

# City of Gastonia Wastewater Treatment Division



## ISO 14001 - Environmental Management System Manual

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<b>Name – Number: Environmental Management System Manual – EMS-0100.000</b>	Revision #: 0
	Revision Date: 12/7/99
	Effective Date: 1/1/00 Page 2 of 12

TABLE OF CONTENTS

<u>MANUAL SECTION</u>	<u>ISO SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
<b>SECTION 0</b>		<b>TABLE OF CONTENTS</b>	2
<b>SECTION I</b>		<b>INTRODUCTION</b>	3
<b>SECTION II</b>		<b>DISTRIBUTION, REVISION, &amp; CONTROL</b>	4
<b>4.2</b>	<b>4.2</b>	<b>ENVIRONMENTAL POLICY</b>	5
<b>4.3</b>	<b>4.3</b>	<b>PLANNING</b>	6
4.3.1	4.3.1	Environmental Aspects	6
4.3.2	4.3.2	Legal and Other Requirements	7
4.3.3	4.3.3	Objectives and Targets	8
4.3.4	4.3.4	Environmental Management Programs	8
<b>4.4</b>	<b>4.4</b>	<b>IMPLEMENTATION &amp; OPERATION</b>	9
4.4.1	4.4.1	Structure and Responsibility	9
4.4.2	4.4.2	Training, Awareness and Competence	9
4.4.3	4.4.3	Communication	10
4.4.4	4.4.4	Environmental Management System Documentation	10
4.4.5	4.4.5	Document Control	10
4.4.6	4.4.6	Operational Control	11
4.4.7	4.4.7	Emergency Preparedness and Response	11
<b>4.5</b>	<b>4.5</b>	<b>CHECKING AND CORRECTIVE ACTION</b>	11
4.5.1	4.5.1	Monitoring and Measurement	11
4.5.2	4.5.2	Non-conformance and Corrective Action	11
4.5.3	4.5.3	Records Management	12
4.5.4	4.5.4	Environmental Management System Audits	12
<b>4.6</b>	<b>4.6</b>	<b>MANAGEMENT REVIEW</b>	12

<b>Name – Number: Environmental Management System Manual – EMS-0100.000</b>	Revision #: 0
	Revision Date: 12/7/99
	Effective Date: 1/1/00 Page 3 of 12

**SECTION I - INTRODUCTION**

The City of Gastonia's Wastewater Treatment Division (GWWD) is responsible for treating Gastonia's industrial, commercial, and domestic wastewater to meet state and federal limits for discharge to the surface waters as well as for proper management of its biosolids. Gastonia has two wastewater treatment operations that are designated for these activities. Additionally, the WWTD manages a resource recovery farm and the operations of a contractor that is responsible for land application of biosolids at permitted locations throughout the county.

Wastewater Treatment Operations

- Crowder's Creek Wastewater Treatment Plant, 5642 South York Road, Gastonia, NC 28054
- Long Creek Wastewater Treatment Plant, 3000 Long Creek Disposal Plant Rd., Dallas, NC 28034
- Resource Recovery Farm, 208 Goldmine Rd., Bessemer City, NC

In order to improve management of environmental issues related to these operations and sites, the Gastonia Wastewater Treatment Division has implemented an ISO 14001 environmental management system. This Environmental Management System (EMS) manual presents the environmental policy, structure of the management system, and related documents for the Gastonia Wastewater Treatment Division.

The EMS is designed according to the requirements set forth by the ISO-14001 Standard. Sections 4.2-4.6 parallel the ISO-14001 Standard number scheme. Each of these sections provide specific information or instructions necessary for complying with the requirements in the ISO-14001 Standard.

The EMS manual is the responsibility of the EMS Project Coordinator and is to be reviewed yearly and updated as appropriate, see review procedure (**EMS-0100.001**). The issued copies of this manual are under control of the EMS Project Coordinator.

