Capacity, Management, Operations, and Maintenance (CMOM) Consent Agreement Guidance

Georgia Water Environment Federation

April 2006
Capacity, Management, Operations, and Maintenance (CMOM) Consent Agreement Guidance

Prepared by: Georgia Water Environment Federation’s Collection Systems Committee
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April, 2006
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<tbody>
<tr>
<td>CCTV</td>
<td>Closed Circuit Television</td>
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<tr>
<td>CIP</td>
<td>Capital Improvement Program or Capital Improvement Plan</td>
</tr>
<tr>
<td>CMOM</td>
<td>Capacity, Management, Operations, and Maintenance</td>
</tr>
<tr>
<td>CWA</td>
<td>Clean Water Act</td>
</tr>
<tr>
<td>ft/sec</td>
<td>feet per second</td>
</tr>
<tr>
<td>GA DNR</td>
<td>Georgia Department of Natural Resources</td>
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<tr>
<td>GAWP</td>
<td>Georgia Association of Water Professionals</td>
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<td>GA EPD</td>
<td>Georgia Environmental Protection Division</td>
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<tr>
<td>GIS</td>
<td>Geographical Information System</td>
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<tr>
<td>GPM</td>
<td>Gallon per minute</td>
</tr>
<tr>
<td>GWEF</td>
<td>Georgia Water Environment Federation</td>
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<tr>
<td>I/I</td>
<td>Inflow and Infiltration</td>
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<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>Operations and Maintenance</td>
</tr>
<tr>
<td>POTW</td>
<td>Publicly Owned Treatment Works</td>
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<tr>
<td>ROW</td>
<td>Rights of Way</td>
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<tr>
<td>SECAP</td>
<td>Sewer evaluation and capacity assurance planning</td>
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<tr>
<td>SSES</td>
<td>Sanitary Sewer Evaluation Study</td>
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<tr>
<td>SSOs</td>
<td>Sanitary Sewer Overflow</td>
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<tr>
<td>USEPA</td>
<td>United States Environmental Protection Agency</td>
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<td>WEF</td>
<td>Water Environment Federation</td>
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Georgia Association of Water Professionals

Founded in 1932, the Georgia Association of Water Professionals (GAWP) is a not-for-profit organization dedicated to education, dissemination of technical and scientific information, increased public understanding, and promotion of sound public laws and programs. GAWP has over 4,000 individual, 135 utility, and 120 corporate members from various segments of the water industry who work to protect Georgia’s water resources. The GAWP conducts four conferences and several workshops each year in Georgia and has over 30 active committees addressing various water-related issues that impact Georgia’s communities.

GAWP has been affiliated with Water Environment Federation (WEF) since 1936 through the Georgia Member Association of the Water Environment Federation (GWEF), which is a section of GAWP. Founded in 1928, the Water Environment Federation (WEF) is a not-for-profit technical and educational organization with over 38,000 members from varied disciplines who work toward the WEF vision of preservation and enhancement of the global water environment. GWEF promotes the objectives of WEF in Georgia through GAWP.

For information on membership, publications, and conferences, contact:

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2121 New Market Parkway #144, Marietta, GA 30067
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Important Notice

The material presented in this publication has been prepared in accordance with generally recognized engineering principles and practices and is for general information only. However, the material only should be used after securing competent advice with respect to its suitability for your utility and application. It is your responsibility to ensure that the information you use is accurate and appropriate to your use. GAWP makes no representation of warranty of any kind, whether expressed or implied, concerning the accuracy, product, or process discussed in this publication and assumes no liability for consequences resulting from the use of the information included here. Anyone using this information assumes all liability arising from such use.

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Preface

This document provides guidance for the Georgia Environmental Protection Division (GA EPD) Zero Tolerance Strategy as it relates to the application of Consent Agreement in Metro-Atlanta and the Coosa River Basin. Systems interested in participating in this program should contact GA EPD:

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This document was prepared by the Collection Systems Committee (CSC) of the Georgia Water Environment Federation (GWEF) under the guidance of CSC members with varied perspectives and experience with collection system and Capacity, Management, Operations, and Maintenance (CMOM) related issues. The Preliminary Draft of the document underwent thorough technical review by the committee members (including utility representatives) who volunteered to provide input. The comments offered by the reviewers served as a “real-world” check ensuring that the ideas and suggestions presented would likely be applicable for various sizes and configurations of utilities.

The purpose of this document is to provide a centralized starting point for utilities as they approach CMOM programs in their efforts to achieve zero sanitary sewer overflows (SSOs). The guidance supports these objectives:

• To provide the utility with accurate regulatory information;
• To provide practical tools and examples to comply with Consent Agreement; and
• To facilitate dialogue among utilities and GA EPD.

To enhance the value of this document, an annotated bibliography has been included. The bibliography contains a list of the materials and web sites used in the preparation of this document, and numerous other resources that may assist wastewater utility managers as they implement their CMOM program.

With the same concept in mind, information has been included in this guidance that may seem to be very basic or redundant. The purpose of this format is to ensure that all users of this guidance have the same level of understanding on which the more advanced and complex concepts are built.

Where appropriate, a range of implementation options are presented. Each utility should apply its own decision-making process as it determines which of the options most closely meet its unique needs and situations.
Completion of a guidance document requires significant effort and expertise, not only from those who constructed the text, but also those who reviewed the document and provided invaluable guidance. It is with appreciation that the following Georgia Water Environment Federation’s Collection Systems Committee members are acknowledged for volunteering their time and making key contributions to this document.

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Foreword

In early 2001, the leadership of the GAWP (then GW&PCA) met with leaders of the GA EPD to express concerns with the implementation of GA EPD’s Zero Tolerance Policy for sanitary sewer overflows (SSOs) in the Chattahoochee River Basin, Coosa River Basin, Tallapoosa River Basin, and metro Atlanta. GAWP has long taken the position that it will not get involved in individual enforcement actions, or for that matter in legislative issues which relate to a single facility, utility, or industry. However, GAWP can offer some insights on broader policy issues, such as this enforcement policy.

In order to facilitate implementation of the Zero Tolerance Policy for those who would be affected by it, a “model” implementation strategy needed to be developed. The intent of this strategy would be to ensure that utilities are doing everything possible to comply with the policy through a positive and aggressive program of monitoring, preventive maintenance, and response. Such a program, diligently applied, would constitute compliance with the policy, thus relieving the utility of enforcement actions and monetary penalties for relatively minor spills, overflows, violations, etc. This approach would represent a “win-win-win” for GA EPD, the utility, and the environment. GA EPD indicated that they would be receptive to such an approach, and challenged GAWP to draft a strategy for their consideration.

GAWP subsequently convened a task force to develop an aggressive and fair approach to implementation of the policy. This task force met several times during 2001 to pursue its mission. Key members of the task force met with key GA EPD staff during the course of this undertaking to be sure GAWP was moving in the right direction.

The end result of the task force’s work was a “model” consent agreement that GA EPD would enter into with carefully selected utilities which had already demonstrated a conscientious approach to Zero Tolerance Policy implementation. The success of these prototype agreements in achieving real and meaningful water quality improvements would determine whether this approach should be expanded to a second tier of utilities.

The model consent agreement would require the utility to develop a comprehensive capacity, management, operation and maintenance (CMOM) program for its sewer system and submit it to GA EPD for review. Upon concurrence from GA EPD, the utility would implement the program. The purposes of the program’s implementation would be to:

- On a continuing basis, minimize the possibility of sanitary sewer overflows (SSOs) from the utility’s sewer system;
- Implement an immediate response program to strive for quick mitigation of any SSO which occurs;
- Prioritize areas of the sewer system that need to be addressed via short-term and long-term solutions based in part on consideration of the frequency of SSOs in specific areas of the sewer system;

...
• Implement a SSO reporting procedure that, at a minimum, ensures for proper reporting and posting of SSOs that occur from the utility’s sewer system, in accordance with GA EPD’s rules and regulations;

• Provide firm schedules with major milestone dates for completion of sewer system improvements;

• Provide a capital improvement plan that ensures the ongoing funding of sewer system improvements; and

• Provide regularly scheduled reports to GA EPD to document compliance with the utility’s program.

A few key features of the model consent agreement are worthy of note. First and foremost, GA EPD would have the right to take separate enforcement action in the event that it determines that the utility had failed to comply with the terms of the utility’s program, had failed to fully comply with other relevant requirements, or the SSO in question had caused significant environmental damage, and/or was deemed an event warranting a separate enforcement action by the Division. In addition, both GA EPD and the utility would reserve the right to require modifications to the utility’s program if it is not having the desired effect of minimizing SSOs.

It should be understood that the primary purpose of the model consent agreement is not to save money by avoiding fines for SSOs. To the contrary, the penalties being paid as a result of enforcement for SSOs are minimal in comparison to the commitment of funds which utilities are making to minimize the occurrence of SSOs, and entering into this model consent agreement would commit the utility to still greater expenditures. However, the effects of paying penalties for unavoidable SSO incidents are devastating to local public relations, and stand to undermine the positive efforts of the utility. Entering into the model consent agreement would relieve the utility from such penalties, but would require a significant investment in infrastructure maintenance and capital improvements.

The model consent agreement approach was presented to and approved by the Georgia Board of Natural Resources in June 2002.

- Jack C. Dozier,
  Executive Director, GAWP
1.0 Overview

1.1 Overview of the Zero Tolerance Strategy and Consent Agreement

GA EPD adopted a Zero Tolerance Strategy that included sanitary sewer overflows (SSOs) in 1998 in response to a resolution adopted by the Georgia Department of Natural Resources (GA DNR) Board on January 28, 1998. The Board’s resolution addressed the need for increased GA EPD enforcement to address water quality issues in Georgia. In 2002, GAWP proposed to GA EPD a “model” Consent Agreement that GA EPD would enter with carefully selected utilities, which had already demonstrated a conscientious approach to the Zero Tolerance Policy implementation for SSOs in the Chattahoochee River Basin, Coosa River Basin, Tallapoosa River Basin, and metro Atlanta (Zero Tolerance Area). The adoption of this proposal would require an amendment to GA EPD’s Zero Tolerance Strategy. The intent of GAWP’s proposal was to ensure that utilities that were doing everything possible to comply with the Zero Tolerance Strategy through a positive and aggressive program of monitoring, preventive maintenance, and response. Such a program diligently applied, would constitute compliance with the policy, thus relieving the utility of enforcement actions and monetary penalties for relatively minor spills, overflows, and/or other violations.

On June 14, 2002, Harold Reheis, then Director of GA EPD, submitted a memorandum to the Board of Natural Resources proposing an amendment to GA EPD’s Zero Tolerance Strategy in Zero Tolerance Area, providing for the use of a Consent Agreement to address SSOs. Copies of the memorandum mentioned above and the Consent Agreement are provided in Appendix A.

1.2 Other Relevant Georgia Environmental Protection Division Regulations

1.2.1 Commercial Waste Haulers; Georgia State Law Senate Bill 568

The Commercial Waste Haulers Bill amends Chapter 15 of Title 12 of the Official Code of Georgia and provides for regulation of removal, transport, and disposal of certain waste removed from grease interceptors, sand traps, oil-water separators, or grit traps that are not connected to on-site sewage management systems. This law provides for enforcement, penalties for violations, more restrictive local ordinances, and repeals conflicting laws.

In summary, removal of commercial waste that is accomplished by means of a vacuum hose or pump truck is required to remove the entire contents of the holding tank and it must not contain any hazardous waste or septic waste, and be contained in a leak proof tank truck. In addition, transporters are required to be registered with GA EPD and are
required to be inspected and permitted annually by the local governing authority. Collected commercial waste can be disposed of only at a facility which is authorized by law to receive and process such waste. Further, the law requires maintaining a manifest system and the transporter is required to certify on its manifest that the load is disposed in accordance with this Law. Manifests are required to be maintained at the principal places of business of the originator, transporter, and disposal site operator for not less than three years from the date of waste removal, transport, or disposal; and the manifest is required to be kept in the transporter’s tank truck for at least 30 days.

For a complete text of the Commercial Waste Haulers Law, refer to the following web site: [http://www.georgiafog.com/commercialwastehaulerslaw.htm](http://www.georgiafog.com/commercialwastehaulerslaw.htm)

### 1.2.2 Spill Reporting Rules

The Spill Reporting Rule entitled Emergency Actions under the Georgia Water Quality Control Rule codified in Chapter 391-3-6.05 provides procedures for any emergency which endangers the waters of the State. The term “spill” includes any discharge of raw sewage by a Publicly Owned Treatment Works (POTW) to the waters of the State. A “Major Spill” is described as:

- The discharge of pollutants into the waters of the State by a POTW that exceeds the weekly average permitted effluent limit for biochemical oxygen demand (5-day) or total suspended solids by 50 percent or greater for any one day.

- Any discharge of raw sewage that (1) is in excess of 10,000 gallons or (2) results in water quality violations in the waters of the State.

In summary, the regulation has specific requirements for:

- Notifying GA EPD verbally and written reports;
- Publishing notices;
- Establishing monitoring programs;
- Providing notices to Public Water Supply entities;
- Reporting to local media;
- Reporting to local health agencies;
- Posting notices where the spill occurred, where the spill entered Sate waters, and along portions of the waterway affected by the incident; and
- Reporting non-compliance of effluent limitations specified in the National Pollutant Discharge Elimination System (NPDES) permit.

