Lack of sludge storage remains a pressing issue

par Richard Mahoney

An innovative attempt to increase sludge storage capacity at the Hawkesbury sewage treatment plant failed to pan out this summer, forcing the municipality to take more conventional measures to deal with the wastes.

The Fournier press pilot project failed to give the expected results when the town rented the dewatering unit at a cost of $22,000 a month. “It was too small,” related Ontario Clean Water Agency assistant operations manager Harold Wilkinson at a recent council meeting. “It did help us out but it took a lot of time and effort. We were working ten, 12 hours a day. We did the best we could.”

Wilkinson added that the plant is expected to meet provincial requirements this month. “We did see some benefit,” he related.

At best, the machine would have been a temporary measure, said Mike Eamon, a vice-president and senior engineer with the Thompson Rosemount Group. “It is difficult to use a pilot project to deal with that,” he added in reference to the plant’s inadequate design.

Eamon allowed that because of its size, the press had to work 12 hours a day just to dewater 75 cubic metres. Another drawback is that the portable centrifuge could not operate in winter. The aim was to reduce the water content enough so that the sludge could be disposed at a landfill site.

The sewage treatment plant now has a 60-day sludge storage capacity, however, by law, the plant ought to have a 240-day storage capacity. Currently, the sludge is spread on fields in May and November. The cheapest method is land application, said Eamon, suggesting that sludge be spread in July, August and September.

He suggests that OCWA licence more land for three-season spreading in 2008. However, the cost of biosolids disposal may increase to as much as $379,000 as a result of this. In 2006, OCWA spent about $80,000 to dispose of about 6,000 cubic metres of sludge.

If storage space is all used up in the winter, “You either have to dewater or haul,” observed Eamon. Farm manure lagoons would be suitable for sludge storage, or the wastes could be trucked to the L’Orignal plant or to an Ottawa facility.

Already, OCWA has stopped the practice of accepting sludge from other sites.

The short-term plan includes the expansion of the town’s industrial wastewater monitoring program and to direct designated industries and commercial properties to monitor their wastewater discharges to the sewer system.

According to the engineering firm, the wastewater treatment plant is now operating at 91 per cent capacity.
Even with the implementation of the short-term plan, exceedences will continue. There is no surplus capacity for future growth. Costs will continue to increase due to plant inefficiencies and biosolids disposal costs.

The existing certificate of approval provisions are not achievable without major upgrades and the approved upgrade path is not appropriate.

The defects are numerous. Grit removal is not effective and fine screening is not provided. Aeration tanks are undersized, secondary clarifiers are not deep enough, blower capacity is inadequate, the chlorine contact tank does not provide sufficient chlorine contact. The plant is very difficult to operate and maintain, is labour intensive and has no effective supervisory control and data acquisition system. The wet weather treatment facility is not capturing all the WW flow.

“As the flow increases, you will be more out of compliance unless you do something,” says Eamon.

An interceptor now prevents bypasses; it treats 90 per cent of storm water but ten per cent is still discharged into the river.
Now the capacity is 12,274 cubic metres per day. And that capacity is being stretched since the town has recently approved the construction of 419 new dwelling units in the municipality.

**No time to waste**

The Ministry of the Environment awaits and expects an action plan from the town. Eamon comments, “I suggest it would be advisable to do that as soon as possible so they do not become too upset with the situation.”

“We have to be ready to make the application for the funding. We need to take decisions now,” stresses Mayor Jeanne Charlebois.

Eamon relates that over the years, “patchwork things were added.” No thorough review of upgrading the plant was carried out. “Nobody looked at how to make this work efficiently,” he says.

Councillor André Chamaillard suggested that since the plant was designed and built by the Ontario Ministry of the Environment, the government ought to assume some responsibility for the quandary.

Eamon believes that the ministry erred in placing the emphasis on reducing effluent bypasses in 2004. “My opinion is that this was the wrong priority. The priority ought to have upgrading the process to get better effluent.”