



City of Chattanooga
Department of Public Works
 May 1, 2014



2013 Biosolids Performance Report

PROGRESS TOWARD GOALS AND OBJECTIVES

Chattanooga’s Moccasin Bend Wastewater Treatment Plant (MBWWTP) has maintained its four primary goals and objectives for continuous improvement of its biosolids. The BMS management team regularly reviews the goals and objectives and revises as necessary. The following is an indication of progress in 2013 toward those goals:



Relations With Interested Parties

In 2013, an increase in the number of outreach attempts was achieved through plant tours for adults and children, participation in Public Works Weeks and the Biosolids Sustainability Committee Meeting, among others. Synagro also continues to promote the beneficial reuse of biosolids in seven counties within a 75-mile radius of Moccasin Bend. **Matthew Snyder** was invited to set up an educational booth at the site of

Bonnaroo Festival 2013. He received much positive feedback and had a very large number of visitors to his booth (which was conspicuously placed near the port-a-potties)!!!!

Regulatory Compliance – Biosolids produced and land applied in 2013 met all EPA 503 compliance requirements. Regular meetings and site inspections with the land application contractor are held, as well as random truck inspections.

Quality Management Practices in Biosolids – In 2013, Chattanooga biosolids continued to be certified as a commercial fertilizer product with the Tennessee Department of Agriculture.

Environmental Performance – Strategic Energy Management and Water Reuse are a priority at Moccasin Bend WWTP. In 2013, 83 high-bay light fixtures were removed from the Filter Press Building and replaced with energy-efficient lighting fixtures. Plant maintenance altered a foam control system from potable city water to effluent reuse which now saves an estimated 4.2 million gallons of drinking water per year. These items will help in the energy reduction goals of MBWWTP.

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CHATTANOOGA IMPROVES BIOSOLIDS QUALITY AND DEVELOPS MORE STRINGENT PRACTICES FOR LAND APPLICATION

After many months of process adjustments, fine tuning and data collection through the efforts of the Moccasin Bend solids operators, the laboratory staff, and the biosolids consultant, Material Matters, the City has achieved Class A/ Exceptional Quality results on the Filter Press process biosolids as defined in EPA 40 CFR 503 Regulations. Additionally, similar efforts were applied on the Centrifuge biosolids process in order to more readily ensure that VAR (Vector Attraction Reduction) continued to be achieved 100% of the time prior to biosolids being land applied. Improvements to these processes consisted of adjustments in alkaline stabilization procedures until just the right amount of alkaline product was added, as well as fine-tuning of our methods of pH measuring and calibration. In cooperation with our land application contractor, **Synagro South**, new procedures were developed to ensure that all pH test results for the full 24-hour period required were verified prior to application site delivery.

Additionally, new Standard Operating Procedures were developed by the laboratory staff which provides guidance for observing changing trends in metals concentrations in order to maintain awareness of any decreases or increases over time. This ensures continuous quality of the biosolids product and a method of early notice of any potential for the production of non-compliant biosolids.

As part of our continuous improvement program, the City plans to reevaluate the economics of the solids handling processes and biosolids production of the Moccasin Bend Plant, looking at today's costs and determining the most cost-effective plan of action going forward.



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CHATTANOOGA MAINTAINS NBP PLATINUM LEVEL CERTIFICATION

In January 2013, Chattanooga's Internal Audit Team, led by **Ed Wellmann**, conducted an Internal Audit of its Biosolids Management System to determine if the Chattanooga Interceptor Sewer System was:

- complying with its Biosolids Management Policy, the National Biosolids Partnership Code of Good Practice, and program requirements as found in the Chattanooga BMS Manual,
- making satisfactory progress toward its BMS Goals and Objectives, and
- maintaining the effectiveness of its Biosolids Management System by reviewing selected processes from within the Biosolids Value Chain.

The internal audit was conducted in place of the Year 4 Interim Third Party Audit as permitted by the NBP for Platinum certified organizations. As such, a review of Management System Dynamics including Examination of Outcomes was also conducted to meet the standards of the third-party interim audit. Based on this audit, Chattanooga's program was verified as meeting the NBP requirements and was recommended for continued certification. This is considered maintaining NBP Tier 4 Platinum Level Certification.