Reporting, notification, and sampling requirements are detailed in Section 3.5.1 through 3.5.3 of this Guidance document.

For complete text of the requirements of the Emergency Actions Rule, refer to the following web site: [http://www.gaepd.org/Documents/rules_exist.html](http://www.gaepd.org/Documents/rules_exist.html)
1.3 Overview of the Federal Draft SSO Rule as it relates to the CMOM Component

During the 1990s, Clean Water Act (CWA) regulatory agencies at the State and federal levels became aware of, and had to face, the emerging issue of sanitary sewer overflows (SSO) from municipally owned wastewater collection systems. The issue arose first in the southeastern United States when the United States Environmental Protection Agency (USEPA) Region 4, together with the eight southeastern States, realized that all collection systems in the southeast had SSOs from time to time that reached the waters of the United States. Up until that time, the primary regulatory focus had been on wastewater treatment plant effluent limits compliance.

The SSOs resulted from several causes. A relatively small number of high-volume SSOs were caused by the infiltration and inflow of rainwater, surface water, or groundwater into the collection systems during wet weather. Most of the SSOs, generally having low volume, were caused by the inadequate operation and maintenance of the collection systems and occurred during dry weather. Some SSOs were acknowledged as being beyond the control of the collection system management because they were the result of severe natural events, such as floods, or were the result of vandalism or damage to the system caused by others. Regardless of causes, all SSOs that reach the waters of the United States are violations of the CWA.

USEPA Region 4, and the southeastern States, addressed the SSOs through enforcement. Enforcement tended to be severe because the discharge of untreated sewage was, and is, considered to be an egregious violation of the CWA, a threat to public health and a threat to water quality. The SSO enforcement actions in the southeast led to national attention and concern.

As a result, USEPA created a federal advisory committee, comprised of a variety of stakeholders that provided advice to EPA during the period from 1994 through 1999. Those activities resulted in EPA placing a notice of a proposed revision to the NPDES regulations in the Federal Register in January 2001. The proposed revision, which has become known as the “SSO Rule”, was withdrawn by the Administration the same day.

USEPA Region 4 was modifying its approach to dealing with SSOs at the same time that it was participating in the federal advisory committee deliberations. Region 4’s modified approach was Capacity, Management, Operations, and Maintenance (CMOM) which was formalized in 1996. Briefly, CMOM, the way in which the utility managed, operated, and maintained its collection system, was the basis upon which the Region established its regulatory response to sanitary sewer overflows experienced by the utility. Region 4 proposed that CMOM be incorporated into the Federal advisory committee’s recommendations, which it was. CMOM eventually became the central component of the SSO Rule.

The proposed SSO Rule has not been proposed again and has not been formalized in regulation. Nonetheless, the CMOM components, together with the proposed SSO reporting requirements, have been incorporated into EPA regional enforcement programs. Nationally, numerous State permit and enforcement programs have adopted
CMOM. Although the States often change the name, the CMOM language usually remains unchanged. Finally, CMOM is the only word officially written by EPA on the matter, and CMOM is the only approach that has received a consensus positive opinion from regulators, utilities, citizen groups, professional organizations such as Water Environment Federation (WEF), and those working in the public health field. In March 2005, comments were solicited from the States and USEPA Regions regarding the incorporation of the CMOM approach into NPDES permits. No action has yet resulted.

CMOM stands for capacity assurance, management, operation, and maintenance. CMOM is a utility business plan that defines how the utility is working to achieve the regulatory goal of zero preventable sanitary sewer overflows from its wastewater collection system. CMOM is a proactive and structured approach to sewer utility management. Perhaps most importantly, CMOM is the mechanism through which the CWA regulatory agencies at the State and federal level can temper enforcement responses when SSOs occur.

GA EPD has embraced the CMOM approach in the form of the voluntary consent agreements for wastewater collection utilities in the “zero tolerance area”. Appendix B presents the SSO Rule that established the General Standards and Components of the CMOM Program. Following is a brief summary of the SSO rule and examples of documents and programs that support a CMOM program.

1.3.1 General Standards
- Properly manage, operate, and maintain systems at all times;
- Provide adequate capacity to convey base and peak flows;
- Take all feasible steps to stop or mitigate impact of SSOs;
- Provide notification to parties with reasonable potential for exposure to pollutants; and
- Develop written summary of CMOM program and make it and audits available to the public.

1.3.2 CMOM Program Components
- Goals and organization;
- Legal authorities;
- Measures and activities;
- Design and performance;
- Monitoring, measuring, and modifications;
- Overflow emergency response plan;
- System evaluation and capacity assurance; and
- Program audit.
1.3.3 Examples of Documents and Programs that Support a CMOM Program

- Organizational roles and responsibilities;
- Preventive maintenance program;
- Inspection/condition assessment (closed circuit television (CCTV));
- Short- and long-term rehabilitation Program;
- Asset management program;
- System maps [including Geographical Information System (GIS) system maintenance];
- Capacity assessment;
- Hydraulic models and assessments;
- Information management to prioritize activities;
- Training programs;
- Critical parts inventory program;
- Ordinances;
- Inter-Governmental agreements;
- Pretreatment program;
- Audit reports;
- Sewer evaluation and capacity assurance planning (SECAP);
- Sewer master plans;
- Inspection and testing procedures;
- Design and construction standards;
- Operations and Maintenance (O&M) procedures;
- Emergency spill response and notification plan;
- Flow monitoring and analysis program;
- Inflow and Infiltration (I/I) reduction program;
- Root control program;
- High risk (i.e. aerial crossing and inverted siphons) assets;
- Easement clearing;
- Grease control program (e.g. inspection of commercial waste haulers);
- Capital Improvement Program or Plan (CIP) and budget evaluation;
- Public involvement and education program; and
- Annual maintenance activity summary.
2.0 Qualifications for Participation

A system located within the zero tolerance area that can fulfill the requirements detailed in this Guidance is qualified to be considered by GA EPD for participation under the Consent Agreement. The following sections describe the qualifications for entering into GA EPD’s CMOM Consent Agreement. Exhibit 2.1 provides a Flow Chart that summarizes the process for obtaining coverage under the CMOM Consent Agreement.

2.1 Zero Tolerance Area

The sanitary sewer system must be located within the zero tolerance area.

The zero tolerance area includes (Exhibit 2.2):

- the Chattahoochee River Basin (from the headwaters of the river through Troup County);
- the Coosa River Basin (northwest Georgia-north of the metro Atlanta area);
- the Tallapoosa River Basin (southwest of the metro Atlanta area); and
- The metropolitan Atlanta area consisting of the counties of Carroll, Cherokee, Cobb, Clayton, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Rockdale and Spalding; and the City of Atlanta.

1 These qualifications must be met in order to be initially considered for inclusion in CMOM consent agreement and to remain a participant in the program.
Exhibit 2.1 CMOM Consent Agreement Guidance Flow Chart

**CMOM CONSENT AGREEMENT GUIDANCE**

**APRIL 2006**

**Version 4/18/2006**

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**Exhibit 2.1 CMOM Consent Agreement Guidance Flow Chart**

1. **Utility Seeks CMOM Consent Agreement**
   - Zone Tolerance Strategy Sections 1.1 and 2.0
   - Sec. 2.1
   - No - Discuss with DA EPD

2. **Zone Tolerance Areas?**
   - Yes
   - Sec. 2.0
   - Sufficient CMOM Program?
     - No - Discuss with DA EPD
     - Yes
     - Negotiate CMOM Consent Agreement Appendix A, Sections 2.2, 2.3, and 2.4
     - Reporting Sections 2.5
     - Demonstration of Success Section 3
     - Sufficient CMOM Program?
       - No
       - Yes

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**Sufficiency**

- Program - The program should be in the form of a written collective system CMOM Business Plan. The business plan is comprised of utility specific business practices associated with the CMOM competence contained in the draft NRS and required to achieve the utility's strategic business goals for customer service, regulatory compliance, asset management, and resource management.

**Business Practices**

- Defined purpose (relate to strategic goal)
- Defined short and long term goals
- Documented processes and procedures
- Trained staff
- Information management
- Resource management
- Established performance measures (relate to strategic goal)
- Process for continuing improvement

**System Performance**

- Were the business practices implemented as documented?
- Are the defined short and long term goals being achieved?
- Are the business practice performance measures being met?
- Are strategic goals being accomplished? Skills reduced, reduced, number, cause, location.
- Where goals and performance measures have not been met, has the business practice been modified using the program for continuing improvement?
Exhibit 2.2  Zero Tolerance Area Map
2.2 Capital Improvement Plans

The system owner must agree to implement specific short and long term Capital Improvement Plans (CIPs), with schedules, for system rehabilitation in key priority areas.

The system owner must develop a set of performance indicators and benchmarks to measure those CMOM related operations and maintenance activities that impact the owner’s ability to comply with GA EPD’s CMOM Consent Agreement. Examples of performance indicators are:

- Number of SSOs (reaching state waters);
- Number of SSOs (total);
- Volume of SSOs (individual and total volume of spills);
- Lengths of easements and Rights of Way (ROWs) inspected/cleared;
- Amount of rainfall induced I/I;
- Number of pipeline blockages;
- Number of pipeline failures;
- Number of damage claims received/paid;
- Lengths of pipes inspected by CCTV;
- Number of manholes inspected;
- Number of creek crossings inspected;
- Lengths of mains cleaned/degreased; and
- Lengths of pipes treated for root control.

At the same time, an effective management tool must be in place to track and report those CMOM related operations and maintenance activities, thereby allowing the system owner to identify gaps between actual measured performance and established benchmarks.

Additionally, a CIP that differentiates between short term and long term plans, must be developed, funded, and implemented to adequately address all identified performance gaps and deficiencies. Some of the components of a CIP are:

- Infrastructure inspections and evaluations [e.g. Sanitary Sewer Evaluation Studies (SSES)];
- Capacity assessments (e.g. through establishment of computer model);
- Flow monitoring;
- Relief projects;
- Pipeline rehabilitation projects;
- Manhole rehabilitation projects;
- I/I reduction (e.g. pipe lining, manhole lining/raising);
- Redesign and reconfiguration to address identified system flaws; and
- Equipment procurement.
A CIP report should be prepared and updated at least annually, highlighting:

- Short-term components;
- Long-term components;
- Project descriptions;
- CMOM related performance indicators addressed; and
- Implementation status.

### 2.3 Funding of CMOM

The system owner agrees to implement and fund CMOM components at specific levels (25% of the sanitary sewer system annual operating budget); separate from long-term capital cost outlays.

The utility should describe and demonstrate specific CMOM areas that are funded and calculate the percent of the total budget. A summary of financial information should be provided on a spreadsheet (Appendix C). Routine operations and maintenance, when appropriately directed and documented, are an integral component of a CMOM program. Appendix C provides an example of a financial breakdown for a system that spends approximately 30% of the entire operating budget to fund CMOM components. For a system that can separate wastewater treatment costs from sewer system operations, the percentage spent on CMOM components will be much higher than the 30% shown in the example. It is not necessary for the systems to follow the format of the example provided; however, the level of detail and type of information provided in the example should be included in the operating budget report submitted to GA EPD to demonstrate compliance.

Section 1.3.2 presents a list of activities typically funded by the annual operating budget and are considered components of CMOM. Note this is not considered an exhaustive list.

### 2.4 Organizational Structure

The existing organizational structure is adequate to implement and sustain a CMOM effort (i.e., adequate management overview, staffing quantity and quality to ensure success).

The following are qualifications that a utility owner must satisfy to be considered for the CMOM Consent agreement:

- The organizational structure should be defined and include an organizational chart – identifying the roles and responsibilities of each position related to the execution of the CMOM Consent agreement. The system owner must ensure the existing organizational structure is adequate to implement and sustain a CMOM effort (i.e., adequate management overview, staffing, quantity and quality to ensure success).
- Personnel and their licensure/certification should be listed as well as those required for vacant positions.
• Personnel of the wastewater utility are required to meet certification requirements for wastewater collection system operators (see Appendix G for State’s Collection System Operator licensing requirements).

2.5 Comprehensive Status Reports

The system owner agrees to provide regular comprehensive status reports to GA EPD on implementation and administration of the CMOM program. Part of the reporting must include a methodology for evaluating CMOM success in reducing the occurrence of SSOs system-wide.

The report should provide an update on utility’s compliance with GA EPD’s CMOM Consent Agreement and provide demonstration of success as defined in Section 3. The status report will be the basis for continuation of coverage under the Consent Agreement. Information that should be considered in the “Collection System” Annual Status Report includes:

• Organized by Sewer Basin;
• Manholes (number of manholes, inspections, and repairs);
• Collection system lines (linear feet(LF) of lines, LF of lines smoke tested, LF of lines cleaned, LF of lines televised, LF of lines root cleaned, LF of lines dye tested, number of point repairs, number of flow monitors, and number of water quality monitoring sites);
• ROW clearings in LF;
• Businesses (number of food service establishments, number of grease traps, number of industries)(in report comments include a review of the Utility’s grease management program with a summary of ordinances, trap permitting, cleaning and inspection, grease hauler permitting and manifesting, enforcement and fines, and public education/outreach);
• Response cleaning in LF;
• Number of customer calls and complaint calls;
• SSOs (Number of maintenance reportable, related non-reportable; wet weather reportable and non-reportable);
• Budget expended (O&M dollars and Capital Budget dollars); and
• Comments and Cause.

