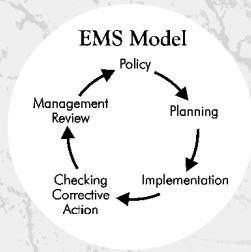


EMS CASE STUDY:



CITY OF GASTONIA WASTEWATER TREATMENT DIVISION

Location:	Gastonia, N.C. (Gaston County)
Industry:	Wastewater Treatment Division (SIC 9500)
Pollution Prevention Application:	Environmental Management System (EMS)
Waste Reduction:	Not Calculated
Contact:	Beth Eckert, (704) 854-6669 or bethe@cityofgastonia.com

BACKGROUND

The City of Gastonia Wastewater Treatment Division (GWWTDD) is responsible for treating Gastonia's industrial, commercial and domestic wastewater. GWWTDD has two treatment facilities – Crowder's Creek Wastewater Treatment Plant and Long Creek Wastewater Treatment Plant – to ensure wastewater discharged to surface waters meet state and federal requirements. GWWTDD also runs laboratories to test the wastewater and is responsible for managing the biosolids that result from treating wastewater. Both of the wastewater treatment facilities are subject to a National Pollutant Discharge Elimination System (NPDES) permit, a land application permit for biosolids, and an air quality permit. In February 1999, the Gastonia Wastewater Treatment Division entered into a contract with the N.C. Department of Environment and Natural Resources (DENR) to develop and implement an environmental management system (EMS). With assistance from the N.C. Division of Pollution Prevention and Environmental Assistance (DPPEA), an EMS was designed according to the ISO 14001 standard and was implemented in January 2000. Gastonia is presently working towards becoming ISO 14001 certified.

PLANNING AND IMPLEMENTATION

Gastonia designed the EMS to cover the wastewater treatment plants, laboratories, resources recovery farm, and pretreatment facilities. To begin the process of planning and implementing an EMS, GWWTDD created an

environmental policy that was approved by the Gastonia City Council. The city then focused on identifying aspects and impacts and determining significance for the identified aspects. GWWTDD relied on an EMS team consisting of employees from both wastewater treatment facilities for this process. DPPEA aided GWWTDD by developing a form and a procedure for the EMS team to use for aspect and impact identification and significance determination. The process of identifying aspects and impacts and determining significance took approximately three months. Some of the aspects included metals in the effluent, laboratory waste, fecal material, chlorine, and oil and grease. GWWTDD also held an area industry meeting to receive input on what the city deemed to be significant in its EMS.

GWWTDD set objectives and targets for some of its significant aspects by considering legal and other requirements, significance of aspects and impacts, prevention of pollution, technological options, financial, operation and business requirements, GWWTDD's environmental policy, and views of interested parties – all of which are ISO 14001 requirements.

GWWTDD developed environmental management programs that lay out actions to achieve each objective and target and designate responsibility and time frames for achieving objectives and targets.

CONTINUAL IMPROVEMENT

GWWTDD ensures continual improvement by training all employees on the environmental policy, EMS awareness, and any roles and responsibilities associated with the EMS.



Gastonia also ensures and assesses continued competency of employees whose work can have a significant environmental impact annually during employee reviews. In accordance with the ISO 14001 standard, Gastonia has also developed procedures for internal and external communication, monitoring and measurement of operations, emergency preparedness and response, document and operational control, and EMS documentation. GWWTD also ensures continual improvement with quarterly review of significant impacts, objectives and targets, legal and other requirements, communication procedures, and corrective and preventative action reports. GWWTD trained four staff members – representing operations, biosolids, pretreatment and laboratories – as internal auditors in order to ensure the EMS is effective and objectives and targets are being met. In an effort to keep everyone from top-level management to workers informed about the EMS, GWWTD created a read-only drive for all employees to access. As another part of its corrective action, GWWTD uses its EMS to analyze spills during high rain events. Root cause analysis has led the organization to investigate bypass systems, increase

manhole height, and control flow at lift stations. Work in this direction is currently underway.

LESSONS LEARNED

GWWTD sees many benefits to an EMS, including improved management of environmental issues related to the operations of the wastewater treatment facilities. Gastonia sees the greatest benefit of the EMS as being enhanced cooperation among staff members and among other divisions, along with increased public awareness of the GWWTD's commitment to environmental excellence. Other benefits of the EMS include improved communication within GWWTD, better communication with other divisions in the city of Gastonia, and a system for continual improvement and pollution prevention.

COST INFORMATION

Staff Time	\$2,896.66
Internal Auditor Training	\$1,400.00
Total	\$4,296.66



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.