

City of Gastonia

Wastewater Treatment Division



ISO 14001 - Environmental Management System Manual

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Signature: _____

Revision #: 3 / Revision Date: May 21, 2001 / Effective Date: January 1, 2000

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SECTION I - INTRODUCTION

The City of Gastonia's Wastewater Treatment Division (GWSTD) 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 WSTD 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. Organizational structure is provided in Section III of this document.

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 organization, 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.

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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 a “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 in blue ink 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 document control matrix EMS-0101.002A on green paper, 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.

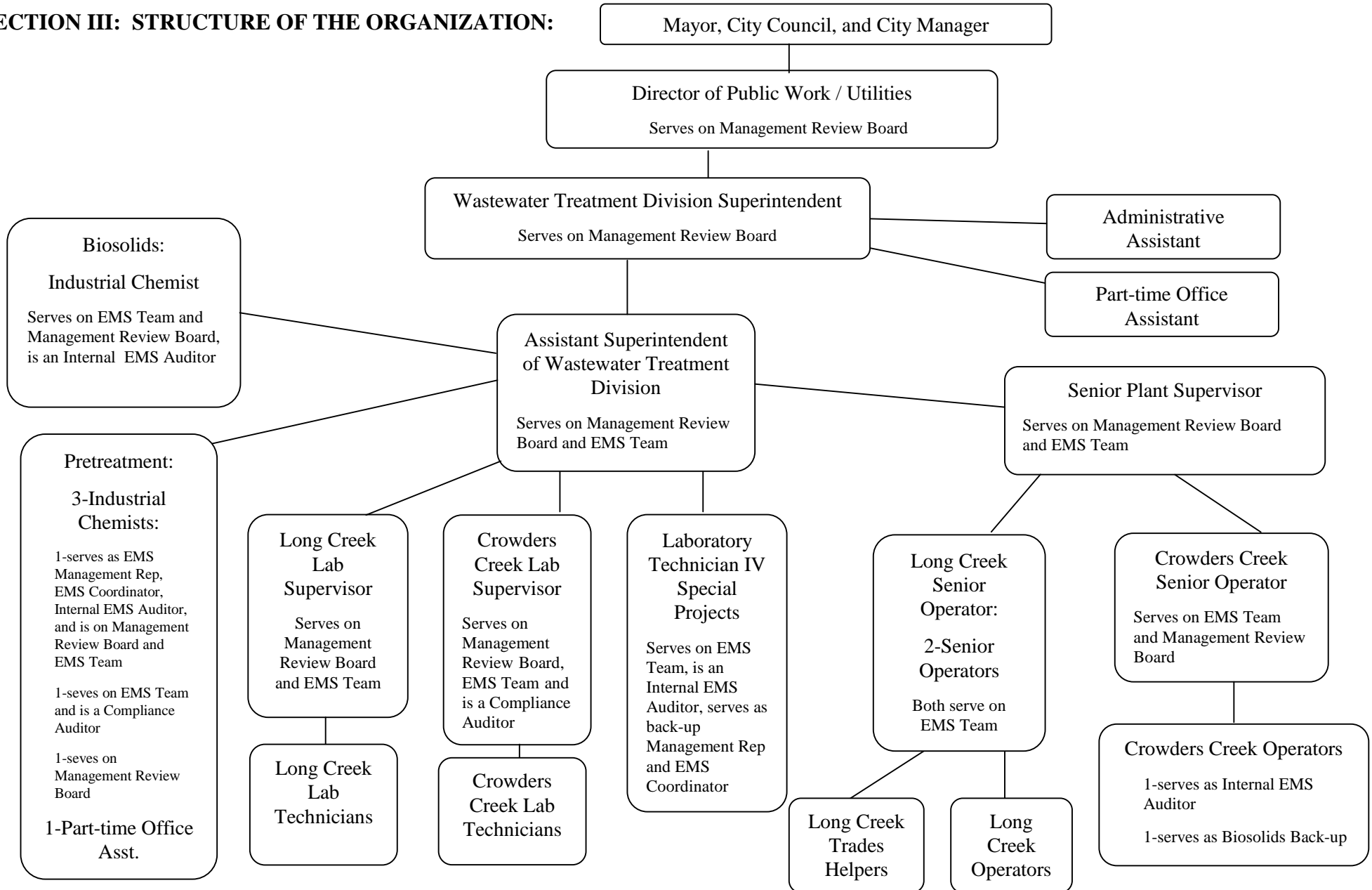
Recommendations for revisions shall be forwarded to the EMS Project Coordinator. The EMS Project Coordinator will be responsible for all revisions to the manual. He/she will maintain a record of external distribution, if applicable, and maintain obsolete copies on file.