Information that should be considered in the “Pump Station” Annual Status Report includes:

• Organized by Sewer Basin;
• Pump Stations (pump station number, location, type, design pump rating (gallons per minute), number of pumps, type of alarm system, generator equipped, by-pass pump equipped, SCADA or monitor equipped);
• Wet well (wet well diameter, wet well depth, number of gallons per foot of wet well, and wet well cleaning);

• Force Mains (length and diameter, and air release valves);

• Pump station failures (mechanical, non-mechanical, or power failure);

• SSOs (maintenance related reportable and non-reportable, and wet weather related reportable and non-reportable);

• Budget (O&M dollars and Capital dollars); and

• Comments and Cause.

This information can be totaled at the bottom of the spread sheet to show yearly comparisons for each sewer basin.

Once the CMOM program documentation has been evaluated, and an inspection has been conducted, GA EPD and the utility representative will determine the frequency of Status Reports that would be optimal. The utility can define their reporting frequency and mechanism (i.e. web based) in their document. At a minimum, an annual report will be required. Sample reporting formats are provided in Appendix F.
3.0 Demonstration of Success

The system owner must have demonstrated a high level of success in administering its existing sewer system program in the following areas prior to GA EPD consideration for coverage under a CMOM order:

3.1 Lift Stations

All of the system’s lift stations must be achieving a high level of operational efficiency.

Failure of pumping systems is a major source of SSOs for wastewater utilities. Although pipe stoppages are responsible for the greater frequency of overflows, pumping systems and their failure under the stress of peak flows and stormy weather have the greater potential for high profile, major quantity discharges of wastewater. Loss of power, pump failures, insufficient capacity, force main leaks, and a multitude of other problems can lead to the type of overflows that routinely bring emergency response plans into action. CMOM compliance necessitates a high level of operational efficiency for all of the system’s lift stations as defined by Measures 1 through 4 presented in Table 3.1. The performance measures described in Table 3.1 require the utility to accurately determine the causes of pump station failures.

A pump station related overflow is an overflow that occurs at a pump station that is caused by:

1. the manner in which the specific pump station is operated and maintained;
2. loss of power to the pump station;
3. inadequate design capacity of the specific pump station to handle expected peak dry weather flows; or
4. inadequate design capacity of the specific pump station to handle non-excessive peak wet weather flows.

GA EPD’s requirement for CMOM compliance is that a high level of operational efficiency for all pump stations be achieved. For the purpose of this recommendation, only pump station overflow causes 1 and 2 (enumerated above) are considered to be a reflection of operational efficiency. Causes 3 and 4 relate to design and are remedied by redesign and upgrade not by improving operational efficiency.

In addition, overflows that occur during wet weather due to excessive infiltration and/or inflow should not be considered to be pump station related. For those overflows, the solution is to reduce the excessive infiltration and inflow in the tributary pipe network by way of a rehabilitation or replacement program.

Performance Measure 1: Pump station overall CMOM effectiveness

The data needed to compute this performance measure are the number of pump stations in the system and the total number of pump station related overflows that occurred in
the system. The performance measure should be computed monthly on a rolling time average basis, generally using a time frame of at least three years. The utility may want to trend the number of pump station related overflows alone on a monthly basis for its internal use. The division of that number by the number of pump stations is used to normalize the results so that GA EPD’s compliance perspective is not skewed by the number of pump stations that the utility has in its system.

**Performance Measure 2: Individual pump station maintenance reliability**

The data needed to determine this performance measure are the identifier for each pump station and the number of pump station related overflows and backups that occurred during the specified time frame at each pump station. This measure identifies pump stations that do not have an acceptable level of operational efficiency and which need to be the focus of operational improvement. Pump stations having zero (0) pump station related overflows would not have to be included in the annual report to GA EPD.

**Performance Measure 3: Pump station power source reliability**

The data needed to compute this performance measure are the number of pump stations in the system and the total number of pump station related overflows caused by a loss of power to the stations. The performance measure should be computed monthly on a rolling time average basis, generally using a time frame of at least three years. The utility may want to trend the number of pump station related overflows alone on a monthly basis for its internal use. The division of that number by the number of pump stations is used to normalize the results so that GA EPD’s compliance perspective is not skewed by the number of pump stations that the utility has in its system.

**Performance Measure 4: Individual pump station power source reliability**

The data needed to determine this performance measure are the identifier for each pump station and the number of pump station related overflows and backups that occurred due to a loss of power during the specified time frame at each pump station. This measure identifies pump stations that do not have an acceptable level of power source reliability and which need to be the focus of operational improvement. Operational improvements can be addressed by providing more protection to the power system, providing a duplicate power source, providing stand-by power or by planning for the use of a portable power supply. Pump stations having zero (0) pump station related overflows would not have to be included in the annual report to GA EPD.
### TABLE 3.1
Pump Station Performance Measures for Purposes of Compliance ("highly efficient operation of lift stations")

<table>
<thead>
<tr>
<th>Measure</th>
<th>Indicator</th>
<th>Data Needed</th>
<th>How Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pump station overall CMOM effectiveness</td>
<td>Number of overflows per pump station (Number of pump station overflows / Number of pump stations)</td>
<td>Number of pump station related overflows Number of pump stations</td>
<td>Determine overall effectiveness of the utility’s pump station CMOM program</td>
</tr>
<tr>
<td>2. Individual pump station maintenance reliability</td>
<td>Number of maintenance-related backups or overflows at each pump station (Number of events at pump station “X”)</td>
<td>Pump station identifier Number of maintenance backups Number of maintenance overflows</td>
<td>Determine effectiveness of utility’s pump station CMOM program at each pump station</td>
</tr>
<tr>
<td>3. Pump station power source reliability</td>
<td>Number of power failure related overflows per pump station (Number of pump station power related overflows / Number of pump station)</td>
<td>Number of power loss related pump station overflows Number of pump stations</td>
<td>Determine overall effectiveness of the utility’s pump station power reliability program [protection, duplicate source, stand-by, portable]</td>
</tr>
<tr>
<td>4. Individual pump station power source reliability</td>
<td>Number of power failure related backups or overflows at each pump station (Number of events at pump station “X”)</td>
<td>Pump station identifier Number of power failure backups Number of power failure overflows</td>
<td>Determine effectiveness of the utility’s pump station power reliability program [protection, duplicate source, stand-by, portable] at each pump station</td>
</tr>
</tbody>
</table>

Note 1: Measures 1 and 3 are used to normalize results so that compliance perspective is not skewed by the number of pump stations the utility has in its system. Measures 2 and 4 are used to identify pump stations that need to be prioritized for improvement.

Note 2: If the Utility participates in the CMOM Consent Agreement, it is recommended that the Utility keep data on their pump stations. Performance measures should be submitted with their Annual reports (see Report formats provided in Appendix F) along with an explanation of the data and comparison to past performance data. The discussion should propose a path forward, if the data indicates that the system’s performance has not improved from previous years. In addition, the system owner should maintain a complete record for the past 5 years. Performance data will assist GA EPD in establishing target performance criterion for extending Consent Agreement coverage to the Utility.

### 3.2 Mapping

A complete and accurate map of the sanitary sewer system must be available and be updated in a timely manner as new lines are added or existing lines are replaced or repaired.

A utility’s CMOM plan shall include a complete and accurate sewer system map, as well as a plan to maintain the map as new lines are added or existing lines are replaced or repaired. This requirement includes all lines (gated communities and private systems connected to the utility’s system) located within the utility’s service area. The new lines and repaired/relocated/replaced lines should be incorporated into the map within one year of acceptance by the utility.
The accuracy, completeness, and availability of maps of the sanitary sewer system are critical to the success of capacity assessment and management, operation and maintenance activities of the collection system. Whether a wastewater utility utilizes a GIS, or relies on paper maps, the information below must be included if the maps are to be considered “complete” for CMOM compliance. It should be stated that while computerized maps are not required for CMOM compliance, GIS programs have made the mapping and map updating process for sewer conveyance systems considerably more efficient.

### 3.2.1 Pipes

Pipe data will be available largely from historical maps, such as sewer atlases and record drawings. Physical inspections may confirm the physical layout and mapping of the sewer system, but obtaining pipe data from physical inspections is difficult, as most pipes are underground. Comparison of historical records and physical inspection should yield the required information. Adequate mapping of pipes for CMOM compliance should include:

- Details of the sewer network and connectivity;
- Diameter;
- Length;
- Material;
- Age;
- Condition;
- Date and type of last rehabilitation;
- Force, Gravity, and/or Aerial main status;
- Pipe invert levels;
- Pipe roughness; and
- Shape.

### 3.2.2 Manholes

The location of all manholes shall be verified by physical inspection. Additional manhole data may also be available from historical maps, such as sewer atlases and record drawings. The physical inspections determine the physical condition of the sanitary sewer manholes and identify possible sources of I/I. Such data can also be used to establish and prioritize manhole maintenance and rehabilitation needs. It is critical to have a standardized manhole inspection process in place. The standardization of routine manhole inspection and rehabilitation processes greatly reduces the effort required to verify the condition data for each manhole for proper rehabilitation design and implementation. Adequate mapping of manholes for CMOM compliance should include:

- Location (e.g. coordinates);
- Condition;
- Date and type of rehabilitation;
- Manhole ring/cover elevation;
- Invert;
- Invert elevations of inlet/outlet sewers;
• Accessibility;
• Material; and
• Photographs.

3.2.3 Lift/Pump Stations
The location of all lift/pump stations shall be identified on a map and verified by physical inspection. Much of the required pump station information may be obtained from as-builts and during routine inspections and maintenance of the pump station. Regardless of the type of mapping technology that is utilized, the following information should be maintained in order to comply with the CMOM guidelines:

• Location;
• Number and sizes of pumps;
• Total capacity (all pumps operational);
• Stand-by power;
• Firm capacity of the station;
• Size of the wet well;
• Inlet and discharge elevations;
• Side weirs;
• Structures which restrict flow;
• Variable speed pumping installations;
• Automated control systems; and
• Manually controlled pump stations.

3.2.4 Other Information
When available, information below will provide more complete, user-friendly maps, but is not necessary for CMOM compliance:

• Service Laterals;
• Buildings and Facilities;
• Roads and Bridges;
• Bodies of Water;
• Sewer sheds;
• Flow meters / rain gauges;
• Restaurants and industrial contributors; and
• County/City Boundaries.

3.3 Inspections
Documentation that the entire sanitary sewer system (lines 12 inches in diameter and above) has been inspected through a walk-through survey. Based on the inspection, a documented program should also be in place containing specific short and long term corrective actions necessary to ensure that identified problem areas are addressed.

A twelve-inch pipe diameter and above walk-through survey is defined as physically walking (observing for signs of ground depression, soil moisture, and changes in the
characteristics of the soil and land contours) the ground above the sewers (e.g. rights-of-way (ROW), easement, etc.) that are 12-inch or above lines on an established schedule (to be determined in consultation with GA EPD). In addition, re-inspection should be conducted of sewers along creeks, river banks, and crossings along water courses (subterranean, sub-aqueous, or aerial) after substantial rainfall is experienced in order to assess structural integrity that could be compromised by high wet weather flows.

The survey should include a visual inspection of manholes and identification of holes and cave-ins. This can be conducted by a ROW maintenance crew and documented as part of the Annual Status Report. The utility shall provide a written plan for completing walk through survey that defines sewer lines and maintenance/inspection frequencies. The plan should also document the specific short- and long-term corrective actions necessary to address the problems identified during the inspection activities.

3.4 Inflow and Infiltration Reduction Program

Documentation that an inflow/infiltration (I/I) reduction program has been initiated for the sanitary sewer system.

The system owner must have documented that an I/I reduction program has been initiated for the sanitary sewer system. Initiation of an I/I reduction program can include implementation of one of the following activities:

- Sanitary Sewer Evaluation Studies;
- Hydraulic modeling;
- Find and fix program;
- Inspections (manholes and pipes);
- Elimination of private sources (roof leaders, sump pumps, cleanouts, etc.);
- Flow monitoring;
- Smoke and dye Testing;
- CCTV; and
- Flow isolation.

Based on the results of the above activities, the owner will rank the defects by severity to be utilized in identifying effective rehabilitation methods for the reduction of I/I. The owner will develop a short- and long-term implementation schedule.

3.5 Compliance with Spill Reporting

The owner must have demonstrated consistent (100%) compliance with all spill reporting, publication/notification and sampling requirements as specified in GA EPD’s Rules and Regulations for Water Quality Control (Endangerment to State Waters).

The owner must have demonstrated consistent (100%) compliance with all spill reporting, publication/notification, and sampling requirements for the preceding 12 months for all the known spills. The GA EPD’s Rules and Regulations for Water Quality Control are promulgated in Chapter 391-3-6.05. The reporting, publication/notification and sampling requirements needed to comply with the CMOM requirements are
summarized below. In addition, spill volume calculation and documentation guidance is provided in Appendix D.

### 3.5.1 Reporting

Wastewater utilities are required to monitor their collection system for occurrence of SSOs and complete the following requirements:

- Report such occurrences to GA EPD in person or by telephone immediately (within 24 hours), followed within five days by a written report providing detailed information (per regulatory requirements).

- Publish a notice of a major spill in the legal organ of the County where the incident occurred and include the date, location, estimated volume, and corrective actions taken.

