

Thursday November 27, 2008

## SITE SEARCH



News Archive Search

# WASTE NEWS .com

**FREE  
DIGITAL  
EDITION**


## McNeilus

*Street Smart. Street Tough.*
[www.mcneilusrefuse.com](http://www.mcneilusrefuse.com)

## EDITORIAL

[Home/News](#)
[Photo Gallery](#)
[Special Reports](#)
[Departments](#)
[Opinion](#)
[Archives](#)

## RESOURCES

[Buyers Guide](#)
[Environmental Library](#)
[Commodity Pricing](#)

## WN CONFERENCES

## ABOUT US

[Advertising/ Services](#)
[Classifieds](#)
[Subscribe](#)
[Contact Us](#)

## NEED A BREAK?

Waste News is looking for submissions for a new section for the Web site. Please [click here](#) to learn more.

## WASTE NEWS

## WEBINAR

Natural Gas - The New Green Standard sponsored by Clean Energy click [here](#).

## SUGGEST SITE IMPROVEMENT

Do you have an idea for a way we can make Wasteneews.com better? Please submit it [here](#).

## OPINION

## ARCHIVES

[EMAIL THIS STORY](#) | [PRINTER FRIENDLY](#) | [ORDER REPRINTS](#)

## Firm makes fertilizer the eco-friendly way

By: Tracy Hayhurst  
August 20, 2007

A Vancouver, British Columbia-based company is using its proprietary technology to extract phosphorous, nitrogen and other nutrients from wastewater, which not only reduces the strain on treatment plants but results in a ready-to-use, environmentally friendly fertilizer.

The process was developed at the University of British Columbia's environmental engineering department, and in 2005 the technology was licensed. Ostara Nutrient Recovery Technologies Inc. was incorporated soon after and began testing pilot-scale reactors at several wastewater treatment plants.

Among those who invented the nutrient recovery process at the university was Ahren Britton, who was working on his master's degree from 2000 to 2002.

Britton did consulting work for three years after graduating and then returned to the university as it was trying to license the technology. There he met some of the partners who would go on to found Ostara. Britton is the company's chief technology officer.

Ostara recently finished a pilot project at the Hampton Roads Sanitation District's Nansemond wastewater treatment plant in Suffolk, Va. The company also started a full-scale operation earlier this year in Edmonton, Alberta, and is working to begin a new pilot project in Tigard, Ore., which is near Portland.

"We make the liquid treatment a lot easier by removing the load coming back from the solid cycle. We're breaking the loop and making the plant work less hard," Britton said.

Typically, treatment plants dewater digested solids and separate the liquid from the solids. The solids are often composted or incinerated, and the liquids - highly concentrated with nutrients - are reprocessed through the plant. The phosphorous and nitrogen (ammonia) tend to combine with magnesium, resulting in a hard scale called struvite that clogs pipes and reduces plant efficiency. And phosphorous runoff can cause excessive algae growth that depletes oxygen levels in lakes, streams and oceans.

**TAKE THE  
WASTE NEWS POLL**


[Poll results](#) | [Submit comment](#)  
[Past polls](#)



- Don't scrap recycling
- Waxman's win: Get ready
- Striking a balance
- This week's cartoon



### SUBMIT STORY IDEAS

Have an idea for a story that you think Waste News should cover? Submit story ideas [here](#).

### SIGN UP FOR DAILY E-MAIL

Register for Waste News' daily news alerts [here](#).

### RSS FEED

For up-to-the-minute news delivered automatically to your desktop [click here](#).

When an Ostara reactor is added to a wastewater treatment plant, liquid sludge, or centrate, is diverted to the reactor so it can recover the nitrogen and phosphorous and convert it to fertilizer.

“We're treating the water they squeeze out of the biosolids,” Britton said. “We've taken out 90 percent of the phosphorous and 40 percent of the ammonia. That's a 45 percent increase for phosphorous removal and about 10 to 15 percent [increase] for nitrogen.

