How the NBP EMS Program Benefitted Renewable Water Resources

Renewable Water Resources (ReWa) is the largest wastewater treatment provider in the Upstate, SC, serving much of Greenville County and portions of Anderson, Laurens, Pickens and Spartanburg Counties. The Saluda River, Reedy River and the Enoree River basins are the three major drainage basins in the organization's service area. Wastewater within the region is collected from 17 public partners that construct and maintain approximately 1,955 miles of sewer collection lines. These collection lines connect into the organization's 360-mile interceptor system. ReWa owns and operates nine wastewater treatment plants, which treat an average flow of 34.9 MGD, and one package plant, with all plants generating solids and seven plants completing the solids stabilization process. ReWa recycles biosolids from its Durbin Creek, Grove Creek, Piedmont, Gilder Creek, Pelham, Mauldin Road, Lower Reedy, Georges Creek, and Marietta wastewater treatment facilities.

ReWa is nationally recognized for its implementation of the Biosolids Program, including two EPA awards, the National and Southeast Region Awards for the Beneficial Use of Biosolids in 1998 and again in 2000. ReWa also received the Water Environment Association of South Carolina's (WEASC) Biosolids Award in 2000 and again in 2011. These awards acknowledged significant contributions in the development and implementation of cost-effective, environmentally safe, and publicly acceptable biosolids use programs. On an annual basis, 95% of the organics recovered by ReWa are recycled back into the local farm economy. The use of biosolids as a fertilizer and soil amendment is beneficial to farmers, communities and municipalities. ReWa's biosolids are currently available to farmers in Anderson, Greenville, Laurens and Spartanburg County. Many farmers in these areas use biosolids as their sole fertilizer source, and can save more than $300/acre from the reduce need for chemical fertilizers.

Recycling biosolids through this method is the most cost-effective biosolids management method. As an agency, ReWa decided several years ago to participate in the environmental management system (EMS) program developed by the National Biosolids Partnership (NBP) because it is a powerful tool that will help to improve our biosolids management activities, promote continuous improvement and improve public relations. Our organization believes in this program, and has already seen benefits from it. Initially, ReWa's EMS established four broad long-term goals which included:

reducing hauling costs, improving relations with interested parties, and evaluating the feasibility of converting to Class A biosolids production at Mauldin Road WWTP. Substantial progress has been made on all these fronts and new goals and objectives have been developed during 2011. The goals and objectives took public interest into consideration when developed by the Biosolids EMS coordinator and the Biosolids Team. The wastewater treatment plant biosolids goals for its EMS was established cognizant of each of the four outcome focal points of the NBP program as identified below:

- Environmental Performance,
- Regulatory Compliance,
- Relations with Interested Parties, and
- Quality Biosolids Management Practices.

In the Environmental Performance outcome area, the goal is to reduce the transportation costs for biosolids. The preliminary results of this goal demonstrated that solids could be applied to fields up to 5% total suspended solids concentrations with no adverse environmental impacts. This represents a transportation cost savings of 20% to 25%. Additional data was gathered in 2011 and the goal will be completed after one more quarter of data is assessed.

In the Relations with Interested Parties outcome area, ReWa endeavored to increase public education and awareness of biosolids. The initial efforts to increase public education and awareness related to biosolids were completed through developing a biosolids fact sheet for ReWa's biosolids product and program in 2011. The fact sheet was transformed into a brochure to be mailed to those who participate in the land application program and made available to the general public on request. Additionally in 2011, ReWa initiated a significant effort in the relations with interested parties outcome area by forming a biosolids marketing feasibility group consisting of an agricultural economics professor from Clemson University, a Clemson Cooperative Extension horticultural agent, a Clemson Cooperative Extension livestock agent, a Gwinnett County Georgia Water Resource Center Superintendent and a professional engineer with Camp Dresser and McKee. The results of this effort resulted in a list of proposed ideas directed at the beneficial use of biosolids.

In the Quality Biosolids Management Practices outcomes area, an objective of evaluating the feasibility of converting to Class A biosolids production at Mauldin Road WWTP was established, including the development of options for meeting this objective. This effort resulted in identification of numerous ideas for biosolids projects related to quality biosolids management practices, which will be used to formulate future goals and objectives for the biosolids management program. An additional quality biosolids

management practice that was established in 2010 and completed in 2011 was the installation of new magnetic flow meters at all biosolids truck loading stations to ensure accurate measurement of biosolids and that all tankers are loaded to the maximum extent legally permitted. This goal also addresses the environmental performance goal of reducing the transportation costs since ReWa is charged by the tanker load. Seven new meters were installed and this objective has been accomplished.

Overall, the process of implementing a Biosolids EMS resulted in increased collaboration between leadership level and departments, and streamlining the process for continually improving ReWa's Biosolids program.