- GA EPD and the utility are required to provide notice of a major spill (within 24-hours of becoming aware of the major spill) to every county, municipality or other public agency whose public water supply is within a distance of 20 miles downstream and to any others potentially affected by the major spill.

- Report the incident to the local media (television, radio and print media) within 24 hours of becoming aware of the incident. The report should include date, location, cause, estimated volume discharged, name of receiving waters, and corrective actions taken to mitigate the adverse effects of the spill.

- Immediately report the incident to the local health department(s) for the area affected by the incident. The report shall include at a minimum the same information required above.

- Immediately post a notice as close as possible to where the spill or major spill occurred and where the spill or major spill entered State waters. The notice shall include at a minimum the same information required above. The intent of this requirement is for the utility to notify citizens, who may come into contact with the affected water, that the spill or the major spill has occurred. The owner shall also post additional notices of the spill or major spill along the portions of the waterway affected by the incident (i.e. at bridge crossings, trails, boat ramps, recreational areas, and other points of public access to the affected waterway). These notices shall remain in place for a minimum of seven days after the spill or major spill has ceased.

### 3.5.2 Publication and Notification

An overflow response plan should include provisions for determining under what conditions a public advisory or public access limitation should be issued to warn the citizens of, and minimize the potential negative public health impacts of, an SSO. These provisions should include the details described in Section 3.5.1 above.

The plan should describe in detail how the public should be notified. Forms of notification include posting signs, door hangers, flyers, and notification by media such as radio, TV, newspapers, and web sites. Instructions for limiting public access to the site of an SSO should also be enumerated. The criteria to issue a public advisory or
declare public access limitation is usually based on a number of factors such as the volume of SSO, the time of year when the SSO has occurred, and the likelihood of human contact with the sewage.

### 3.5.3 Sampling Requirements

In the event of a major spill or consistent exceedance of an effluent limit, the owner of a wastewater utility must immediately establish a monitoring program of the waters affected, with such monitoring being at the expense of the POTW for at least one year. The monitoring program should include at least one background/baseline sampling point, as well as sufficient downstream locations to accurately characterize the impact of a major spill or the consistent exceedance of effluent limitations. As a minimum, the following parameters shall be monitored in the receiving stream:

- Dissolved oxygen;
- Fecal coliform bacteria;
- pH; and
- Temperature.

The monitoring and reporting frequency, as well as the need to monitor additional parameters, will be determined by the GA EPD. The results of the monitoring will be provided by the wastewater utility owner to GA EPD and all downstream public agencies using the affected waters as a source of public water supply.
# 4.0 Bibliography

This section provides an annotated list of resources that can assist the Utility in understanding general standards and program components of a CMOM program. Please refer to the Collection Committee Bulletin Board on GAWP website for an updated bibliography: [http://www.gawponline.org/board/](http://www.gawponline.org/board/)

<table>
<thead>
<tr>
<th>Reference</th>
<th>Annotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA Region 4 Introduction to Conducting Evaluations of Municipal Wastewater Collection System Management, Operation, and Maintenance Programs, Version 1.0, September 2003</td>
<td>A brief overview of MOM information and questions for conducting collection system evaluations.</td>
</tr>
<tr>
<td>EPA Guide For Evaluating Capacity, Management, Operation and Maintenance Programs at Wastewater Treatment Plants, EPA 300-B-00-015, September 2000</td>
<td>A comprehensive overview and questionnaire for evaluating treatment plants.</td>
</tr>
<tr>
<td>EPA Guide For Evaluating Capacity, Management, Operation and Maintenance Programs for Sanitary Sewer Collection Systems EPA 300-B-00-014, September 2000</td>
<td>A comprehensive overview and questionnaire for evaluating collection systems.</td>
</tr>
</tbody>
</table>
Appendix A -

Copy of June 14, 2002 Memorandum to Department of Natural Resources and Consent Agreement
MEMORANDUM:

TO: Board of Natural Resources

FROM: Harold F. Reheis, Director
Environmental Protection Division

RE: Use of a Comprehensive Consent Order to Address Sanitary Sewer Overflows (SSOs) in the Zero Tolerance Area

The Environmental Protection Division (EPD) is proposing to modify its zero tolerance strategy that was implemented in 1998 in response to a resolution adopted by the Board on January 28, 1998. The resolution addressed the need for increased EPD enforcement to address water quality issues in Georgia. A copy of the Board’s resolution and EPD’s zero tolerance strategy are enclosed as Attachment Nos. 1 and 2. Background on the issue and the proposed modification to the strategy are described below. Questions or comments by Board Members are welcomed.

The Zero Tolerance Strategy

Increasing growth and development in the State of Georgia are creating greater demands on existing wastewater treatment and conveyance systems. This can result in water quality impacts due to increased instances of sanitary sewer overflows (SSOs) and violations of effluent limitations from permitted wastewater treatment facilities. Systems in these areas may be reaching capacity, in poor condition and in need of upgrades. The zero tolerance strategy is designed to place proper emphasis on these issues and to ensure that owners of wastewater systems take the necessary actions to ensure that system failures are adequately addressed. To that end, the strategy sets up a rigorous enforcement response to documented SSOs and permit limit violations. Since the inception of the strategy, EPD has committed to addressing all SSOs and permit limit violations in a prescribed area through enforcement actions that include penalties. The areas effected by the strategy are 1] the Chattahoochee River Basin (from the headwaters of the river through Troup County); 2] the Coosa River Basin (northwest Georgia-north of the metro Atlanta area); 3] the Tallapoosa River Basin (southwest of the metro Atlanta area) and 4] the metropolitan Atlanta area consisting of the counties of Carroll, Cherokee, Cobb, Clayton, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Rockdale, Spalding, and the City of Atlanta. In the year 2001, EPD took approximately 85 enforcement actions against municipal systems in the zero tolerance area.
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Background on Proposed Modification

The membership of the Georgia Water and Pollution Control Association (GW&PCA) has proposed to EPD an alternate approach for addressing SSOs in the zero tolerance area. In general, the draft order (attachment #3) will commit those system owners that qualify for coverage under the order to implement and sustain a high level sanitary sewer system operation and maintenance program. The system owner will be required to maintain funding of this program in areas as set forth in the Environmental Protection Agency's Comprehensive Capacity, Management, Operations and Maintenance (CMOM) program guidance. The CMOM program requires aggressive funding, planning and implementation of improvements/upgrades in specific areas of collection system operation that are designed to significantly reduce SSOs and failures of sanitary sewer systems. It is a long-term comprehensive program that must be adequately funded on an annual basis and must contain specific Capital Improvement Plans for system improvements. A description of the provisions of the draft Order is provided below along with a list of conditions that must be met before EPD would consider covering the owner of a sanitary sewer system under this Order.

Provisions of the draft CMOM Consent Order

I. It requires that a system owner develop a (CMOM) program for its sanitary sewer system based on EPA's CMOM guidance.

II. Each CMOM program should be an extensive plan for sewer system operation and maintenance which ensures that annual operating budgets are sufficient in critical key areas and that an overall goal is in place for prioritizing the reduction of SSOs. The CMOM program should also include short and long term Capital Improvement Plan provisions with specific compliance schedules and milestone dates;

III. The system owner should provide EPD with specific progress reports by which EPD can measure compliance with order conditions;

IV. With the understanding that the CMOM program will entail a significant outlay of capital expenditures in its implementation and administration, GW&PCA has requested that a stipulated penalty provision be implemented through the draft Order that provides tiered stipulated penalties to address SSOs. Stipulated penalties for SSO's are shown below. In general, the proposed stipulated penalties are lower than what EPD would collect through traditional consent orders. Spills over 200,000 gallons may be subject to separate enforcement actions if EPD so determines that the stipulated penalty is not sufficient. However, there is a clause in the Order that states that EPD can at anytime take a separate enforcement action for any size overflow should it be determined to
cause significant environmental damage (e.g., a fish kill).

0 - 30,000 gallons – no penalty
30,001 – 100,000 gallons - $2,200/overflow
100,001 – 150,000 gallons - $4,400/overflow
150,001 – 200,000 gallons - $6,600/overflow

**Selection Criteria for Coverage Under the CMOM Consent Order**

It is not recommended that the draft Order apply to all owners of sanitary sewer systems in the zero tolerance area. Instead an owner must qualify for consideration to be covered under the Order. The following are recommended qualifications that an owner must satisfy to be considered a candidate for this draft Order:

A. The sanitary sewer system must be located in the zero tolerance area; and

B. The system owner must agree to implement specific Capital Improvement Plans, with schedules, for system rehabilitation in key priority areas; and

C. The system owner agrees to implement and fund CMOM components at specific levels (25% of the sanitary sewer system annual operating budget); separate from long term capital cost outlays; and

D. The existing organizational structure is adequate to implement and sustain a CMOM effort (i.e., adequate management overview, staffing quantity and quality to ensure success); and

E. The system owner agrees to provide regular comprehensive status reports to EPD on implementation and administration of the CMOM program. Part of the reporting must include a methodology for evaluating CMOM success in reducing the occurrence of SSOs system-wide; and

F. The system owner must have demonstrated a high level of success in administering its existing sewer system program in the following areas prior to EPD consideration for coverage under a CMOM order:

1) All of the system's lift stations must be achieving a high level of operational efficiency, and

2) A complete and accurate map of the sanitary sewer system must be available and be updated in a timely manner as new lines are added or existing lines are replaced or repaired; and
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3) Documentation that the entire sanitary sewer system (lines 12 inches in diameter and above) has been inspected through a walk through survey. Based on the inspection, a documented program should also be in place containing specific short and long term corrective actions necessary to ensure that identified problem areas are addressed; and

4) Documentation that an inflow/infiltration (I/I) reduction program has been initiated for the sanitary sewer system; and

5) The owner must have demonstrated consistent (100%) compliance with all spill reporting, publication/notification and sampling requirements as specified in EPD’s Rules and Regulations for Water Quality Control (Endangerment to State Waters).

The system owner will be required to submit a report which certifies and documents that items F.1-5 above have been met.

Because the criteria for coverage under the draft Order are so stringent (i.e. the system must devote a lot of money to it and have a good record with EPD), at this time very few systems would qualify for coverage. Based on a preliminary file review of system owners, only 4 systems out of the approximately 109 systems in the zero tolerance area would qualify for coverage. These systems are Gwinnett County Utilities, Clayton County Water Authority, Douglasville – Douglas County Water and Sewer Authority, and the City of Rome.

Benefits of the CMOM Consent Order

- **To State Waters**: Implementation of a CMOM program should result in better sewer systems that operate with reduced SSOs thus affording enhanced protection of state waters. Penalties that EPD assesses currently in the zero tolerance area are not comparable to the significant cost of administering a CMOM program and a greater good is derived for the environment by ensuring that a CMOM program is in place versus collecting zero tolerance penalties.

- **To EPD**: By executing orders that provide CMOM provisions with automatic stipulated penalties, EPD will be reducing its administrative efforts on individual follow up actions for reported spills. This more aggressive approach to wastewater system management will also address issues concerning impaired water quality and be instrumental in addressing EPD’s long term goals for water protection.
To the System Owners: The system owner will benefit from the reduced penalty provided in the CMOM order when compared to traditional order amounts with the idea that this money is better used in CMOM implementation. System owners will not have to pay penalties for spills up to 30,000 gallons and the penalties they do pay will be reduced from traditional monetary settlement amounts. The majority of spills that occur in the metro area are under 30,000 gallons. The overall CMOM order will provide an incentive to system owners to continue with high level efforts that will result in Georgia’s realization of more advanced and better operated systems.

As discussed above, very few systems qualify for the CMOM Order, so the original zero tolerance strategy will still be utilized in most cases. However, EPD believes that the CMOM Order presents a reasonable alternative enforcement action for those systems that do qualify. In addition, this option has been requested by responsible utility managers through GWPCA. Therefore, unless the Board objects to this amended zero tolerance strategy, EPD will begin to implement it immediately.

