standards.

Source water for the new facility is from the James River watershed. The raw water supply flows by gravity from an impounded dam which provides a reservoir capacity of approximately 30 million imperial gallons. The location of the source water for the Town of Antigonish was chosen in 1980 to replace the faltering Clydesdale surface water supply that had been used since early 1900.

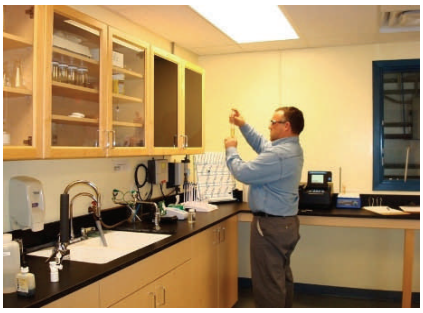
The service area of the level 3 treatment facility comprises of 10,000-12,000 people residing in the town itself, those attending St. Francis Xavier University, and some in the surrounding area. The facility is designed to produce up to 1.8 million imperial gallons per day (MIGD). *Continued on page 4*

Town of Antigonish—Water Treatment Facility, cont.

Average daily flow is between 1.1 and 1.3 MIPD.

The treatment process includes: pretreatment chemical addition for coagulation and pH adjustment; 2 dissolved air flotation (DAF) trains; 3 multi-media filters; 2 gas chlorinators; an on-site clearwell; high-lift distribution pumps; online monitoring through a 'supervisory control and data acquisition (SCADA) system; and 2 backwash settling ponds related to discharge release.

The relatively small size of the watershed often produces rapid spikes in raw water turbidity (10-20) and colour (10-200) during heavy rainfall events. The new facility is equal to the challenge



Wayne March, Operator—Quality Control

by performing as expected. Plant operators monitor the water quality to ensure that the each of the treatment processes are fine-tuned to handle the variances in raw water quality. Operational monitoring of the finished water provide the necessary safe-guards in order to provide users of the system with clean, safe drinking water that meets all the health-related parameters for Canadian Drinking Water Quality.

The Town has recently completed a metering program for all customers—previously on a flat-rate but will now be charged based on their individual water consumption habits.

Although there were several set-backs in getting to final construction, Town Council and residents are very pleased with the long-fought efforts to see a new 'state-of-the-art' water treatment facility finally come into being. Since the plant began operation, there have been very few complaints, allowing the Town to focus on other challenges they face.

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