



How the NBP EMS Program Benefited Orange County Utilities – Orlando, FL

The Orange County Utilities Department provides water, wastewater and solid waste services to the unincorporated areas of Orange County, Florida. Orange County operates the South Water Reclamation Facility (SWRF), which has a treatment capacity of 43 million gallons per day (MGD); the Eastern Water Reclamation Facility (EWRF), which has a treatment capacity of 19 MGD and the Northwest Water Reclamation Facility (NWRf), which has a treatment capacity of 10.5 MGD. Orange County also maintains 1716 miles of wastewater pipes and 687 wastewater pump stations.

The three regional water reclamation facilities produce approximately 51 million gallons of reclaimed water and 37 dry tons of biosolids every day. Reclaimed water produced at the facilities is used for citrus irrigation, industrial reuse, wetlands enhancement and residential and golf course irrigation. Orange County's biosolids are land applied as fertilizer. The land application of biosolids is an environmentally responsible means of sustaining the production of Florida's agricultural lands for future generations. Orange County utilizes the services of two contractors to transport the biosolids from the facilities to the land application sites. The SWRF produces Class B biosolids, while biosolids produced at the EWRF and the NWRf are transported to a private processing facility for further treatment before being land applied.

The Orange County Board of County Commissioners adopted a Biosolids Management resolution on April 29, 2003. This resolution provided the basis for Orange County's biosolids EMS policy. This also encouraged them to voluntarily participate in the Environmental Management System (EMS) developed by the National Biosolids Partnership (NBP). The County believed that by implementing a biosolids EMS, they could enhance their current operations and encourage more public participation and acceptance of biosolids.

Orange County's biosolids EMS was subjected to a third party verification audit in accordance with the NBP guidelines. Auditors from KEMA-Registered Quality, Inc., located in Chalfont, Pennsylvania, conducted the verification audit in November 2007. The audit verified that Orange County's biosolids EMS is effective and supports the NBP's fundamental objectives of continual improvement, exceptional environmental performance, regulatory compliance, good management practices and the opportunity for the public to provide input. The NBP concurred with KEMA's findings by determining that Orange County's biosolids EMS meets all guidance criteria and therefore, is a certified program.

EMS Benefits

The efforts expended to create and verify the biosolids EMS have helped to integrate management, maintenance and operational activities within our Division.

Increased Public participation: The OCU created a list of interested parties. Citizens who lived within a half mile radius from an Orange County Water Reclamation Facility or adjacent to a land application sites were sent a letter inviting them to participate in Orange County's biosolids EMS. The citizens that indicated in interest in attending the meetings or receiving additional Biosolids information were added to Orange County's interested party list and were invited to attend public meetings and provide input. In May 2006, Orange County held an interested parties meeting and obtained feedback from the attendees, which served as the basis in developing the EMS program. Orange County also made information regarding biosolids available to the public through the Orange County Government's website and handed out information sheets at community events. These approaches helped build public confidence in biosolids activities.

Standardization of Operational Practices: The EMS development helped to review the operating procedures at each one of our facilities and standardize those practices. The standardization of practices helped to improve the overall oversight of the program and minimize the non conformances.

Capturing the Knowledge of senior operators: With several senior level employees are ready to retire, it became very critical to document their knowledge and experiences for the benefit of junior operators and the County. Standard Operating Procedures developed as part of the EMS implementation helped to capture this knowledge base.

Increased awareness of biosolids internally: As part of the EMS development several training and information sessions were conducted in various sections within our Division and several articles were published in the County and Division news letters. Several employees in the transmission and compliance sections became aware of Biosolids because of these training and internal outreach activities.

Improved coordination with contractors: Since significant part our Biosolids operations depend on the contract operations, we realized the importance of improving the oversight of land application practices. Monthly visits to the contractor's facilities and land application sites were instituted.

Increased Training opportunities: In order to maintain the quality of the biosolids, need for increased training in the technical aspects of the Biosolids operations were identified.

Identification of long term operational needs: The EMS development process helped us identify and prioritize the long term improvements at our water reclamation facilities.

Lessons Learned

While it took a considerable amount of staff time to develop and implement the biosolids EMS, Orange County learned that:

- The biosolids EMS manual needs to be simple.
- It is important to develop a management system that will work for your organization, as well as, satisfy the NBP's requirements.
- Existing management practices could be and were successfully integrated into the biosolids EMS.
- Conducting management reviews every quarter will address several issues in the development process.
- Quarterly and short internal audits are more effective than long and yearly internal audits.

Orange County found the verification process to be very thorough. The auditors were professional and the process identified several opportunities for improvement.

Orange County Utilities' goals for the future include continuous improvement of the Biosolids Management System and evaluate the possibility of expanding the management system to include other areas of our operations.