HFR/sbs
Consent Agreement
WHEREAS, the Georgia Board of Natural Resources adopted a Resolution on January 28, 1998 directing, in part, that regulatory initiatives be put in place to ensure that violations of water quality laws whether public or private are identified and that appropriate penalties are levied in order to correct problems; and

WHEREAS, in order to comply with this resolution, the Environmental Protection Division (Division) adopted its “Zero Tolerance Policy” which states, in part, that enforcement action will be taken for any Sanitary Sewer Overflow (SSO) into waters of the State that occurs in the Chattahoochee River Basin from the headwaters through Troup County, the Coosa River Basin, the Tallapoosa River Basin, or the metropolitan Atlanta area (the counties of Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Rockdale, Spalding, and the City of Atlanta); and

WHEREAS, Section 12-5-29(a) of the Official Code of Georgia Annotated (Code) makes it unlawful to use any waters of the State to dispose of sewage or other wastes, except to comply with the Code and all rules, regulation, orders, and permits established under the Code; and

WHEREAS, Chapter 391-3-6-.02(2)(c) of the Rules defines “sewerage system” as any system that treats or disposes of pollutants including treatment works, pipelines or conduits, pumping stations or force mains, and all other appurtenant constructions, devices and appliances used to conduct pollutants to the point of ultimate disposal; and

WHEREAS, XXXX County (the “Utility”) was issued National Pollutant Discharge Elimination System Permit Nos. GAOOxxxxx, GAOOxxxxx,.... (Permits) for its xxx, xxx,.... Wastewater treatment facilities (Facilities); and

WHEREAS, Parts II.A.1. and C.2 of the Permits state that the permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities (and related appurtenances) which are installed by the permittee to achieve compliance with the terms and conditions of the Permits; and

WHEREAS, the Utility owns, operates, and maintains a sewerage system as defined in Chapter 391-3-6.02(2)(c) of the Rules; and
WHEREAS, the United States Environmental Protection Agency (USEPA) has a framework document for the operation of sewerage systems entitled the Capacity, Management, Operation and Maintenance (CMOM) in which specific and comprehensive guidance regarding the handling of SSOs is provided; and

WHEREAS, implementation of the CMOM framework by the Utility will result in expenditures of public funds significantly exceeding historic levels and would be a significant and positive step toward reduction of SSOs and in accordance with the intent of the proposed CMOM framework; and

WHEREAS, the USEPA states in its SMOM framework that their implementation would improve the capacity, management, operation and maintenance of municipal sanitary sewer collection systems and improve public notice for SSO events, which would:

A) Reduce health and environmental risks by reducing SSO occurrences and improving treatment facility performance, and

B) Protect the nation’s collection system infrastructure by enhancing and maintaining system capacity, reducing equipment and operational failures, and extending the life of its components; and

WHEREAS, Section 12-5-52(a) of the Code specifies that any person violating any provision of the Code or any permit condition or limitation established pursuant to the Code or failing to comply with any final Order issued by the Director of the Division (Director) shall be liable to the State of Georgia for a civil penalty not to exceed $50,000 per day for each day during which such violation occurs; and

WHEREAS, failure of the Director to take appropriate enforcement action against the Utility for noncompliance could result in Federal enforcement action against the Utility; and

WHEREAS, the Utility, in an effort to cooperate with the Division and to comply with the provisions of the Code, agrees to comply with the terms and conditions of this Agreement.

NOW, THEREFORE, the Director and Utility AGREE as follows:

1. Within ____ days of the execution date of this Order, the Utility will develop a comprehensive capacity, management, operation and maintenance program (Program) for its sewerage system and submit to EPD for review. Upon concurrence form EPD, the “Utility” will implement the Program.

The purposes of this program will be to:

a) On a continuing basis minimize the possibility of SSOs from the Utility’s sewerage system; and

b) Implement an immediate response program to strive for quick mitigation of the SSO when SSOs occur; and
c) Prioritize areas of the sewerage system that need to be addressed via short term and long term solutions based in part on consideration of the frequency of SSOs in specific areas of the sewerage system; and

d) Implement a SSO reporting procedure that, at a minimum, ensures for proper reporting and posting of SSOs that occur from the “Utility’s” sewerage system in accordance with the Division’s Rules and Regulations for Water Quality Control; and

e) Provide firm schedules with major milestone dates for completion of sewerage system improvements as identified in the Program; and

f) Provide a Capital Improvement Plan that ensures for the ongoing funding of sewerage system improvements; and

g) Develop sanitary sewer system annual operating budgets that ensure that at least 25 percent of each budget is earmarked for the implementation and administration of CMOM components; and

h) Provide regularly scheduled reports as defined in the Utility’s Program form the Utility to the Division to document compliance with the Utility’s Program, as provided in paragraphs (a) through (f) above.

2. Upon Concurrence from the Division, the Utility’s Program will remain in effect until and unless the Division provides written notice that the Program is inadequate or in need of revision. In any event, the Division will evaluate the terms of this Order within 36 months from the execution date of the Order to determine its effectiveness and if it is in need of revision or termination.

3. Upon the execution date of this Order, the Utility will pay stipulated penalties for each SSO that occurs from the sewerage system in accordance with the following terms:

   A) Each SSO from 30,001 gallons and up to 100,000 gallons pay $2,200; and

   B) Each SSO from 100,001 gallons and up to 150,000 gallons pay $4,400; and

   C) Each SSO from 150,001 gallons and up to 200,000 gallons pay $6,600; and

   Any SSO in excess of 200,000 gallons will be reviewed by the Division to determine if the penalty amount in paragraph C. is appropriate as a stipulated penalty or if a higher penalty need be assessed through a separate enforcement action.

   The Division will on a quarterly basis request payment of stipulated penalties from the “Utility” that have occurred during the previous 90-day period. The payment will be due within 30 days of the date of each written request made by the Division.

It is further AGREED that the Utility’s adherence to the Program outlined above shall constitute compliance with the “Zero Tolerance Policy”, and shall further constitute positive enforcement by the Division of SSOs, which may occur.
PROVIDED, however, that the Division reserves the right to take separate enforcement action in the event that it determines:

   a. The Utility failed to comply with the terms of the Utility’s Program submitted in accordance with this Agreement;
   
   b. The Utility failed to fully comply with other relevant requirements; or
   
   c. The SSO in question caused significant environmental damage and/or was deemed an event warranting a separate enforcement action by the Division.

PROVIDED FURTHER, that the Division and the Utility reserve the right to require modifications to the Utility’s Program should either party determine that its implementation is not having the desired effect of minimizing SSOs from the Utility’s sewerage system

This Agreement is not a finding, adjudication of, or evidence of a violation of any State law by the Utility, nor does the Utility by its consent agree to any violation of State laws nor admit any liability to any third party or parties.

This Agreement does not relieve the Utility of any obligations or requirements of any of the Utility’s Permits.

This agreement is final and effective immediately upon its execution by both parties hereto and shall not be appealable, and the Utility waives any hearing on its terms and conditions.

IT is so CONSENTED AND AGREED TO this ___________ day of ____________, 2002.

FOR THE DIVISION:

________________________________________
HAROLD F. REHEIS
Director

FOR THE UTILITY: XXXX COUNTY
BY: ______________________________
TITLE: ___________________________
DATE: ___________________________
Appendix B -

SSO Rule (January 2001)
SSO Rule (January 2001)

§ 122.42 Additional conditions applicable to specified categories of NPDES permits (applicable to State NPDES programs, see § 123.25)

*****

(e) Municipal Sanitary Sewer Systems - Capacity, Management, Operation and Maintenance Programs.

(1) General Standards.
You, the permittee, must:
(i) Properly manage, operate and maintain, at all times, all parts of the collection system that you own or over which you have operational control;
(ii) Provide adequate capacity to convey base flows and peak flows for all parts of the collection system you own or over which you have operational control;
(iii) Take all feasible steps to stop, and mitigate the impact of, sanitary sewer overflows in portions of the collection system you own or over which you have operational control;
(iv) Provide notification to parties with a reasonable potential for exposure to pollutants associated with the overflow event; and
(v) Develop a written summary of your CMOM program and make it, and the audit under paragraph (e)(2)(ix) of this section, available to any member of the public upon request.

(2) Components of CMOM Program.
You must develop and implement a capacity, management, operation and maintenance (CMOM) program to comply with paragraph (e)(1) of this section. If you believe that any element of this section is not appropriate or applicable for your CMOM program, your program does not need to address it, but your written summary must explain why that element is not applicable. The Director will consider the quality of the CMOM program, its implementation and effectiveness in any relevant enforcement action, including but not limited to any enforcement action for violation of the prohibition of any municipal sanitary sewer system discharges described at paragraph (f) of this section. The program must include the following components, with the exception of non-applicable components as discussed above:

(i) Goals. You must specifically identify the major goals of your CMOM program, consistent with the general standards identified above.
(ii) Organization. You must identify:
(A) Administrative and maintenance positions responsible for implementing measures in your CMOM program, including lines of authority by organization chart or similar document; and
(B) The chain of communication for reporting SSOs under paragraph (g) of this section from receipt of a complaint or other information to the person responsible for reporting to the NPDES authority, or where necessary, the public.
(iii) Legal Authority. You must include legal authority, through sewer use ordinances, service agreements or other legally binding documents, to:
(A) Control infiltration and connections from inflow sources;
(B) Require that sewers and connections be properly designed and constructed;
(C) Ensure proper installation, testing, and inspection of new and rehabilitated sewers (such as new or rehabilitated collector sewers and new or rehabilitated service laterals);
(D) Address flows from municipal satellite collection systems; and
(E) Implement the general and specific prohibitions of the national pretreatment program that you are subject to under 40 CFR 403.5.

(iv) Measures and Activities. Your CMOM program must address the following elements that are appropriate and applicable to your system and identify the person or position in your organization responsible for each element:

(A) Provide adequate maintenance facilities and equipment;
(B) Maintenance of a map of the collection system;
(C) Management of information and use of timely, relevant information to establish and prioritize appropriate CMOM activities (such as the immediate elimination of dry weather overflows or overflows into sensitive waters such as public drinking water supplies and their source waters, swimming beaches and waters where swimming occurs, shellfish beds, designated Outstanding National Resource Waters, National Marine Sanctuaries, waters within Federal, State, or local parks, and water containing threatened or endangered species or their habitat), and identify and illustrate trends in overflows, such as frequency and volume;
(D) Routine preventive operation and maintenance activities;
(E) A program to assess the current capacity of the collection system and treatment facilities which you own or over which you have operational control;
(F) Identification and prioritization of structural deficiencies and identification and implementation of short-term and long-term rehabilitation actions to address each deficiency;
(G) Appropriate training on a regular basis; and
(H) Equipment and replacement parts inventories including identification of critical replacement parts.

(v) Design and Performance Provisions. You must establish:

(A) Requirements and standards for the installation of new sewers, pumps and other appurtenances; and rehabilitation and repair projects; and
(B) Procedures and specifications for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

(vi) Monitoring, Measurement, and Program Modifications. You must:

(A) Monitor the implementation and, where appropriate, measure the effectiveness of each element of your CMOM program;
(B) Update program elements as appropriate based on monitoring or performance evaluations; and
(C) Modify the summary of your CMOM program as appropriate to keep it updated and accurate.

(vii) Overflow Emergency Response Plan. You must develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. The plan must include mechanisms to:

(A) Ensure that you are made aware of all overflows (to the greatest extent possible);
(B) Ensure that overflows (including those that do not discharge to waters of the U.S.) are appropriately responded to, including ensuring that reports of overflows are immediately dispatched to appropriate personnel for investigation and appropriate response;
(C) Ensure appropriate immediate notification to the public, health agencies, other impacted entities (e.g., water suppliers) and the NPDES authority pursuant to paragraph (g) of this section. The CMOM program should identify the public health and other officials who will receive immediate notification;
(D) Ensure that appropriate personnel are aware of and follow the plan and are appropriately trained; and
(E) Provide emergency operations.

(viii) System Evaluation and Capacity Assurance Plan. You must prepare and implement a plan for system evaluation and capacity assurance if peak flow conditions are contributing to an SSO discharge or to noncompliance at a treatment plant unless you
have already taken steps to correct the hydraulic deficiency or the discharge meets the criteria of paragraph (f)(2) of this section. At a minimum the plan must include:

(A) Evaluation. Steps to evaluate those portions of the collection system which you own or over which you have operational control which are experiencing or contributing to an SSO discharge caused by hydraulic deficiency or to noncompliance at a treatment plant. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, provide estimates of the capacity of key system components, identify hydraulic deficiencies (including components of the system with limiting capacity) and identify the major sources that contribute to the peak flows associated with overflow events.

(B) Capacity Enhancement Measures. Establish short-and long-term actions to address each hydraulic deficiency including prioritization, alternatives analysis, and a schedule.

(C) Plan Updates. The plan must be updated to describe any significant change in proposed actions and/or implementation schedule. The plan must also be updated to reflect available information on the performance of measures that have been implemented.

(ix) CMOM Program Audits. As part of the NPDES permit application, you must conduct an audit, appropriate to the size of the system and the number of overflows, and submit a report of such audit, evaluating your CMOM and its compliance with this subsection, including its deficiencies and steps to respond to them.

