



## **Biosolids Management Program Performance Report**

Approved By:	Chris Harris
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Note: The Biosolids Management Program Performance Report will be completed by August of each year, detailing the program performance of the previous calendar year.

### **Summary**

The 2013 Biosolids Management Program Performance Report is intended to provide an annual review of information regarding the focus and status of the ACUA's Biosolids Manual for biosolids implementation activities during 2013.

In 2013, the ACUA implemented the Biosolids Manual which documents the ACUA's biosolids process which helps to track the ACUA's progress towards reaching established goals and objectives. The ACUA continued to provide a high quality biosolids product, while adhering to sound management practices. In 2013, a third party Onsite Readiness Review (ORR) occurred following the ACUA's first internal audit of the Biosolids Manual in July of 2012. After the ORR occurred, the ACUA's Implementation Team used the review to make the appropriate updates to meet the NBP program's objectives. In May of 2013, the first verification audit took place under the guidance of William Hancuff. The ACUA's BMP Team put all the requirements noted by Mr. Hancuff, through the ACUA's corrective action form and has made the appropriate updates or set plans to address all the requirements. The NBP is a continuous environmental management system which will help continually improve and document the ACUA's biosolids program. The ACUA has made the commitment to the NBP and will continue to strive to document and improve the ACUA's biosolids program and manual.

### **Introduction:**

#### **Purpose of the Report**

As specified in the requirements for Element 15 of the Biosolids Manual, the ACUA is required to prepare an annual report detailing the Biosolids Program and any performance related to the Biosolids Manual for biosolids activities. The Biosolids Management Program Performance Report is intended to provide an annual review of information regarding the focus and status of the ACUA's Biosolids Manual in regards to implementation, environmental and performance activities. This report covers the following topics:

1. Biosolids Manual
2. Reporting on Annual Tasks from the Biosolids Manual
3. Progress Towards Meeting Biosolids Goals and Objectives
4. Biosolids Utilization

5. Internal Audit
6. Third Party Audit
7. Other Various Activities Associated to the Biosolids Manual

### **Background**

The ACUA entered into the National Biosolids Partnership (NBP) in 2011 by signing a Letter of Understanding with the NBP. The Vice President, Wastewater soon began the developmental stage of the Biosolids Manual. This included committing the ACUA to the Code of Good Practice, establishing a biosolids policy, and developing a Biosolids Manual. In 2012, the ACUA continued implementing the Biosolids Manual, while receiving the Bronze Recognition in April. In August of 2012, the ACUA's Vice President, Wastewater left the ACUA for another Authority and since that time the ACUA's Director of Wastewater Operations has assumed the interim Vice President, Wastewater position. Under the guidance of Chris Harris, the ACUA's interim Vice President, Wastewater, the ACUA obtained Silver Recognition with the NBP in January of 2013. In August of 2013, the ACUA obtained Gold Recognition in the NBP program. This recommendation came after the ACUA's third party auditor completed the ACUA's first third-party audit. ACUA is honored to have been recommended to receive Gold-Level Recognition from the National Biosolids Partnership (NBP) and intends to meet criteria for obtaining Platinum recognition next year.

### **Biosolids Manual**

The Biosolids Manual is the framework for documenting and organizing the seventeen elements of the NBP program for biosolids. The ACUA began developing the Biosolids manual after the Biosolids Policy was adopted on November 17, 2011. The final version of the manual was completed and approved by the acting Vice President, Wastewater on June 4, 2013.

The master copy of the Biosolids Manual is kept on file on the ACUA's Intranet. All elements and documents of the manual can be found electronically on the ACUA's Intranet at <http://insideacua/shared/sps/bmp/default.aspx> or referenced on the ACUA's website at <http://www.acua.com/acua/content.aspx?id=3930>.

### **Reporting on Annual Biosolids Manual Tasks**

In 2013, the annual Biosolids Manual tasks included implementation and review of each critical control point (CCP) and the CCP tables of Element 3. A CCP is defined as any location, unit process, event, or activity throughout the biosolids value chain under the organization's direct control or influence that requires effective policies, programs, procedures, practices, monitoring and measurements to assure the biosolids activities meet legal, quality and public acceptance requirements and do not have undesirable environmental impacts. The CCPs include all biosolids management activities that are covered under applicable legal and other requirements. The review of the CCP tables included the simultaneous review of the associated standard operating procedures (SOPs), operational controls, monitoring and measurements, and environmental impacts associated with each CCP. To date there have been no changes to the Emergency Operating and Response Program – Wastewater Division. This program is monitored for changes on a yearly basis and any changes to the program shall be documented here in future years. Since the ACUA's start of the manual, the ACUA's Implementation Team has a schedule of tasks in place to ensure that the above items are reviewed on an annual basis.