<b>Name – Number: Environmental Management System Manual – EMS-0100.000</b>	Revision #: 0
	Revision Date: 12/7/99
	Effective Date: 1/1/00 Page 4 of 12

**SECTION II - DISTRIBUTION, REVISION, AND CONTROL**

The distribution of this manual shall be conducted manually by the EMS Project Coordinator. The version accessed on the computer system shall be considered the “controlled” copy. There will be a “Master Copy” in hard copy form maintained by the EMS Project Coordinator. This copy shall have the signature of the Superintendent of the Wastewater Treatment Division and the date of approval.

Any part of the manual in hard copy form, other than the master copy and controlled copies issued per the distribution list, shall be considered “UNCONTROLLED” and will have “\*\*\*\*\*THIS IS AN UNCONTROLLED COPY OF A CONTROLLED DOCUMENT\*\*\*\*\*” automatically inserted at the bottom of each page when printed.

The manual will be reviewed a minimum of once per year. The EMS Management Team shall have the responsibility for reviewing the manual annually in **October**.

Recommendations for revisions shall be forwarded to the EMS Project Coordinator. The EMS Project Coordinator will be responsible for all revisions to the manual. He/she will maintain a record of external distribution, if applicable, and maintain obsolete copies on file.

This manual will be controlled manually and in accordance with the Gastonia Document Control Procedure (**EMS-0100.002**).

<b>Name – Number: Environmental Management System Manual – EMS-0100.000</b>	Revision #: 0
	Revision Date: 12/7/99
	Effective Date: 1/1/00 Page 5 of 12

**SECTION 4.2 - ENVIRONMENTAL POLICY**

The EMS Management Team will review the policy annually. If revisions are necessary, the revised policy will be adopted by the City Council in **November**.

The policy will be made available to the public through the City of Gastonia’s web-site. The policy will be communicated to all WWTD employees through training events.

**CITY OF GASTONIA  
WASTEWATER TREATMENT DIVISION**

**ENVIRONMENTAL POLICY**

The City of Gastonia Wastewater Treatment Division is committed to the implementation of a management system which will minimize negative and advance positive impacts on the environment and which will control the wastewater treatment costs to be borne by the consumer. Believing these goals to be fully achievable, the Wastewater Treatment Division is firmly committed to and will:

- Establish procedures to promote continuing improvement of compliance with all applicable environmental laws and regulations.
- Establish procedures to continue efforts to strengthen and improve knowledge of environmental issues within the Division.
- Seek optimal operation of the Wastewater Treatment Facilities to minimize environmental impacts where technically and economically feasible, even if not required by law or regulation.
- Promote cooperation and understanding with the public, customers, and governmental agencies in developing economically feasible and environmentally sound wastewater treatment objectives.
- Continue to promptly report all noncompliance issues in accordance with applicable governmental reporting requirements, evaluate causes of noncompliance, and implement corrective actions.
- Establish procedures for periodic review of environmental compliance with all laws and regulations, as well as with the ISO 14001 Environmental Management System.
- Establish procedures to ensure all that employees are knowledgeable of, and understand and comply with, all applicable environmental laws and regulations.
- Promptly correct any practice or condition not in compliance with this policy.

All employees are expected to comply with the spirit as well as the letter of this policy.

<b>Name – Number: Environmental Management System Manual – EMS-0100.000</b>	Revision #: 0
	Revision Date: 12/7/99
	Effective Date: 1/1/00 Page 6 of 12

## SECTION 4.3 - PLANNING

Location and description of all reference materials has been identified the Document Control / Training Matrix (**EMS-0101.002A**) which is located electronically at **U:\ISO\FORMS\EMS-0101.002A** and a hard copy in the office of EMS Coordinator.

The following definitions are provided in the ISO-14000 Standards.

### 4.3.1 Environmental Aspects

**Environmental Aspects** - Elements of the organization's activities, products or services which can interact with the environment.

**Environmental Impact** - Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services.

**Significant Environmental Aspect** - An environmental aspect that has or can have a significant environmental impact.

GWWTDD has identified all known environmental aspects and related impacts of our activities and products that we can control and have influence over in order to determine which can have a significant impact on the environment.