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

Distribution List for the EMS Manual is as follows:

- Long Creek Wastewater Treatment Plant
 - Operators Control Room
 - Office of the Superintendent of the WWTD
 - Laboratory Supervisor’s Office
- Crowders Creek Wastewater Treatment Plant
 - Conference Room
 - Laboratory Supervisor’s Office
- Municipal Operations Center
 - Office of the Director of Public Works and Utilities
- Catawba Creek Liftstation
 - Pretreatment Office Area
- City of Gastonia City Hall Legal Department

SECTION III: STRUCTURE OF THE ORGANIZATION:



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SECTION 4.2 - ENVIRONMENTAL POLICY

The EMS Management Team will review the policy at least annually. If revisions are necessary, the revised policy will be brought before the City Council for adoption in **November** or at any time during the year that the Management Review Board (MRB) determines that a change is necessary to ensure that the policy continues to be appropriate to the nature, scale and environmental impacts of its activities, products or services.

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 firmly 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 has:

- Established procedures to promote continuing improvement of compliance with all applicable environmental laws and regulations.
- Established procedures to continue efforts to strengthen and improve knowledge of environmental issues within the Division.
- Sought, and continues to seek, optimal operation of the Wastewater Treatment Facilities to minimize environmental impacts and practice pollution prevention where technically and economically feasible, even if not required by law or regulation.
- Established a manual which provides the framework for development and periodic review of the management system, objectives and targets, and environmental compliance with all laws and regulations, as well as with the requirements of any other program to which the City’s Wastewater Treatment Division subscribes.
- Promoted, and continues to promote, cooperation and understanding with the public, customers, and governmental agencies by developing and reviewing economically feasible and environmentally sound wastewater treatment objectives and targets.
- Continued to promptly report all noncompliance issues in accordance with applicable governmental reporting requirements, evaluate causes of noncompliance, and implement corrective actions.
- Established procedures to ensure all that employees are knowledgeable of, understand and comply with, all applicable environmental laws and regulations and the environmental importance of adhering to such procedures.

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- Promptly correct any practice or condition not in compliance with this policy.

The City’s Wastewater Treatment Division staff is under a continuing obligation to evaluate, refine, and improve all aspects of this Policy. All employees are expected to comply with the spirit as well as the letter of this policy. Each employee in the Wastewater Treatment Division has been trained on and provided a copy of this Policy.

The Division’s Environmental Policy will be made available to the public in hard copy form upon request and is available on the City’s website at www.cityofgastonia.com.

SECTION 4.3 - PLANNING

Location and description of all reference materials for each area within the division have been identified in the Document Control Matrixes (EMS-0101.000, WCR-0101.000, WCR-0101.100, WLC-0101.000, WLC-0101.100) which are located electronically at **U:\ISO(respective area)**. The Acronyms document (EMS-0100.014) provides a list of acronyms that may be helpful when using any of the WWTD’s procedures, forms or any other documents referenced by the same.

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.

In order to determine which can have a significant impact on the environment, GWWTD has identified all known environmental aspects and related impacts of the division’s activities and products that it can control and have influence over.

The EMS Management Team shall review at least annually per the EMS/ Legal and Other Requirements 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**), aspect evaluation form (**EMS-0101.003A**), significant aspect determination form (**EMS-0101.003B**), significant aspect area summary form (**EMS-0101.003C**), and the significant aspect ranking form (**EMS-0101.003E**). The EMS management team will also review aspects and impacts of any new operations, activities, or laws for significance determination per the Aspect and Impact procedure (**EMS-0100.003**). Significant aspects will be considered in setting the environmental objectives and targets.

The EMS management team will consist of the following personnel:

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EMS Coordinator
 ORC Crowder's WWTP
 Lab Supervisor Crowder's WWTP
 Senior Plant Supervisor
 Lab Supervisor Long Creek WWTP
 Industrial Chemist serving as ORC of Biosolids
 Assistant Superintendent of WWTD
 A Pretreatment Industrial Chemist
 A Laboratory Technician IV
 Long Creek Senior Plant Operators

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. Comprehensive reviews of aspects and impacts will be conducted using the aspect and impact review form (EMS-0101.003D).

4.3.2 Legal and Other Requirements

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 Coordinators

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.

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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 EMS\Legal and Other Requirements Review procedure (**EMS-0100.001**) and in the summary listing (**EMS-0101.001**).

All employees affected by new regulations will be trained on those regulations by their supervisor, when appropriate.