### **Progress Towards Meeting Biosolids Goals and Objectives**

The Technical Assistant, Bob Carlson, established goals and objectives (G&O) in conjunction with the rest of the Biosolids Management Program (BMP) Implementation Team, including the Director Wastewater Operations, Deputy Chief Financial Officer (CFO)/Director of Research and Development (R&D), and three (3) Project Analysts, Finance for the ACUA's Wastewater Treatment Plant that produces biosolids. The ACUA has the following goals and objectives for its wastewater treatment plant. These goals were created in order to improve our Efficiencies, Quality Management Practices and our overall Environmental Performance. The goals and objectives from the past year include the following:

- 1) Improve the BMP by 2017
  - a. Obtain NBP Platinum Certification
- 2) Reduce Biosolids Incinerator auxiliary fuel usage by 30% of base year 2010 by 2014
  - a. Improve ACUA dewatering sludge quality to greater than 30%.
  - b. Improve Customer sludge quality to greater than 16% Total Solids.
  - c. Improve biosolids incinerator controls.
- 3) Find a beneficial use of our waste streams by 2018
  - a. Monitor and Measure Beneficial Use of FOG (Fats, Oils and Greases) and Ash by 2014.
- 4) Find a reliable and efficient means to convey WAS centrate to the head of plant while eliminating redundant pumping and reducing electrical consumption by 50% by 2013
  - a. Evaluate current infrastructure by September 2012
  - b. Evaluate System Hydraulics by October 2012
  - c. Design and specify new conveyance system by December 2012
  - d. Bid and install new conveyance system by May 2013
  - e. Develop new SOP and revise WPCII SOP by June 2013

### **Biosolids Utilization**

The ACUA's Biosolids program includes incineration of biosolids for landfill application of the biosolids ash.

### **Disposal at Landfills**

Ash derived from biosolids are utilized in the ACUA's non-hazardous waste landfill as a daily cover in the landfill process.

### **Internal Audit**

Internal audits of the ACUA's Biosolids Manual provide important feedback that supports continual improvement. Internal audits are intended to enable organizations to periodically identify and address weaknesses in the ACUA's Biosolids Management Program (BMP). The ACUA's first internal audit was conducted in July, 2012 and is scheduled to occur August 22, 2013 to meet the guidelines of holding the audit annually by August documented in the ACUA's Biosolids Manual.

### **Third Party Verification Audit**

The NBP has developed an independent, third party verification component of its program for biosolids. This component supports the goal of environmentally sound and publicly accepted biosolids management practices. The objectives of the third party verification audit are the following:

- Verify that the ACUA's Biosolids Program meets the expectations and requirements established by the NBP.
- Verify that the ACUA's Biosolids Program for biosolids activities is being implemented in practice, as well as paper.
- Assure environmentally sound performance of biosolids management practices.
- Increase public trust and confidence in biosolids management practices.

A third party verification audit was conducted on May 2, 2013 and May 3, 2013, and the ACUA plans to have the auditor return next year to strive for Platinum Certification in the NBP.

### **Interim Audit**

The purpose of the interim audit is to verify, through regular reviews, the system's health and effectiveness between verification audits. The on-site interim audits provide independent reviews, and support credibility between re-verification audits. The goal of the interim audit is to collect and evaluate objective evidence related to a portion of the ACUA's Biosolids Program, such that all 17 elements are covered. The audits determine whether the ACUA's Biosolids Manual is functioning as intended, that practices and procedures are conducted as documented, and that the implemented Biosolids Manual conforms to the NBP's Code of Good Practice and ACUA's G&O. An Interim Audit was conducted in July of 2012, and the ACUA has scheduled the 2013 interim audit for August 22, 2013.

### **Activities Conducted By Contractors**

The ACUA has identified three contractors associated with having biosolids activities with the ACUA's Biosolids Program. The activities include transportation of biosolids ash to the ACUA's landfill, consulting for engineering services associated with the ACUA's incinerator, and the contracting of services for polymer associated with the ACUA's Biosolids Program. The three contractors include:

- ACUA: Solid Waste Division – For providing transportation services for ash delivery;
- Polydyne, Inc. – For providing polymer goods and services to the ACUA; and
- Industrial Furnace Company Inc. – For providing engineering consulting services for the ACUA's incinerator

### **Other BMP Activities**

The ACUA conducted an ORR in February of 2013 with NSF International Strategic Registration, Ltd. The verification audit has since been completed in May of 2013, and the ACUA plans to have the auditor come back in for another audit in 2014, to strive for the Platinum Certification.