The EMS Management Team shall review at least annually per the EMS Review procedure (**EMS-0100.001**) the list of environmental aspects and impacts and identify the significant aspects using the Aspects and Impacts procedure (**EMS-0100.003**), aspects ranking form (**EMS-0101.003A**), significant aspects determination form (**EMS-0101.003B**), and the significant aspect listing form (**EMS-0101.003C**). The EMS management team will also review aspects and impacts of any new operations, activities, or laws for significance determination. Significant aspects will be considered in setting the environmental objectives.

The EMS management team will consist of the following personnel:

ORC Crowder's WWTP  
 Lab Supervisor Crowder's WWTP  
 ORC Long Creek WWTP  
 Lab Supervisor Long Creek WWTP  
 ORC of Biosolids  
 Assistant Superintendent of WWTD  
 Pretreatment Coordinator

The list of environmental aspects, related impacts and identified significant aspects and impacts will be kept up to date. The list will be comprehensively reviewed annually in November.

### 4.3.2 Legal and Other Requirements

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<b>Name – Number: Environmental Management System Manual – EMS-0100.000</b>	Revision #: 0
	Revision Date: 12/7/99
	Effective Date: 1/1/00 Page 7 of 12

The Gastonia Wastewater Treatment Division is required to comply with a variety of legal and other requirements that are applicable to the environmental aspects of its activities, products or services. The following personnel identify environmental regulations and requirements, which govern GWWTD activities and products:

**ORC Crowder's WWTP**

Environmental laws relating to treatment and discharge of industrial and municipal wastewater.

**Lab Supervisor Crowder's WWTP**

Environmental laws relating to the testing of wastewater samples.

**ORC Long Creek WWTP**

Environmental laws relating to treatment and discharge of industrial and municipal wastewater.

**Lab Supervisor Long Creek WWTP**

Environmental laws relating to the testing of wastewater samples.

**ORC of Biosolids**

Environmental laws relating to the management and application of wastewater treatment plant biosolids.

**Assistant Superintendent of WWTD**

Environmental laws relating to the operation of an industrial/municipal wastewater treatment plant.

**Pretreatment Coordinator**

Environmental laws related to handling wastewater discharged from commercial or industrial dischargers.

The following resources are used to identify applicable legal and other requirements:

**Documents:**

CFR books (Code of Federal Regulations) – covers solid waste, hazardous waste, air emission, wastewater, stormwater, biosolids regulations.

EPA Standard Testing Methods – Covers EPA certified wastewater testing procedures.

**Regulatory Personnel:** direct mailings and discussions with regulators. Representative personnel attend seminars.

**Software:** Application which is designed for fast regulatory searches. (CD-ROM)

Internet Access – Review of EPA newsletter

**Regulator Training:** plant personnel shall attend Conferences and workshops with key environmental responsibility on a regular basis to maintain up-to-date knowledge of current and upcoming regulatory requirements.

Periodic permitting and reporting requirements are documented and reviewed for accuracy as identified in the Legal and Other Requirements listing (**EMS-0101.001**).

All employees affected by new regulations will be trained on those regulations by their supervisor according to individual training matrices (**EMS-0101.002B**).

**4.3.3 Objectives and Targets**

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<b>Name – Number: Environmental Management System Manual – EMS-0100.000</b>	Revision #: 0
	Revision Date: 12/7/99
	Effective Date: 1/1/00 Page 8 of 12

GWWT D establishes environmental objectives and targets annually during **December** by considering at least the following information:

- Legal and other requirements
- Significant environmental aspects and impacts
- Prevention of pollution
- Technological options
- Financial, operational, and business requirements
- GWWT D environmental policy
- Views of interested parties

These objectives and targets will be documented and maintained according to the objectives and targets procedure (**EMS-0100.007**) and the EMS review procedure (**EMS-0100.001**). Objective and targets may be amended at other times during the year as a result of new or revised operations, activities, and/or regulations.

#### **4.3.4 Environmental Management Programs**

GWWT D has developed an EMS program entitled Objectives and Targets Improvement Plan (**EMS-0101.007**) that shall be used to achieve its objectives and targets. This program shall include:

- designation of responsibility for achieving the objectives and targets at each relevant function and level of organization;
- means and time-frame by which they are to be achieved.