(3) Communications. - The permittee should communicate on a regular basis with interested parties on the implementation and performance of its CMOM program. The communication system should allow interested parties to provide input to the permittee as the CMOM program is developed and implemented.
Appendix C -

Example of CMOM Funding Documentation
### Financial Breakdown for 25% Budget Compliance

<table>
<thead>
<tr>
<th>Line Item</th>
<th>Annual Budget Value</th>
<th>CMOM Appropriated Budget</th>
<th>CMOM %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewer Rate Revenue</td>
<td>$10,031,500.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewer Connection Fee Revenues</td>
<td>$265,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewer Fines and Penalties</td>
<td>$265,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Sewer Division Revenues</td>
<td>$10,561,500.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Expenses by Department:

**Admin and Warehouse**

**Personnel Expenses:**
- Payroll, retirement, insurance, workers compensation, social security, Medicare: $431,220.00 ($43,122.00) 10%
- Training, travel, food, uniforms, dues and subscriptions: $13,570.00 ($679.00) 5%

**Utilities:**
- Power, Natural Gas, Phone: $61,076.00 ($-0) 0%

**Office Operations:**
- Postage, Office Supplies, Technology, Printing, Postage: $8,500.00 ($-) 0%

**Building O&M:**
- Insurance, HVAC, Electrical, Plumbing, Janitorial: $5,200.00 ($-) 0%

**Vehicle and Equipment O&M:**
- Insurance, Fuel, Repairs and Maintenance: $14,210.00 ($1,421.00) 10%

**Miscellaneous Expense:**
- General Liability, Advertising, Service Contracts, Professional Services: $35,600.00 ($1,780.00) 5%

**Account Billing:**
- The account billing department is for the collection of fees for water and sewer services. It is reasonable to assume that half of the expense is for sewer collection and half for water. 25% of the expense is attributed to CMOM for the sole purpose of keeping the CMOM percentage from being offset. $277,308.00 ($69,327.00) 25%

**Sewer Renewal and Extension**

**Personnel Expenses:**
- Payroll, retirement, insurance, workers compensation, social security, Medicare: $566,708.00 ($396,696.00) 70%
- Training, travel, food, uniforms, dues and subscriptions: $5,900.00 ($1,180.00) 20%
## Financial Breakdown for 25% Budget Compliance

<table>
<thead>
<tr>
<th>Line Item</th>
<th>Annual Budget Value</th>
<th>CMOM Appropriated Budget</th>
<th>CMOM %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewer Renewal and Extension Continued Utilities:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power, Natural Gas, Phone (majority of utility expense is in Administration)</td>
<td>1,701.00</td>
<td>-</td>
<td>0%</td>
</tr>
<tr>
<td>Collection System Materials:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extensions Renewals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscaping, Small Tools, Stone, Masonry, Concrete, Asphalt</td>
<td>82,000.00</td>
<td>8,200.00</td>
<td>10%</td>
</tr>
<tr>
<td>Miscellaneous Pipe</td>
<td>14,300.00</td>
<td>4,290.00</td>
<td>30%</td>
</tr>
<tr>
<td>Building O&amp;M:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance, HVAC, Electrical, Plumbing, Janitorial</td>
<td>2,000.00</td>
<td>-</td>
<td>0%</td>
</tr>
<tr>
<td>Vehicle and Equipment O&amp;M:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance, Fuel, Repairs and Maintenance</td>
<td>44,025.00</td>
<td>4,403.00</td>
<td>10%</td>
</tr>
<tr>
<td>Miscellaneous Expense:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Liability, Advertising, Service Contracts, Professional Services</td>
<td>22,000.00</td>
<td>2,200.00</td>
<td>10%</td>
</tr>
<tr>
<td>Waste Water Treatment:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The majority of the Waste Water treatment facility budget is for the Operation and Maintenance of the plant as well as the lab support provided for the industrial pre-treatment program and monitoring of sanitary sewer overflow. It is assured that at least 20% of the budget could be attributed to CMOM.</td>
<td>2,810,490.00</td>
<td>562,098.00</td>
<td>20%</td>
</tr>
<tr>
<td>Sewer System Personnel Expenses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payroll, retirement, insurance, workers compensation, social security, Medicare</td>
<td>701,968.00</td>
<td>350,984.00</td>
<td>50%</td>
</tr>
<tr>
<td>Training, travel, food, uniforms, dues and subscriptions</td>
<td>2,350.00</td>
<td>705.00</td>
<td>30%</td>
</tr>
<tr>
<td>Collection System Materials:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscaping, Small Tools, Stone, Masonry, Concrete, Asphalt</td>
<td>20,500.00</td>
<td>10,250.00</td>
<td>50%</td>
</tr>
<tr>
<td>Small Tools</td>
<td>6,500.00</td>
<td>3,250.00</td>
<td>50%</td>
</tr>
<tr>
<td>Service Piping</td>
<td>32,000.00</td>
<td>16,000.00</td>
<td>50%</td>
</tr>
</tbody>
</table>
## Financial Breakdown for 25% Budget Compliance

<table>
<thead>
<tr>
<th>Line Item</th>
<th>Annual Budget Value</th>
<th>CMOM Appropriated Budget</th>
<th>CMOM %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Collection System Operations:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Root Treatment</td>
<td>$ 30,000.00</td>
<td>$ 30,000.00</td>
<td>100%</td>
</tr>
<tr>
<td>Grease Trap Management</td>
<td>$ 120,000.00</td>
<td>$ 120,000.00</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Office Operations:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postage, Office Supplies, Technology, Printing, Postage</td>
<td>$ 750.00</td>
<td>$ -</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Building O&amp;M:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance, HVAC, Electrical, Plumbing, Janitorial</td>
<td>$ 500.00</td>
<td>$ -</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Vehicle and Equipment O&amp;M:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance, Fuel, Repairs and Maintenance</td>
<td>$ 49,500.00</td>
<td>$ 9,900.00</td>
<td>20%</td>
</tr>
<tr>
<td><strong>Miscellaneous Expense:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Liability, Advertising, Service Contracts, Professional Services</td>
<td>$ 23,317.00</td>
<td>$ 2,332.00</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Lift Stations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Personnel Expenses:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payroll, retirement, insurance, workers compensation, social security, Medicare</td>
<td>$ 134,030.00</td>
<td>$ 93,821.00</td>
<td>70%</td>
</tr>
<tr>
<td>Training, travel, food, uniforms, dues and subscriptions</td>
<td>$ 1,950.00</td>
<td>$ 195.00</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Utilities:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power, Natural Gas, Phone</td>
<td>$ 201,000.00</td>
<td>$ -</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Lift Station Maintenance:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift Station equipment replacement</td>
<td>$ 65,000.00</td>
<td>$ 32,500.00</td>
<td>50%</td>
</tr>
<tr>
<td>Misc. Piping, Landscaping</td>
<td>$ 3,700.00</td>
<td>$ 1,850.00</td>
<td>50%</td>
</tr>
<tr>
<td>Small Tools</td>
<td>$ 2,000.00</td>
<td>$ 1,000.00</td>
<td>50%</td>
</tr>
<tr>
<td><strong>Vehicle and Equipment O&amp;M:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance, Fuel, Repairs and Maintenance</td>
<td>$ 21,100.00</td>
<td>$ 2,110.00</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Miscellaneous Expense:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Liability, Advertising, Service Contracts, Professional Services</td>
<td>$ 1,000.00</td>
<td>$ 100.00</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Other Departments:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering, Inspections, Meetings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Garage</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Financial Breakdown for 25% Budget Compliance

<table>
<thead>
<tr>
<th>Line Item</th>
<th>Annual Budget Value</th>
<th>CMOM Appropriated Budget</th>
<th>CMOM %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Sewer Operating Expenses</td>
<td>$5,812,973.00</td>
<td>$1,770,393.00</td>
<td>30%</td>
</tr>
<tr>
<td>Total Sewer Division Revenues</td>
<td>$10,561,500.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Sewer Operating Expenses</td>
<td>$5,812,973.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Expenditures</td>
<td>$450,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retained Earnings</td>
<td>$98,527.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D -

Spill Documentation
and
Spill Volume Calculation Guidance
Spill Documentation and Spill Volume Calculation Guidance

D.1 Spill Documentation

Upon initial discovery of a spill, utility personnel should document and record the following information:

• Date;

• Time (based on best professional judgment, estimate the start time of the overflow prior to initial discovery or establish the start of the spill at the time of receipt of a customer service request reporting of a spill);

• Description of spill.

• Where it started;

• Where the spill discharged to (describe the nearest receiving water body and conduct a visual inspection for signs of algae, rags, raw sewage, and debris; also inspect and describe immediate upstream and downstream areas);

• Determine time period of long term spill events (evidence such as algae growth indicates a long term spill and it is estimated that algae growth occurs after one month of exposure to sewage); and

• Estimate volume since discovery of the spill.

• Use photographs to document all information possible.

D.2 Spill Volume Calculation

The following sections provide guidance for estimating spill flow volume for manholes, broken pipes, wet weather, and pump station outage. This is provided as guidance only however, if a different method is used to calculate spill volume, that method should be validated and described.

D.2.1 Broken Lines

Table D-1 provides Spill Volume Calculation by Flow Rate for different size pipes.
### SANITARY SEWER FLOW RATES FOR SPILL DETERMINATIONS

<table>
<thead>
<tr>
<th>Depth of Flow (inches)</th>
<th>Pipe Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
</tr>
<tr>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>90</td>
</tr>
<tr>
<td>4</td>
<td>125</td>
</tr>
<tr>
<td>5</td>
<td>155</td>
</tr>
<tr>
<td>6</td>
<td>180</td>
</tr>
<tr>
<td>7</td>
<td>290</td>
</tr>
<tr>
<td>8</td>
<td>320</td>
</tr>
<tr>
<td>9</td>
<td>465</td>
</tr>
<tr>
<td>10</td>
<td>490</td>
</tr>
<tr>
<td>11</td>
<td>685</td>
</tr>
<tr>
<td>12</td>
<td>715</td>
</tr>
<tr>
<td>13</td>
<td>1020</td>
</tr>
<tr>
<td>14</td>
<td>1070</td>
</tr>
<tr>
<td>15</td>
<td>1105</td>
</tr>
<tr>
<td>16</td>
<td></td>
</tr>
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<td>17</td>
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<td></td>
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<tr>
<td>23</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

Gallons per Minute @ V=2.0 feet per second (ft/sec) and n=0.013; Adjust accordingly for flat or steep sloped sewers.
SPILL CALCULATION PROCEDURES
1. Determine and record the time of initial caller notification of sewer spill.

2. Measure and record the flow in inches immediately downstream of spill or blockage and determine flow rate in gallons per minute (gpm) using table above. Record the pipe size in inches.

3. Clear obstacles from blocked sewer, allow free and steady flow to stabilize. Note time the flow stabilizes.

4. Measure the depth of flow in inches in the previously blocked sewer and determine flow rate from table above.

5. Subtract the flow rate from the downstream sewer determined in 2 above from the flow rate from the previously blocked sewer determined in 4 above and multiply the result by the elapsed minutes from notification to clearance.

6. Report total amount spilled to Supervisor or Superintendent

SEWER OVERFLOW AND SPILL PROCEDURES
1. 99% of all visible debris should be removed from the site.

2. Areas where sludge is pooled should be pumped back into sewer.

3. Site should be raked and limed to neutralize sludge accumulations.

4. Deodorant should be applied to neutralize odor problems.

5. Areas below where spill entered stream should be checked for visible debris or sludge on banks.

6. Crew Chief should document on Work Order extent of cleanup completed and note whether repeat visits for additional lime applications are needed.

7. Crew Chief should insure that Supervisor or Superintendent has notified the GA EPD (during normal duty hours) or that Dispatch has notified GA EPD (during off-duty hours). Telephone notification is required with backup letter report.

8. If spill has occurred at a national park, National Park Service also should be notified using same procedures as noted above.

9. Supervisor or Superintendent should insure that spill location is entered into the GIS database.

10. Superintendent and Division Manager should identify repeat locations and develop plan to eliminate further spills at these locations.

D.2.2 MANHOLE OVERFLOWS (Adapted from Guidance from GA EPD)
The following guidance can used in estimating the rate of loss of flow out of manholes. As this is an estimate, judgment by the observing person and/or estimator must always be used. The following manhole SSO quantification methods are provided as guidance.
D.2.2.A Estimating Spill Flow rates for overflowing manholes

This is a visual estimating method. Please refer to Exhibit D-2 for the Reference Sheet.
Source: City of San Diego Metropolitan Wastewater Department.
D.2.2.B Volume of SSO at Manhole

Length x Width x Depth x 7.48 = gallons
Spill area = 20 feet by 30 feet = 600 sq. ft.
Depths of spill = 3 inches = 0.25 feet
Volume = 20 x 30 x 0.25 x 7.48 = 1,122 gallons

D.2.3 WET WEATHER OVERFLOW CALCULATION:

The following can be used to help in estimating the rate of loss of flow out of manholes. As this is an estimate, judgment by the observing person and/or estimator must always be used.

All calculations are based on an estimate of the size of the opening involved, the velocity of flow through the opening, and the duration of time the overflow occurred. In most all occurrences, the opening size and velocity will change over an event from low to high back to low. Judgment on an average condition must thus be attempted to reach a realistic rate of loss.

D.2.3.A. Loss through vent holes

1. Size of opening:
   Assume holes at 1-inch diameter

   Area = (number of holes) (π) (D²/4) (1ft²/144)
   Area = (number of holes) (3.14) (1/4) (1/144)
   Area = (number of holes) (0.0055ft²/hole)

2. Velocity Plume Guide

   Velocity through holes, based on Velocity Head = (Velocity²/2g)

<table>
<thead>
<tr>
<th>Plume height</th>
<th>Velocity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-inch</td>
<td>2.0 ft/sec</td>
</tr>
<tr>
<td>2-inch</td>
<td>3.3 ft/sec</td>
</tr>
<tr>
<td>3-inch</td>
<td>4.0 ft/sec</td>
</tr>
<tr>
<td>4-inch</td>
<td>4.6 ft/sec</td>
</tr>
<tr>
<td>5-inch</td>
<td>5.2 ft/sec</td>
</tr>
<tr>
<td>6-inch</td>
<td>5.7 ft/sec</td>
</tr>
</tbody>
</table>

3. Time = convert to minutes

Volume (Gal.) = (Area) (Velocity) (Time) (448 gpm/cfs)

Example: Top with six hole, flow through holes makes a one-inch high plume, last for 4 hours, 15 minutes
Volume = (6 holes x 0.0055 ft²/hole) (2ft/sec) (255 min) (448 gpm/cfs)
Volume = (0.033) (2) (255) (448) = 7540 gallons

D.2.3.B. **Loss around edge of non-vented cover**

1. **Size of opening:**
   As the weight of manhole lid will generally hold it in place until internal pressures exceed 0.4 pounds/sq. in., loss occurs through imperfections, grit, etc. between the lid and manhole frame. Observations are generally a vertical ring of water from side gap between the lid and manhole frame of approximately ¼ inch width.

\[
\text{Area} = \pi (D) \left( \frac{1}{4} \text{ inch} \right) \left( \frac{1}{12} \text{ in/ft} \right)
\]
\[
= (3.14) (2\text{ ft}) \left( \frac{1}{4} \right) \left( \frac{1}{12} \right)
\]
\[
\text{Area} = 0.131 \text{ ft}^2
\]

2. **Velocity through gap**
   (see vertical plume guide above, D.3.A.2.)

