



## **Virginia Wastewater Treatment Plant First In Chesapeake Bay Watershed to Recover Nutrients and Transform Them into “Green” Commercial Fertilizer**

*Ostara Increases Plant Efficiencies for Hampton Roads Sanitation District in Innovative Public/Private Partnership Launching Today with Keynote Speaker Robert F. Kennedy Jr.*

**Suffolk, Va. -- May 27, 2010** -- Through a groundbreaking public/private partnership, the Hampton Roads Sanitation District (HRSD) and Ostara Nutrient Recovery Technologies, Inc. today officially unveil the first facility in the fragile Chesapeake Bay Watershed to benefit from Ostara's innovative new technology that recovers nutrients, including phosphorus and nitrogen, from wastewater and transforms them into an environmentally-friendly, commercial fertilizer. Robert F. Kennedy, Jr. will serve as keynote speaker for today's 11:30 a.m. grand opening of the HRSD facility, which incorporates Ostara's Pearl® Nutrient Recovery Process at HRSD's Nansemond Treatment Plant in Suffolk, Va.

Ostara's Pearl process provides benefits to HRSD, its ratepayers and the environment by increasing plant capacity and production efficiencies, while creating a premium fertilizer by-product from waste. The facility enhances HRSD's significant efforts to remove excess nutrients from wastewater. The recovered nutrients, including phosphorus and nitrogen, are transformed at the Nansemond facility into an environmentally-friendly, commercial fertilizer called Crystal Green®, which uses a slow-release formula to ensure that nutrients are absorbed by plants and thereby reduces fertilizer runoff from reaching and polluting the Bay's fragile ecosystem.

"Our technology integrates into the treatment system, processes the liquids from the digested solids recycle streams and recovers phosphorus and other nutrients — and then converts them into a high-quality environmentally-friendly commercial fertilizer, increasing operational efficiency for the plant," said Phillip Abrary, president and CEO of Ostara Nutrient Recovery Technologies. "This approach provides HRSD with a cost-effective and environmentally-sound operational improvement and also creates a fertilizer product made from the only sustainable source of phosphorus – waste – which is non-leaching and therefore, helps to protect waterways."

### **Successful Pilot Leads to Commercial Facility**

Pearl was successfully tested from October 2006 to March 2007 in a pilot-scale facility at HRSD's Nansemond plant, where it recovered more than 85 percent of the phosphorus and 40 percent of the ammonia from the liquid it processed. This successful demonstration project has led to the full-scale commercial implementation unveiled today.

The Nansemond Treatment Plant is designed to clean up to 30 million gallons of wastewater per day (MGD). It is one of 13 plants owned and operated by HRSD, a public utility that serves 1.6 million people in an area of over 3,100 square miles. The Nansemond facility discharges its treated effluent to the James River, a tributary of the Chesapeake Bay. Excessive nutrients,

including phosphorus and nitrogen, have been identified by the Chesapeake Bay Foundation as one of the most serious water quality problems affecting the Bay.

Ted Henifin, HRSD's general manager, explains, "The pilot program was a great success. Thus, building a commercial recovery facility was an easy decision. The benefit of Ostara's Pearl system is gaining the ability to recover nutrients that were a maintenance problem in our plant and turning them into a commercially viable fertilizer product with basically no additional costs to HRSD. HRSD is focused on reducing human impact on the environment, and recovering phosphorus to replace mined phosphorus does just that."

Treatment systems typically separate solids from liquids. The treated solids are then disposed of while the liquids are typically reprocessed back through the wastewater system. This adds costs by clogging pipes with a concrete-like scale called struvite — the result of phosphorus and ammonia (nitrogen) combining with magnesium — and by consuming up to 25 percent of the system's capacity.

Robert F. Kennedy, Jr., an Ostara board member representing VantagePoint Venture Partners, notes that the incorporation of the Ostara technology at the Nansemond plant is the kind of infrastructure solution needed in hundreds of municipalities across the United States. "Local and state governments are taking notice of the improved economics and reduced environmental impact which can be achieved through this kind of this public/private partnership. This groundbreaking approach ultimately saves money for ratepayers while also reducing the impact that wastewater treatment plants have on local waterways, all without onerous regulation," said Kennedy.

### **Ostara's Pearl Deployment in Oregon Produces Crystal Green Fertilizer for Sale**

Ostara's first customers are already seeing significant cost savings and environmental impact reductions. Clean Water Services' Durham Advanced Wastewater Treatment facility outside Portland, Ore., which was the world's first to implement a commercial operation using Ostara's nutrient recovery technology, has been operational for more than one year. In that year, Ostara's Pearl process has exceeded expectations with respect to the operational cost savings it has delivered, and has produced more than 500,000 pounds of Crystal Green fertilizer.

The Nansemond Struvite Recovery Facility is projected to remove more than 85 percent of the phosphorus from solids recycle streams and has the capacity to produce more than one million pounds of Crystal Green fertilizer annually.

The production of Crystal Green has dramatically lower production costs and environmental impacts than fertilizers produced from mined phosphorus, which leaves a huge carbon footprint. The world's first environmentally-safe, slow-release fertilizer made from recovered nutrients, Crystal Green is ideally suited for the nursery, turf and specialty agriculture markets. It is being sold through national and regional commercial fertilizer blenders across North America.

"Phosphorus is a key building block of life, and some researchers believe that the earth's supply could be depleted within the next 50-100 years if preventive actions are not taken. We're recovering phosphorus and other nutrients into a useful, premium fertilizer while reducing the carbon footprint in its manufacture and preventing runoff. By bringing the process full circle, we're truly creating value from waste," according to Abrary.

Numerous other commercial applications of the Ostara technology are in pilot stages, including the third facility in Europe and the first in Asia, with the next commercial facility to launch in York, Pa. later this year. Ostara estimates that approximately 200 plants in North America and several hundred plants in Europe and the rest of the world are candidates for the Pearl process.

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### **About Hampton Roads Sanitation District**

Since its creation in 1940, HRSD has been dedicated to protecting public health and the waters of Hampton Roads by treating wastewater effectively. The regional utility's service area includes 17 cities and counties of southeast Virginia, an area of over 3,100 square miles with a population of 1.6 million. Wastewater flows through municipal collection systems to HRSD's interceptor system. This network of pipelines and pump stations conveys the flow to 13 treatment plants, which have a combined capacity of 249 million gallons per day (MGD).

The Nansemond Treatment Plant, which began operation in 1983, is a 30 MGD facility that features a biological nutrient removal process. The plant, located in Suffolk, Virginia, has received national awards for outstanding compliance with its environmental permits for 22 consecutive years. For more information, visit [www.hrsd.com](http://www.hrsd.com).

### **About Ostara Nutrient Recovery Technologies, Inc.**

Ostara Nutrient Recovery Technologies, Inc. is a Vancouver-based company developing and marketing proprietary technologies that recover nutrients from liquid wastewater and transform them into an environmentally-friendly slow-release fertilizer, called Crystal Green®.

Ostara's water technology, named Pearl® Nutrient Recovery Process, reduces the amount of pollutants released into the environment while creating a beneficial fertilizer product. Ostara is backed by VantagePoint Venture Partners in the U.S. and Frog Capital in the UK. In September 2009, Ostara was named one of the Top 100 Global CleanTech Companies by The Guardian, a London-based media group. For more information: visit [www.ostara.com](http://www.ostara.com) and [www.crystalgreen.com](http://www.crystalgreen.com).

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