The objectives, targets, and programs will be reviewed and approved annually per the EMS review procedure (**EMS-0101.001**) by the Superintendent of the WWTD during the budget development process. The EMS Project Coordinator is responsible for their maintenance and reporting. Projects that relate to new developments and new or modified activities, products or services, the program shall be amended where relevant to ensure that environmental management applies to such projects.

<b>Name – Number: Environmental Management System Manual – EMS-0100.000</b>	Revision #: 0
	Revision Date: 12/7/99
	Effective Date: 1/1/00 Page 9 of 12

**SECTION 4.4 - IMPLEMENTATION & OPERATION**

**4.4.1 Structure and Responsibility**

GWWD has defined, documented and communicated the roles, responsibility and authority of personnel in order to facilitate effective environmental management. These are identified in the roles and responsibilities listing (**EMS-0100.006**).

The Superintendent of the WWTD is responsible for assuring that adequate human resources, other resources, and training are available to implement and control this EMS.

The EMS Project Coordinator is responsible for ensuring that this EMS is established, implemented and maintained and for reporting on its performance to top management

**4.4.2 Training, Awareness and Competence**

All employees within the WWTD will be trained on the EMS policy and records maintained in the office of the EMS Coordinator. Based on the annual aspects and impacts analysis each department shall identify training needs for those employees whose work activities may create a significant impact upon the environment. All procedural training records will be maintained in each area supervisor’s office. Relevant procedures identified in the Document Control / Training Matrix (**EMS-0101.002A**) shall be established and maintained to ensure employees are aware of:

- The importance of conformance with the environmental policy and procedures and with the requirements of the Environmental Management System;
- The significant environmental impacts, actual or potential of their work activities and the environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirements of the Environmental Management System, including emergency preparedness and response requirements;
- The potential consequences of departure from specified operating procedures.

Personnel performing the tasks, which can cause a significant environmental impact on the environment, shall be evaluated for competence on the basis of appropriate education, training, and/or experience as identified in the roles and responsibilities listing (**EMS-0100.006**). Records of competency and individual training are maintained in the individual training matrices (**EMS-0101.002B**). During annual performance reviews employees will be evaluated on their demonstration of environmental competency.

All new employees will receive training on EMS related procedures, policy and requirements of the environmental management system upon commencement of work with the City of Gastonia via PowerPoint presentation located at **U:\ISO\training\ISOawareness training**. New or revised procedures affecting existing personnel will be communicated upon implementation.

Training requirements of contractor personnel will be established under the terms of contract. Follow-up will be done annually to evaluate conformance with the contract. City of Gastonia maintenance personnel will be

<b>Name – Number: Environmental Management System Manual – EMS-0100.000</b>	Revision #: 0
	Revision Date: 12/7/99
	Effective Date: 1/1/00 Page 10 of 12

trained on procedures identified in the Document Control / Training Matrix.

**4.4.3 Communication**

GWWTd has developed procedures for handling internal communications between the various levels and functions of the department. The EMS Project Coordinator is responsible for communicating information relative to the EMS to upper management and the EMS Team. The EMS Team is responsible for communicating information to affected employees.

GWWTd has documented a procedure for receiving, documenting, and responding to relevant communications from external parties (**EMS-0100.008**).

GWWTd has recorded its decision on considering processes for external communication of its significant environmental aspects. GWWTd will provide a listing of its significant environmental impacts to any interested party. Additionally, the GWWTd has held a seminar for external parties to discuss significant environmental impacts.

**4.4.4 Environmental Management System Documentation**

GWWTd has developed an EMS documentation system that is organized in a four-tier structure

EMS Manual	Level 1
EMS Procedures	Level 2
Standard Operating Procedures/Work Instructions	Level 3
Forms/Records	Level 4

Each of these levels will provide direction to relative documents in other levels.

**4.4.5 Document Control**

GWWTd has established a Document Control System that controls all documents and data that relate to satisfying the elements of the ISO 14001 standard and ensures:

- they can be located;
- they are periodically reviewed, revised as necessary and approved for adequacy by authorized personnel;
- the current versions of relevant documents are available at all locations where operations could significantly impact the environment;
- obsolete documents are assured against accidental use and those retained for legal or knowledge preservation suitably identified;
- they are legible, dated, readily identifiable and properly stored.