Audits were conducted for the following processes: Solids Storage & Transportation, Biosolids Use-Land Application, Communication (internal & external), Contractor Control, Critical Control Points & Operational Controls (identification), and Emergency Preparedness. The audit results showed one finding for which corrective action was completed, three opportunities for improvement, and a number of strengths, some of which are listed below:

- All legal requirements applicable to BMS activities continue to be adequately addressed by the established procedures. There were zero 40 CFR Part 503 or any other biosolids-related violations in 2012.
- Approval package to certify Filter Press biosolids as Class A (EQ) material is to be submitted to EPA in the Spring of 2013.
- Synagro continues to impress with their day to day operations and their involvement and representation in the biosolids program.
- Preventive Maintenance work order program continues to improve. All critical equipment associated with Critical Control Points have been entered into the PM system. Newly appointed Maintenance Manager and Maintenance Planner will continue to drive improvements to the system.
- Biosolids staff training has improved significantly thanks to the efforts of the BMS Coordinator, who has developed a computer based presentation that shift staff can avail themselves of as time permits.

The City of Chattanooga and DEKRA Certification, Inc. have agreed that the next independent third party audit will be the five year reverification audit and will be conducted early in 2014. The City of Chattanooga Internal Audit Team proceeded to conduct their 2014 Internal Audit in early January 2014 to ensure that the Chattanooga program is adequately prepared for their five year reverification audit. Members of the 2013 Internal Audit Team were **Diane Benton, Joan Sloan, and Joe Miller**. For the 2014 audit, Mr. Miller was replaced by **Tyler Biss**. All audit reports are available in their entirety at www.Chattanooga.gov/Biosolids

CONTRACTOR ACTIVITIES



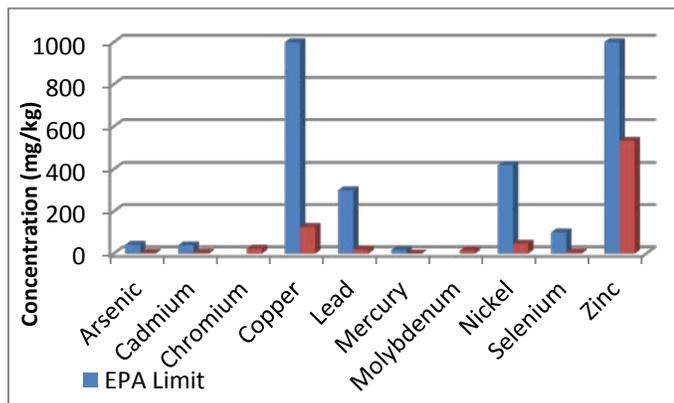
During the year 2013, Chattanooga produced and land applied 67,534 wet tons of biosolids. Applications were made to 5,024 acres in Tennessee by our contracted partner, **Synagro South**.

Most of the crop supported with the biosolids program is hay, followed secondly by corn. The nitrogen value of the biosolids for these crops calculates to \$620,000.00 for the year 2013, which offset the need for land owners to purchase commercial fertilizer for the same amount of nitrogen.

The City continues to perform both weekly and monthly inspections on land application sites. These inspections ensure that the land application contractor is following established procedures and that any concerns of neighbors and other stakeholders are addressed.

REGULATORY COMPLIANCE

Although a portion of the biosolids produced in 2013 meet the higher requirements for classification as Class A/Exceptional Quality, all biosolids together were land applied as if they were Class B. These biosolids again were consistently below all regulatory limits for Class B as shown in the attached chart. There have been no notices of violation for biosolids production and land application during the past year. New State of Tennessee Rules for land application of biosolids became effective June 30, 2013, and a General Permit will take effect on May 1, 2014.



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Congratulations to Sandy Barbee

Sandy Barbee, a 17-year employee with the City of Chattanooga, has taken the role of Biosolids Management Coordinator, effective September, 2013, and plans to continue the work initiated by Matthew Snyder. Mr. Snyder will continue his excellent work with the Moccasin Bend WWTP Outreach Program, which includes plant tours, and will assist Ms. Barbee as needed.



CONTACT INFORMATION: For more information about the City of Chattanooga Biosolids Management Program, to provide comments and input, or to be placed on our mailing list, please contact **Sandy Barbee**, Biosolids Coordinator, at 423-757-5026, Extension 3256.