

Town of Cary, North Carolina

Odor Control

Overview

The Town of Cary undertook steps to address odor at and near the [North Cary Water Reclamation Facility](#).

April 15, 2005 Update

The switchover to new equipment is under way as part of plant improvements. The new equipment is working well. Overall, the switchover has been successful.

Odor is possible during the next few days, however, while the treatment plant staff finishes cleaning the old equipment and taking it out of service. The staff is working around the clock, doing everything possible to prevent odor during the complex startup of the new equipment.

Jan. 10, 2005 Update

While the mysterious odor problem of last week disappeared over the weekend as quickly as it began, Town staff continues to work to determine its cause and put in place efforts to reduce the likelihood of its reoccurring.

At this point in the analysis, it appears that the odor likely emanated from one of two digesters onsite where sludge was being aggressively removed, dewatered, and disposed of offsite; it appears the odor may have developed when sludge levels in the tank dropped too low for the aeration process to be effective.

Jan. 7, 2005 Update

Significant odor has been detected off of the North Cary Water Reclamation Facility plant site. Preliminary findings indicate that the odor is emanating from one of the two working digesters onsite, even though system and equipment operations—including aeration—appear to be normal.

Town staff is working around the clock to not only determine the cause of the odor but to put in place a process to remove the modest amount of sludge currently on site if necessary. In addition, the Town is bringing in an odor expert from the Northeast over the weekend to assist in bringing the issue to a swift and certain close.

To report problems or discuss the matter, please contact Rob Bonne at (919) 469-4303 anytime, including weekends.

September 2004 Update

An engineering consultant has [completed a study](#) to identify what have been sources and causes of odor at the plant and to recommend abatement measures. See [odor abatement measures](#) that preceded completion of the study.

No odor away from the plant has been reported under current operations since the end of

March 2004. Town staff has recommended postponing a decision on capital improvements to address odor until the Waste Biosolids Management Plan has been finished. Completion is expected in summer 2005.

Actions Taken

- > Changing the sludge treatment process to suit a disposal method that is not affected by weather. Sludge is now pressed into cake-like form and hauled to a composting site.
- > Removing sludge from the plant much sooner, greatly reducing odor potential.
- > Leasing presses that can be used around-the-clock to process sludge for hauling.
- > Continuing to operate equipment capable of applying a maximum amount of odor controlling chemicals.
- > Emptying the broken digester and removing it from service.

New sludge handling procedures have improved safety margins in the event of equipment malfunction.

The Waste Treatment Process

Each day, up to 10 million gallons of untreated waste makes its way to the plant from homes and businesses. Bacteria in large aerated tanks consume the waste, leaving behind clear water and excess bacteria. The excess bacteria, which is called waste sludge, is separated and put in large vats, or digesters. Once there, we introduce air, and the bacteria in the absence of a food source consume one another and die.

What's left is known as sludge or biosolids, which we normally truck to farms to use as fertilizer. Before sludge placed on farms, farmland has to be dry enough to accept the sludge fertilizer.

Why the Problem Occurred

- > Weather patterns in late 2003 and early 2004, limiting ability to find farmland dry enough to accept the sludge fertilizer.
- > Breakage of one of the digester pipes that introduce air into the sludge, severely reducing ability to maintain the usual treatment process

Schedule

Week of Jan. 26, 2004:
First belt press ordered

Week of Feb. 2, 2004:
First belt press operational

Week of Feb. 16, 2004:
Second belt press ordered

Week of Feb. 24, 2004:
Both belt presses operational
Sludge applied to land (weather permitting)

Week of March 1, 2004:
Both belt presses continue operating
Sludge applied to land (weather permitting)

Week of March 8, 2004
Both belt presses continue operating
Sludge applied to land (weather permitting)

Week of March 29, 2004
Digester cleaning completed

August 2004:
Odor abatement study completed

Mid-Term Plan

- > Conduct Odor Identification and Control Study – Done
- > Develop biosolids management plan – Scheduled completion January 2005
- > Recommend capital improvements and implement plan

Long-Term Plan

The Town plans daily removal of sludge from the North plant for processing in [a thermal biosolids dryer](#) at the South Cary Water Reclamation Facility.

Two studies will provide recommendations for operational, transport and odor control facilities.

Contact

For more information or to provide feedback, please contact:

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