GWWTd has developed procedures and responsibilities concerning the creation and modification of various types of documents as identified in the Document Control Procedure (**EMS-0100.002**).

**4.4.6 Operational Control**

<b>Name – Number: Environmental Management System Manual – EMS-0100.000</b>	Revision #: 0
	Revision Date: 12/7/99
	Effective Date: 1/1/00 Page 11 of 12

GWWT D has identified operations and activities associated with the identified significant environmental aspects. Each department shall plan these activities, including maintenance, in order to ensure they are carried out under specified conditions by:

- Establishing and maintaining documented standard procedures to cover situations where their absence could lead to deviations from the environmental policy, objectives and targets;
- Stipulating operating criteria in the procedures;
- Establishing and maintaining procedures related to supplies and services used by the plant and communicating relevant procedures and requirements to suppliers and contractors.

All operating procedures are identified in the document control / training matrix (**EMS-0101.002A**)

#### **4.4.7 Emergency Preparedness and Response**

GWWT D has developed an emergency response plan (**WLC-0100.010 and WCR-0100.010**) and a Risk Management Plan (**EMS-0100.010**) which deals specifically with Chlorine and/or Sulfur dioxide related emergencies. The plan identifies the potential for accidents and emergency situations and the corresponding response. The plan also considers the prevention and mitigation of any environmental impacts associated with accidents or emergency situations.

These plans shall be reviewed at least every three years.

### **SECTION 4.5 CHECKING AND CORRECTIVE ACTION**

#### **4.5.1 Monitoring and Measurement**

GWWT D has established and maintains a system for measuring and monitoring the key characteristics of our operations that can have a significant impact on the environment. This system includes recording information to track performance, relevant operational controls and conformance with the established objectives and targets.

- Monitoring equipment shall be calibrated and maintained and records kept in the office of the responsible supervisor.
- A documented procedure (**EMS-0100.009**) has been established to periodically evaluate compliance with relevant environmental legislation and regulation.

#### **4.5.2 Non-Conformance and Corrective Action**

GWWT D has established and maintains a procedure to determine the need for and implementing corrective and preventative actions (**EMS-0100.004**).

- All employees are empowered to report, document and take temporary action for any nonconformities relating to environmental impacts.
- Corrective and preventative actions are taken to eliminate the causes of actual or potential

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<b>Name – Number: Environmental Management System Manual – EMS-0100.000</b>	Revision #: 0
	Revision Date: 12/7/99
	Effective Date: 1/1/00 Page 12 of 12

nonconformities and are appropriate to the magnitude of problems and commensurate with the environmental impact.

- Changes to documented procedures resulting from corrective or preventative actions are recorded.

### **4.5.3 Records Management**

GWWT D has established procedures for identification, maintenance, and disposition of all environmental records. These records are kept to demonstrate conformance to GWWT D's EMS, the ISO 14001 standard and applicable regulations.

- Environmental records are legible, identifiable, and traceable to the corresponding activity or product involved.
- Environmental records are stored in a way that they are retrievable and protected against damage, deterioration or loss.
- The retention times for all environmental records are established and recorded.

Refer to the Document Control / Training Matrix (**EMS-0101.002A**) and /or the Legal and Other Requirements (**EMS-0101.001**) documents for retention times and locations.

### **4.5.4 Environmental Management System Audits**

GWWT D has established and maintains procedures to carry out periodic audits of the environmental management system (EMS). The EMS audit procedure (**EMS-0100.011**) will determine the scope, frequency, methodology, and responsibility for the audits.

- The purpose of audits is to determine if the EMS has been properly implemented and maintained.
- Results of the EMS audits are reviewed with the Management Review Board (MRB).

## **SECTION 4.6 MANAGEMENT REVIEW**

The Management Review Board (MRB) reviews the EMS quarterly to ensure continuing suitability, adequacy, and effectiveness of the EMS. This review is documented.

The MRB addresses the possible need for changes to the policy, objectives, and other elements of the EMS. Observations, conclusions and recommendations are document for necessary action and changes