### **Continual Improvement**

There were many meaningful biosolids management activities in 2013 which were conducted in the spirit of continual improvement. However, by reviewing the activities that occurred in the previous year, the ACUA will be able to continually improve its BMP for the Biosolids Program in subsequent years. The ACUA will continue to host the Earth Day Festival, which provides an

opportunity to showcase the ACUA's biosolids and management programs. Past events allowed the ACUA to continually improve its relations with interested parties. The 2013, Goals & Objectives meet the specific, measurable, achievable, relevant, and time-bound (SMART) criteria and give the ACUA the opportunity to continually improve its management program.

#### **Summary: Monitoring, Measurement and Other Results relative to Legal Requirements**

The ACUA Technical Assistant and Project Analyst have documented all monitoring, measurement, and other requirements relative to legal requirements. All legal requirements within our Title V Permit, NJPDES Surface Discharge Permit, Basic Industrial Storm Water Permit, etc. have been added to all existing standard operating procedures. Completing the corrective action to further improve our program with regards to monitoring and measurement requirements as they relate to legal requirements has advanced our management practices and regulatory compliance to a new level. Moving forward ACUA employees will become more familiar with legal requirements as it relates to monitoring, measurement and laboratory testing. In the annual BMP training, ACUA employees will become more familiar with Critical Controls. A review of the measuring and monitoring related to Critical Controls will then become more intensive on the BMP Team level.

#### **Summary: Measurable Improvements as a result of the accomplished Goals & Objectives**

The goals and objectives related to this report were developed by the ACUA's BMP Implementation Team for the ACUA's Biosolids Management Program.

Solids Management Areas: The goals and objectives were tracked and progress reports were submitted to applicable departments. Also, input from interested parties regarding the goals and objectives were solicited by way of outreach, contact forms, and the ACUA's annual Earth Day on April 21, 2013.

The goals and objectives were developed by the Technical Assistant and approved by the Vice President, WW. Descriptions of established goals and objectives for the Wastewater Treatment Facility and the progress towards meeting those goals and objectives are as follows:

#### **Goal: Improve the BMP by 2017, by obtaining and monitoring the NBP Platinum Certification**

Currently, the ACUA has received Silver Recognition and is working to obtain the Gold Recognition for the summer of 2013 to meet the ultimate goal of being NBP Platinum Certified.

#### **Goal: Reduce Biosolids Incinerator auxiliary fuel usage by 30% of base year 2010 by 2014**

Currently, the ACUA has developed the below objectives to monitor and measure this goal:

- a. Improve ACUA dewatering sludge quality to greater than 30%.
- b. Improve Customer sludge quality to greater than 16% Total Solids.
- c. Improve biosolids incinerator controls.

By determining these Goals and Objectives to meet SMART criteria, the Technical Assistant developed a way in which the ACUA can now effectively monitor and measure the greenhouse gases at the ACUA. As the ACUA, develops in the NBP program, the results from the monitoring and measurement will be posted here for reference.

#### **Goal: Find a beneficial use of our waste streams by 2018**

Currently, the ACUA's Technical Assistant has developed an objective to monitor and measure the beneficial use of FOG (Fats, Oils and Greases) and ash by 2014. As the ACUA, develops in the NBP program, the results from the monitoring and measurement will be posted here for reference.

**Goal: Find a reliable and efficient means to convey WAS centrate to the head of the plant while eliminating redundant pumping and reducing electrical consumption by 50% by 2013**

Currently, the ACUA's Technical Assistant has developed a plan to evaluate current infrastructure, evaluate system hydraulics, design and specify new conveyance system, and then bid and install the new conveyance system. Once the system is in place a new SOP will be developed and the Wastewater Pollution Control II SOP will be revised to reflect the system changes. These system changes will both monitor and measure the reduction in costs of Dewatering WAS at the ACUA.

**Summary of Corrective Actions**

The ACUA utilizes the Corrective Action/Improvement Form to track all corrective actions. To date the ACUA's corrective actions have involved the ACUA's employee's suggestions for the ACUA's Biosolids Manual, along with the internal audit, the ORR observations and opportunities for improvement, and the verification audit completed by NSF International Strategic Registration, Ltd. The ACUA's BMP Implementation Team has completed 81 Corrective Action/Improvement Forms with 9 assigned and in the resolution development stage.

**Revision History:**

<b>Version Number</b>	<b>Version Date</b>	<b>Description of Revision</b>	<b>Date Last Revised</b>
<b>1</b>	<b>8/8/2013</b>	<b>Original Issue</b>	