3. **Time – convert to minutes**

**Example:** Manhole with 4-inch plume around edge for 2 hours, 15 minutes

\[
\text{Volume (Gal.)} = (\text{Area}) \times (\text{Velocity}) \times (\text{Time}) \times (448 \text{ gpm/cfs})
\]
\[
= (0.131 \text{ ft}^2) \times (4.6 \text{ ft/sec}) \times (135) \times (448)
\]
\[
= 36,445 \text{ gallons}
\]

D.2.3.C. **Loss from tilted cover**

1. **Size of opening:**
   Some estimate has to be made in the field concerning how much gap exists in order to do this calculation. For the following amounts of lift of one side, the areas are as follows:

\[
A = \pi (D) \left( \frac{\text{in of lift}}{12 \text{ ft/in}} \right) \left( \frac{1}{2} \right)
\]
\[
= (3.14) (2\text{ ft}) \left( \frac{\text{in. of lift}}{12} \right) \left( \frac{1}{2} \right)
\]
\[
A = 0.262 \text{ (in. of lift)}
\]

<table>
<thead>
<tr>
<th>Lift (inches)</th>
<th>Area (ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.262</td>
</tr>
<tr>
<td>2</td>
<td>0.524</td>
</tr>
<tr>
<td>3</td>
<td>0.786</td>
</tr>
<tr>
<td>4</td>
<td>1.048</td>
</tr>
</tbody>
</table>

2. **Velocity through opening**
   This must be estimated from visual observation. A low rate would be 2/ft/sec, moderate rate at 4 to 5 ft/sec, high rates up to 7 ft/sec. Over 7 ft/sec, the lid will
probably blow off the manhole. The gap (lift) will generally increase with higher velocity as well.

3. Time – convert to minutes

\[
\text{Volume (Gal.) = (Area) (Velocity) (Time) (448 gpm/cfs)}
\]

**Example:** Field observation of 2-inch gap and velocity of 4 ft/sec for a period of 3 hours, 30 minutes.

\[
\text{Volume (Gal.) = (0.524 ft}^2\text{) (4ft/sec) (210min) (448)} = 197,192 \text{ gallons}
\]

**D.2.3.D. Loss from Manhole without a lid in place**

If no cover exists, an estimate of the average height the water column (plume) extends above the top of the manhole frame must be made. Use the height to velocity estimate from (A) above to estimate the velocity. Be sure to adjust the height estimate downward for the affects of debris around the edge of the rim which will cause the height to be incorrectly high.

\[
\text{Area = } (\pi) (D^2/4) = (3.14) (2^2/4) = 3.14 \text{ ft}^2
\]

Velocity – from field observation of water column height

Time - convert to minutes

\[
\text{Volume (Gal.) = (Area) (Velocity) (Time) (448 gpm/cfs)}
\]

**Example:** A manhole without a lid was observed to have an overflow with a 3 – inch high column of water for a period of 6 hours, 10 minutes

\[
\text{Volume (Gal.)} = (3.14) (4.0 \text{ ft }/ \text{sec}) (370) (448) \text{ Volume = 2,081,946 gallons}
\]

**D.2.3.E. Other**

1. Generally approach of estimating a cross sectional area where the flow is leaving and a velocity of flow can be used to determine a rate. This can be applied to any situation.

2. Several observations over an event to estimate the area and velocity are better than a single observation. The overflow examples above assume a constant rate over the period which will estimate volumes too high. As an example, if an hour at the beginning and end of each event is assumed for the flow to build up from zero to maximum and back to zero, a calculation could be done as follows:
Example: A manhole with a cover tilted open 2 inches with an estimated velocity of 4 ft/sec at its worst rate of loss for two hours and about 1-inch tilt with a velocity of 2 ft/sec observed at two other occasion over a 7 hour total event.

Worst case: 2 hours, 2 inch tilt, 4 ft/sec
Other times: 1 inch tilt, 2 ft/sec, time unknown
Total overflow time: 7 hours

Divide total of 7 hours into several periods

1st hour: Start to 1-inch tilt, 2 ft/sec

Volume (Gal.) = (Area) (Velocity) (Time) (448) x 50%
= (0.262) (2) (60) (448) (0.50)
= 7,043 gallons

7th hour: 1-inch tilt, 2 ft/sec down to end
Same as above situation
Volume = 7,043 gallons

5 remaining hours:

2 hours at 2-inch tilt, 4 ft/sec
3 hours at 1-inch tilt, 2 ft/sec

Volume = (0.524) (4 ft/sec) (120 min) (448)
= 112,681 gallons

Volume = (0.262) (2 ft/sec) (180 min) (448)
= 42,255 gallons

Event Total = 7,043 + 7,043 + 112,681 + 42,255 = 169,022 gallons
Appendix E -

CMOM Performance Measures
CMOM Performance Measures

The following information is provided as guidance in performance indicators and performance measures that can be used to demonstrate success of the CMOM program.

Exhibit E.1
Suggested Performance Measures for Wastewater Collection System

<table>
<thead>
<tr>
<th>Wastewater System</th>
<th>PERFORMANCE INDICATOR</th>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effluent Quality</td>
<td>Zero notices of violation.</td>
<td>Zero violations per year. Restore temporary wastewater service within 4 hours.</td>
</tr>
<tr>
<td>Reliability</td>
<td>Provide wastewater collection services to all customers 24/7.</td>
<td>Spend more time on preventive maintenance work to decrease corrective maintenance work.</td>
</tr>
<tr>
<td>Recurring and Preventive Maintenance</td>
<td>Percentage of preventive maintenance work orders completed versus un-scheduled.</td>
<td>&gt;90% completed as scheduled.</td>
</tr>
<tr>
<td>Pre-Treatment Requirements</td>
<td>Pretreatment system maintained properly. Trend of permitted locations complying with permit conditions. Scheduled inspections of all point sources with grease traps, dining facilities, and medical facilities.</td>
<td>All locations meeting pretreatment requirements.</td>
</tr>
<tr>
<td>Service Connection Standards and Specifications</td>
<td>Service connections installed in accordance with standards.</td>
<td>Compliance with AWWA, WEF, State of Georgia standards.</td>
</tr>
<tr>
<td>Blockages and Cross Connections</td>
<td>Reduction and elimination programs.</td>
<td>Identify troublesome sewer line areas and implement PM programs.</td>
</tr>
<tr>
<td>Water and Sewer Line Separation</td>
<td>Water and Sewer line separation in accordance with State of Georgia regulations.</td>
<td>Compliance with State of Georgia requirements 100% of the time.</td>
</tr>
<tr>
<td>New Construction Standards</td>
<td>Standards drafted and adopted.</td>
<td>Compliance with AWWA, WEF, State of Georgia standards.</td>
</tr>
<tr>
<td>System Inspections</td>
<td>Standards drafted and adopted.</td>
<td>20% collection system inspected annually. Video inspections of wastewater collection system segments scheduled as needed.</td>
</tr>
</tbody>
</table>
### Exhibit E.1 (CONT.)
Suggested Performance Measures for Wastewater Collection System

<table>
<thead>
<tr>
<th>Wastewater System</th>
<th>PERFORMANCE INDICATOR</th>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meter and Equipment Calibration</strong></td>
<td>Meters and equipment operational within manufactures specs.</td>
<td>Calibration of major meters and equipment within manufacturer's periodicity by certified technician.</td>
</tr>
<tr>
<td><strong>Service Interruption Frequency</strong></td>
<td>Provide wastewater collection and treatment services to all customers 24/7.</td>
<td>Provide wastewater collection and treatment services to all customers 24/7. Maximum 4 hours of system wide outages per year.</td>
</tr>
<tr>
<td><strong>Operating Permits</strong></td>
<td>Operated under appropriate permits.</td>
<td>Operated under appropriate permits. Zero violations.</td>
</tr>
<tr>
<td><strong>Employee Certifications</strong></td>
<td>Training and certifications.</td>
<td>Meet Qualifications and Certifications required by the State of Georgia 100% of the time.</td>
</tr>
<tr>
<td><strong>CMOM Organizational Structure</strong></td>
<td>CMOM Roles and Responsibilities are defined</td>
<td>Organizational structure is adequate to implement and sustain a CMOM effort</td>
</tr>
<tr>
<td><strong>CMOM Funding</strong></td>
<td>Adequate funding for CMOM elements</td>
<td>25% of the sanitary sewer system annual operating budget funds CMOM elements</td>
</tr>
<tr>
<td><strong>Mapping</strong></td>
<td>Timely update of sewer map and assets.</td>
<td>A complete inventory of the sewer system assets (a system map) and a plan to maintain the map to include new lines.</td>
</tr>
<tr>
<td><strong>Lift Stations</strong></td>
<td>Achieving a high level of operational efficiency</td>
<td>Reducing the number of SSOs</td>
</tr>
<tr>
<td><strong>Inspections</strong></td>
<td>Inspection through a walk through survey</td>
<td>100% of all problem areas identified during annual inspection</td>
</tr>
<tr>
<td><strong>Minimization of Inflow and Infiltration</strong></td>
<td>Correlation between wet weather and dry weather flow variations due to lack of system integrity.</td>
<td>Conduct manhole inspections. Conduct smoke testing to identify I/I areas in need of repair.</td>
</tr>
<tr>
<td><strong>Compliance with Spill Reporting</strong></td>
<td>Maintain an Overflow Response Plan and train personnel annually in the procedures</td>
<td>Demonstrate 100% compliance with Spill Reporting to GA EPD</td>
</tr>
</tbody>
</table>
Appendix F -

Sample Reporting Formats
Example Reporting Formats

After the CMOM program documentation has been evaluated and an inspection has been conducted, GA EPD and the utility representative will determine the frequency of Status Reports that would be optimal. The utility can define their reporting frequency and mechanism in their document. At a minimum, an annual report will be required.

Submittal mechanisms include web-based reporting, electronic submittals via email, and/or paper copy reports sent to GA EPD.

**The report submittal should include, where applicable:**

- The total number of SSOs per year with comments on the reasons for increase or decrease;
- A trend analysis (i.e. bar graph or other trend depiction/analysis) of SSOs per year depicting the following information:
  - Total number of complaint calls;
  - Service line calls;
  - Blockages with spills;
  - Reportable SSOs;
  - Wet weather SSOs;
  - Blockages, no spills;
  - Pump Station failures; and/or
  - Other information.
- A spread sheet showing a quantitative measurement of the Collection System and the utility’s Pump Stations. This spread sheet should be developed based on utility size and complexity. The information can be organized by sewer basins or maintenance zones. Sample Spread Sheets are provided in Exhibits F.1 and F.2 for the Collection System and Pump Stations, respectively.
- Exhibit F.1: Annual CMOM Report and Performance Measurement - Collection System Lines – Year to Date Estimates
- Exhibit F.2: Annual CMOM Report and Performance Measurement - Pump Stations – Year to Date Estimates
### EXHIBIT F.1
Annual CMOM Report and Performance Measurement - Collection System Lines – Year to Date Estimates

<table>
<thead>
<tr>
<th>Sewerage Basin</th>
<th>Manholes</th>
<th>Collection System Lines</th>
<th>Budget Expended</th>
<th>Comments/Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Year 2006 Totals:

- Total: 78
- 92
- 2
- 178,000
- 10,000
- 800
- 2,000
- 15,000
- 1,000
- 800
- 13
- 7
- 180,000
- 10
- 6
- 3
- 750
- 10
- 4
- 2
- 2
- 2
- $101,000
- $81,000

#### Example - Year 2005 Totals:

- Year 2005 Totals: This total is carried over into next year annual report to compare.
- Difference in total: 78
- 92
- 2
- 178,000
- 10,000
- 800
- 2,000
- 15,000
- 1,000
- 800
- 13
- 7
- 180,000
- 10
- 6
- 3
- 750
- 10
- 4
- 2
- 2
- 2
- $101,000
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- Example - Year 2006 Totals: This total is carried over into next year annual report to compare.
- Difference in total: 78
- 92
- 2
- 178,000
- 10,000
- 800
- 2,000
- 15,000
- 1,000
- 800
- 13
- 7
- 180,000
- 10
- 6
- 3
- 750
- 10
- 4
- 2
- 2
- 2
- $101,000
- $81,000

- Example - Year 2007 Totals:
- Year 2007 Totals: Year 2008 Totals: Year 2009 Totals: Year 2010 Totals:

#### Describe Budgets by Basin and Maintenance Goals

- Example: Year 2006 Totals: The total is carried over into next year annual report to compare.

#### Describe Successes and Problems

- Example: Year 2006 Totals: The total is carried over into next year annual report to compare.