4.3.3 Objectives and Targets

GWWTDD establishes environmental objectives and targets annually per the Objectives and Targets procedure (**EMS-0100.007**) 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
- GWWTDD environmental policy
- Views of interested parties

These objectives and targets will be documented and maintained in the Objectives and Targets Improvement Plan Summary document (**EMS-0101.007**) and reviewed according to the EMS\Legal and Other Requirements 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

The Objectives and Targets Improvement Plan (**EMS-0101.007A-Program ID#**) shall be used to achieve Gastonia's 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 Objectives and Targets procedure (**EMS-0100.007**) and EMS\Legal and Other Requirements Review procedure (**EMS-0101.001**) by

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the Superintendent of the WWTD during the budget development process. The EMS Project Coordinator is responsible for their maintenance and reporting. When there are 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.

SECTION 4.4 - IMPLEMENTATION & OPERATION

4.4.1 Structure and Responsibility

GWWD has defined, documented and communicated the roles, responsibilities and authority of personnel in order to facilitate effective environmental management. These are identified in the roles, responsibilities, and authorities 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/Management Representative 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 will be 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. Procedural training records will be maintained on the training matrix (**EMS-0101.005B**) and in the files maintained by the EMS Coordinator. Relevant procedures identified in the Document Control Matrixes (**EMS-0101.000, WCR-0101.000, WCR-0101.100, WLC-0101.000, WLC-0101.100, WRF-0101.000, WPR-0101.000**) 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 training as identified in the EMS Training procedure (**EMS-0100.005**). Records of training and evaluation of such training are maintained on training sign-in sheets (**EMS-0101.005A**) and in the Training Matrix (**EMS-0101.005B**).

All new employees will receive training on EMS related procedures, policy and requirements of the environmental management system per the EMS Training procedure (**EMS-0100.005**). New or revised

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procedures affecting existing personnel will be communicated prior to an employee conducting a procedure unsupervised.

Contractors and Vendors are informed of the Division’s environmental policy via mail and/or upon arrival at the site. Contractors are asked to coordinate work with Division staff in order to ensure that all Division policies and procedures are followed. City of Gastonia facility maintenance personnel will be trained on the EMS policy to an awareness level and are asked to coordinate work with Division Staff.

4.4.3 Communication

GWWTDD 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.

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

GWWTDD has recorded its decision on considering processes for external communication of its significant environmental aspects. GWWTDD will provide a listing of its significant environmental impacts to any interested party. External communication pertaining to these significant environmental impacts will be handled on a case by case basis.

4.4.4 Environmental Management System Documentation

GWWTDD 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 the same and/or other levels.

4.4.5 Document Control

GWWTDD 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.

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GWWT D 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

GWWT D has identified operations and activities associated with the identified significant environmental aspects. Each area within the division 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 matrixes (**EMS-0101.000, WCR-0101.000, WCR-0101.100, WLC-0101.000, WLC-0101.100, WRF-0101.000, WPR-0101.000**). The Significant Aspect Ranking summary (**EMS-0101.003E**) lists all significant aspects and impacts along with their corresponding operational control and method for monitoring and measuring.

4.4.7 Emergency Preparedness and Response

GWWT D has developed emergency action plans (**WLC-0100.010 and WCR-0100.010**) and Risk Management Plans (**WLC-0100.008 and WCR-0100.008**) which deal specifically with Chlorine and/or Sulfur dioxide related emergencies. The plans identify the potential for accidents and emergency situations and the corresponding response. The plans also consider the prevention and mitigation of any environmental impacts associated with accidents or emergency situations.

The Emergency Action Plans shall be reviewed at least annually or following an incident or near miss. The Risk Management Plans shall be comprehensively reviewed at least every three years or following an incident, near miss, or change to the chlorine/sulfur dioxide system.

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 their 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.
- Documented procedures (**EMS-0100.009A, EMS-0100.009B, and EMS-0100.009C**) have been established to periodically evaluate compliance with relevant environmental legislation and regulation.

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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 non-conformities relating to environmental impacts.
- Corrective and preventative actions are taken to eliminate the causes of actual or potential 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 Matrixes (**EMS-0101.000, WCR-0101.000, WCR-0101.100, WLC-0101.000, WLC-0101.100, WRF-0101.000, WPR-0101.000**) 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) is a group of the area supervisors for the division. It consists of the following positions:

Superintendent of WWTD

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Assistant Superintendent of WWTD
 EMS Coordinator
 Senior Plant Supervisor
 ORC Crowder's WWTP
 Lab Supervisor Crowder's WWTP
 Lab Supervisor Long Creek WWTP
 Industrial Chemist serving as ORC of Biosolids
 A Pretreatment Industrial Chemist

The Management Review Board reviews the EMS quarterly to ensure continuing suitability, adequacy, and effectiveness of the EMS. This review is documented per the EMS Monitoring and Measuring procedure **(EMS-0100.013)**.

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