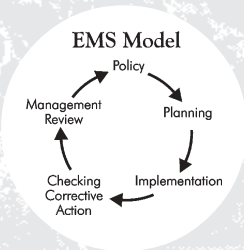


EMS CASE STUDY:



CITY OF SHELBY UTILITIES - WASTEWATER TREATMENT DIVISION

Location:	Shelby, N.C. (Cleveland County)
Industry:	Wastewater Treatment Division (SIC Code 4952)
Pollution Prevention Application:	EMS and ISO 14001
Water Reduction:	Not Calculated
Annual Savings:	Not Calculated
Contact:	Cynthia I. Walters, EMS Coordinator, (704) 484-6850 cynthia.walters@cityofshelby.com

BACKGROUND

The City of Shelby's Wastewater Treatment Division (WWTd) is a 6 MGD wastewater treatment facility responsible for the treatment of domestic, industrial and commercial wastewater that must adhere to all state and federal regulations and limits relating to the First Broad River. Also located at the wastewater treatment site is the City of Shelby's compost facility, responsible for the management and disposal of its biosolids. The site is subject to a National Pollutant Discharge Elimination System (NPDES) permit, a Compost Facility permit, and laboratory certification. The WWTd implemented an environmental management system (EMS) and received ISO 14001 certification on June 4, 2002. The WWTd was the second public utility in the state to achieve this designation.

PLANNING AND IMPLEMENTATION

The City of Shelby's upper management and city council place high value on environmental issues. Through participation in a series of workshops with the N. C. Division of Pollution Prevention and Environmental Assistance (DPPEA), staff learned about the positive impacts of EMS and completed planning steps to implement an EMS. The city plans to develop an EMS for other city departments in the future.

The EMS model ensures a commitment to legal and environmental compliance and aids staff understanding of overall division goals. In developing its environmental policy, the EMS coordinator developed the slogan "P.U.R.E." –

Protect the Environment, Understand regulations, Reduce Pollution, and Ensure Knowledge – to more easily communicate the city's environmental commitment to staff. A copy of the EMS policy is available on the City's Web site (<http://www.cityofshelby.com/>) as well as at City Hall and at the wastewater treatment plant for compost customers and visitors. Shelby's Significant Industrial Users (SIUs) were told of Shelby's EMS when their permits were recently reissued. On-site contractors are briefed on the EMS as well as on emergency evacuation procedures.

Staff is trained on significant environmental aspects of their jobs and on their responsibility to follow environmental procedures. Outside contractors and personnel are made aware of the EMS and are expected to follow the EMS guidelines. To ensure compliance by outside contractors, environmental considerations are factored into decisions throughout the year during day-to-day business, including during the annual budget process. The WWTd has an EMS coordinator that is responsible for training needs, internal audits and all information relating to the EMS. An EMS team meets monthly to discuss EMS progress and any environmental issues. Items discussed at the EMS team meetings are reviewed during the Management Review Board meetings held each quarter.

CONTINUAL IMPROVEMENT

Operators are expected to know and understand the environmental compliance goals for the plant. Additionally, the Objective and Target Improvement Plan ensures continual



improvement within EMS and the organization. Areas targeted initially include improvements to the preventive maintenance program to reduce equipment down time, improvements to work procedures and training related to handling waste-activated sludge, and updating and expanding the number of staff trained on the plant's computer control (SCADA) system. Since implementation, the EMS has improved employee awareness and responsibility towards environmental issues. Plant operations are more effectively managed via daily, weekly and monthly review of monitoring data. Corrective action reports implemented as a result of the EMS are integrated into the work order system. Improved performance of plant operations was of particular focus during the summer of 2002 as Shelby experienced a severe drought that impacted its river discharge source.

LESSONS LEARNED

The WWTd has experienced numerous advantages to implementing an EMS. Among these advantages are better teamwork and communication within the Utilities Department, increased public awareness and improvements in overall environmental performance. Environmental improvements include increased efficiency when managing environmental obligations, better communication among staff, effective training and documentation of training, better focus on meeting environmental objectives, and keeping environmental issues in the spotlight. Some of the difficulties faced during implementation were getting staff to integrate EMS procedures into their normal routine and dealing with the increased EMS documentation.

COST INFORMATION

Following is a breakdown of costs incurred for implementing the EMS and getting ISO 14001 certification. Staff time spent on implementation was estimated at 1,150 hours. Training at an out-of-state location for two people comprised the balance of travel costs.

Staff Time:	\$14,756
Travel Cost (Pilot Program):	\$10,122.24
Internal Audit Training:	\$ 356
Total for Implementation:	\$25,234.24
Cost for Certification:	\$13,500
Total Cost:	\$38,734.24

The North Carolina Division of Pollution Prevention and Environmental Assistance provides free, non-regulatory technical assistance and education on methods to eliminate, reduce, or recycle wastes before they become pollutants or require disposal. Call DPPEA at 919.715.6500 or 800.763.0136 or e-mail nowaste@p2pays.org, or visit DPPEA's Web site at www.p2pays.org for assistance with issues in this Fact Sheet or any of your waste reduction concerns.