“And the real difference is we produce a more pure, directly usable fertilizer with a 5-28-0 content,” he said, referring to the three numbers found on fertilizer bags that indicate nitrogen, phosphorous and potassium content.

The fertilizer, called Crystal Green, is a slow-release fertilizer in granular form that helps make plants green and photosynthesis easier.

“It releases over a 6- to 9-month period, and you get less leaching out in rainfall. We market it wholesale ourselves. Golf courses like it for their turf, and we sell to container nurseries for potted plants,” Britton said.

“We also have a specialty application in British Columbia where they're using it to rehabilitate salmon streams,” he said. “After the salmon swim upstream and spawn, they die and their carcasses decompose and provide nutrients in the river, which help the fry to eat so they can swim back to the ocean. But when the salmon population crashes as it has, there are fewer carcasses to make nutrients in the river that help the fry, so adding nutrients at the right times in the right amounts can help bring back the river. It turns out our fertilizer has about the same nutrient content as a salmon carcass.”

Bill Balzer, manager of the Nansemond treatment plant, which is one of 13 plants operated by the Hampton Roads Sanitation District, said the Ostara reactor ran from October 2006 through March of this year, removing 85 percent of the phosphorous and 40 percent of the ammonia.

“As we dewater the solids, the centrate has all these concentrated nutrients in it, and we can't just dump it down the drain, and it takes inherent plant capacity away when the nutrients build up,” he said.

“This re-cycle is a constant issue for treatment plants and always has been, but now with new regulations, you have to deal with it as a side stream or build in additional capacity to compensate for it,” Balzer said.

The district has engineering consultants reviewing the results and evaluating what steps will be necessary for the district to meet new requirements to reduce nutrient output into Chesapeake Bay, he said.

“The pilot plant did pretty good,” Balzer said. “We're searching for things that have potential, and if we find something, we pass it along to our consultants for review. They are investigating this as a viable alternative for our nutrient upgrade.”

Britton said the Nansemond plant's centrate is higher than average in nutrient content because of some industrial customers, and this gave Ostara a more concentrated effluent than what it treats in Edmonton.

“This made our yield go up and we got more pounds of fertilizer per gallons of waste treated,” he said, adding that if a full-scale reactor were installed at the Nansemond plant, it would be about 4,500 square feet and is projected to produce about 800 tons of fertilizer a year.

Capital costs for an Ostara reactor range from \$2 million to \$4 million.

Revenue generated by fertilizer sales and the cost savings in plant maintenance and increased capacity will make up the reactor's cost in three to five years, according to the company.

Balzer said the sanitation district's analysis of the pilot project should be

Ads by Google

### [Junk Loads Starting @ \\$65](#)

We recycle and dispose of junk Call Scott 604 306 - 4490  
[Thatsrubbish.ca](#)

### [Waste Oil Recycling](#)

Recycle All Types Of Waste Oil With Our World Class Skimmers. Call Now!  
[www.oilskim.com](#)

### [Soft Pak](#)

A leading software provider for waste and recycling company's  
[www.soft-pak.com](#)

### [Junk or Garbage Removal?](#)

We do ALL the loading and removal Visit us online and save!  
[www.junkking.ca](#)

### [Eco Toilet Solution](#)

Envirolet composting toilets are the environment-friendly choice.  
[envirolet.ca](#)

Entire contents copyright 2008 by Crain Communications Inc. All rights reserved. | [Terms & Conditions](#) | [Privacy Policy](#)

complete by the end of the year, and the full-scale operation in Edmonton will give his consultants better data to compare and work with. "We can see how a scale-up works in the real world," he said.

For more information, contact Ostara at (604) 408-6697 or visit [Onrti.com](#).

---

[EMAIL THIS STORY](#) | [PRINTER FRIENDLY](#) | [ORDER REPRINTS](#)

---

---

[Archives](#) | [Search Results](#)

---

**Help wanted, used equipment,  
Business opportunities and more.**