#### Describe Increase or Decrease in SSOs and Other factors

- Example: Year 2006 Totals: The total is carried over into next year annual report to compare.

#### Year 2006 Totals:

- Year 2006 Totals: Year 2007 Totals: Year 2008 Totals: Year 2009 Totals: Year 2010 Totals:
### EXHIBIT F.2
Annual CMOM Report and Performance Measurement - Pump Stations – Year to Date Estimates

<table>
<thead>
<tr>
<th>Sewerage Basin</th>
<th>Pump Stations</th>
<th>Wet Well Information</th>
<th>Pump Station Failures</th>
<th>SSOs</th>
<th>Budget Expended</th>
<th>Comments/Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>Example:</td>
<td>Total</td>
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<tr>
<td></td>
<td>Stoney Creek</td>
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<tr>
<td>Example:</td>
<td>Year 2005:</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
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<td></td>
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<tr>
<td>Example:</td>
<td>Year 2006:</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Example:</td>
<td>Year 2007:</td>
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<tr>
<td></td>
<td>Total</td>
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<tr>
<td>Example:</td>
<td>Year 2008:</td>
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<td>Total</td>
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<tr>
<td>Example:</td>
<td>Year 2009:</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Example:  Year 2005 Totals: Total is carried over into next year annual report to compare difference in totals.

Example:  Year 2006 Totals: Year 2007 Totals: Year 2008 Totals: Year 2009 Totals:

Comments on SSOs by Sewerage Basin:

Comments on SSO increase or decrease by sewage basin:

**Note:** If the Utility participates in the CMOM Consent Agreement, it is recommended that the Utility keep data on their pump stations. Performance measures should be submitted with their Annual reports, along with an explanation of the data and comparison to past performance data. The discussion should propose a path forward, if the data indicates that the system’s performance has not improved from previous years. In addition, the system owner should maintain a complete record for the past 5 years. Performance data will assist GA EPD in establishing target performance criteria for extending Consent Agreement coverage to the Utility.
Appendix G -

Collection System Operator Licensing Requirements
RULES
OF
STATE BOARD OF EXAMINERS FOR
CERTIFICATION
OF
WATER AND WASTEWATER
TREATMENT PLANT
OPERATORS AND LABORATORY
ANALYSTS

ADMINISTRATIVE HISTORY

The Administrative History following each Rule gives the date on which the Rule was originally filed and its effective date, as well as the date on which any amendment or repeal was filed and its effective date. Principal abbreviations used in the Administrative History are as follows:

f. -- filed
eff. -- effective

Note: Emergency Rules are listed in each Rule’s Administrative History by Emergency Rule number, date filed and effective date. The Emergency Rule will be in effect for 120 days or until the effective date of a permanent Rule covering the same subject matter superseding this Emergency Rule is adopted, as specified by the Agency.


Rules 750-7-.03 and .05 have been repealed and new Rules adopted. Filed May 15, 1972; effective June 4, 1972.

Rule 750-5-.01 has been amended. Filed November 22, 1972; effective December 12, 1972.

Rules 750-1-.04, 750-3-.01, 750-4-.01, .02, .03, 750-5-.01, .02 have been amended. Filed August 12, 1974; effective September 1, 1974.

Rules 750-1-.01, .04, 750-3-.04, 750-4-.01, .02, .03, .04, 750-5-.01, 750-6-.02, and 750-7-.03 have been amended. Rules 750-4-.05 and 750-9-.02 have been repealed. Filed February 9, 2000; effective February 29, 2000.
Rules 750-1-.01, .04, 750-6-.04, 750-7-.02 have been repealed and new Rules adopted.
Rules 750-2-.01, 750-3-.04, 750-4-.04, 750-6-.05 have been amended. Rule 750-7-.03 has
Rule 750-7-.02 has been amended. Filed April 1, 2002; effective April 21, 2002.
750-1-.06 Classification of Public Water Supply Systems and Wastewater Treatment Plants.

The division shall classify all public water supply systems and wastewater treatment plants with due regard to the size, type, character of water or wastewater to be treated and other physical conditions affecting such systems or treatment plants, according to the skill, knowledge, and experience that the operator in responsible charge must have to operate the facilities successfully so as to protect the public health and welfare and prevent unlawful pollution.

750-2-01 Definitions. Amended.

The following words or phrases as used in these Rules shall, unless a different meaning is required by context, have the following meaning:

(a) "Act" means the certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Act, approved April 8, 1969, and as hereafter may be amended.

(b) "Board" or "Board of Examiners" means the State Board of Examiners for Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts.

(c) "Class IV Public Water Supply System" means any very small public water supply system in this state which is a ground-water system serving a population of less than 1,000.

(d) "Course work" means curriculum as approved by the Board.

(e) "Division" means the Environmental Protection Division of the Department of Natural Resources.

(f) "Laboratory analyst" means any person who performs a laboratory test in conjunction with operation of a public water system or wastewater treatment plant.

(g) "Laboratory test" means any test performed in conjunction with the operation of a public water supply or wastewater treatment plant that is required for regulatory reporting purposes excluding dissolved oxygen, pH, chlorine residual, turbidity, temperature and specific conductance. Also excluded are those tests performed in a commercial environmental laboratory that is approved under the Division's "Rules for Commercial Environmental Laboratories."

(h) "Operator" means any person who performs operation duties, as defined by the Board, at wastewater treatment plants, wastewater collection systems, water distribution systems, public water supply systems, or water treatment plants.

(i) "Operator in responsible charge" means any operator who has direct general charge of the day-to-day field operation of a wastewater treatment plant, wastewater collection system, water distribution system, or public water supply system, and who is responsible for the quality of the treated water or wastewater effluent.

(j) "Operation duties":

1. for a wastewater treatment plant and for a water treatment plant means day-to-day process control decisions which may affect the treatment and, therefore, quality of the treated water and/or wastewater effluent; and

2. for a wastewater collection system or for a water distribution system means the on site supervision of the cleaning, maintaining, and repairing of the system.

(k) "Points" means continuing education requirements by the board as a condition of certificate renewal. The number of points awarded by the Board for a course or conference may or may not be the same as the number of contact hours in the course or conference.

(l) "Process Control decisions" means decisions which may affect the treatment and, therefore, quality of the treated water and/or wastewater effluent.

(m) "Public water supply system" means the system of pipes, structures, and facilities through which water is obtained and treated, to be offered to the public for household use or for any other public consumption.

(n) "Supervision" means accountability for the work of the supervise.
(c) "System" means all integral unit operations and processes, including conduits, appurtenances, machine, control elements and laboratory functions.

(p) "Trainee" means an individual engaged in a training period. A trainee is not required to hold a certificate and may not perform operation duties or perform laboratory test, unless under the direct supervision of a certified operator or a certified laboratory analyst.

(q) "Training period" means a period of time during which a trainee is learning operator or laboratory analyst duties under the direction of a certified operator or laboratory analyst. Any uncertified person who was operating an industrial wastewater treatment plant on or before July 1, 1991, may provide training to a trainee at that plant until June 30, 1996.

(r) "Very small public water supply system" means any public water supply system in this state which is a ground-water system serving a population of less than 1,000.

(s) "Wastewater collection system" means the system of sanitary sewers, pipes, manholes, pumps, and other such apparatus used to convey sewage to wastewater treatment plants.

(t) "Wastewater treatment" means any biological, physical/chemical, or settling processes which remove pollutants from industrial or domestic wastewaters prior to discharge to a stream, sewer or land. It includes only those processes permitted by the Division or an approved local government under the Georgia Water Quality Control Act or its successor. It excludes those processes that consist solely of one or more of the following: screening, pH adjustment, sedimentation processes without mechanical solids removal, septic tanks, grease traps or oil-water separators, unless specifically required in a permit.

(u) "Wastewater treatment plant" means the facilities provided for the treatment and disposal of wastewater, including industrial process wastewater, as classified by the Division.

(v) "Wastewater treatment system" means the combination of a wastewater collection system and a wastewater treatment plant.

(x) "Water distribution system" means the system of pipes, pumps, valves, and other such apparatus used to distribute water to the public.

(y) "Water treatment plant" means the portion of the water supply system which in some way alters the physical, chemical, or bacteriological quality of the water.

(y) "Water treatment system" means a public water supply system as classified by the Division and as defined in the Act.

750-3-.01 Mandatory Certification. Amended.

(1) Public Water Supply System Operators and Biological Wastewater Treatment System Operators. All operators must be certified; provided, however, that each industrial wastewater treatment or pretreatment facility, shall be required to have only one operator in responsible charge obtain such a certification; and

(2) Water Distribution System and Wastewater Collection System Operators. All operators must be certified; provided however, that each industrial wastewater collection system or distribution system shall be required to have only one operator in responsible charge obtain such a certification; and

(3) Water and Wastewater Laboratory Analyst. All laboratory analysts must be certified; provided, however, that any industrial wastewater or pretreatment plant shall be required to have only one responsible analyst obtain such certification, and any other analyst in that facility shall be supervised by that person.

750-3-.02 Operator in Responsible Charge. Amended.

The operator who is in responsible charge of a public water supply system or wastewater treatment system shall hold a certificate of a class equal to or higher than the class of the plant or system being operated.

750-3-.03 Classifications. Amended.
Operator and Laboratory Analysts shall be certified as follows:
(a) Public Water Supply System Operator: Class I, II, III, or IV;
(b) Water Distribution System Operator;
(c) Biological Wastewater Treatment System Operator: Class I, II, III or IV;
(d) Industrial Wastewater Treatment System Operator;
(e) Wastewater Collection System Operator;
(f) Water Laboratory Analyst;
(g) Wastewater Laboratory Analyst.
**750-3-.04 Requirements. Amended.**

In order to be certified in a particular class or category, an applicant must meet requirements as set forth below.

(a) **Current Certification.** Applicants must hold the following certificates before taking an examination for the next level of certification:

<table>
<thead>
<tr>
<th>CERTIFICATE APPLIED FOR</th>
<th>CURRENT CERTIFICATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Water Supply System Operator</td>
<td></td>
</tr>
<tr>
<td>Class IV</td>
<td>None</td>
</tr>
<tr>
<td>Class III</td>
<td>None</td>
</tr>
<tr>
<td>Class II</td>
<td>III</td>
</tr>
<tr>
<td>Class I</td>
<td>II</td>
</tr>
<tr>
<td>Biological Wastewater Treatment System Operator</td>
<td></td>
</tr>
<tr>
<td>Class IV</td>
<td>None</td>
</tr>
<tr>
<td>Class III</td>
<td>None</td>
</tr>
<tr>
<td>Class II</td>
<td>III</td>
</tr>
<tr>
<td>Class I</td>
<td>II</td>
</tr>
<tr>
<td>Industrial Wastewater Treatment System Operator</td>
<td></td>
</tr>
<tr>
<td>Water or Wastewater Laboratory Analyst</td>
<td>None</td>
</tr>
<tr>
<td>Water Distribution System Operator</td>
<td>None</td>
</tr>
<tr>
<td>Wastewater Collection System Operator</td>
<td>None</td>
</tr>
</tbody>
</table>

(b) **Experience.** 1. Applicants must have completed experience in the actual system operation prior to taking an examination. The amount of experience that is required is dependent upon the applicant's education, as follows:
<table>
<thead>
<tr>
<th>CERTIFICATE APPLIED FOR</th>
<th>EXPERIENCE</th>
<th>EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With H.S. Diploma or GED Certificate</td>
<td>With Accredited B.S. Degree or higher in Biology, Chemistry, Engineering, or an equivalent Degree, or a current Class I certificate in another category</td>
</tr>
<tr>
<td>Public Water Supply System Operator</td>
<td>1 month</td>
<td>1 month</td>
</tr>
<tr>
<td>Class IV</td>
<td>1 month</td>
<td>1 month</td>
</tr>
<tr>
<td>Class III</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Class II</td>
<td>2 years</td>
<td>1 year</td>
</tr>
<tr>
<td>Class I</td>
<td>3 years</td>
<td>2 years</td>
</tr>
<tr>
<td>Biological Wastewater Treatment System Operator</td>
<td>1 month</td>
<td>1 month</td>
</tr>
<tr>
<td>Class IV</td>
<td>1 month</td>
<td>1 month</td>
</tr>
<tr>
<td>Class III</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Class II</td>
<td>2 years</td>
<td>1 year</td>
</tr>
<tr>
<td>Class I</td>
<td>3 years</td>
<td>2 years</td>
</tr>
<tr>
<td>Industrial Wastewater Treatment System Operator</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Water or Wastewater Laboratory Analyst</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Water Distribution System Operator</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Wastewater Collection System Operator</td>
<td>3 months</td>
<td>3 months</td>
</tr>
</tbody>
</table>

2. For those applicants who have a high school diploma or GED certificate, the Board may consider other factors, including post secondary education and other training and experience, to determine satisfaction of the experience requirements.

(c) Education. Every applicant must have earned a minimum of a high school diploma or GED certificate prior to taking the examination and must provide proof of education when he/she submits his/her application for certificate to the Board.

(d) Course Work. Applicants must have completed the required course work prior to taking the examination and provide proof of completion of course work when they submit their application for certificate to the Board. The Board may evaluate, on a case by case basis, post secondary education to determine satisfaction of the course work requirements.
<table>
<thead>
<tr>
<th>CERTIFICATE APPLIED FOR</th>
<th>COURSE WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Water Supply System Operator</td>
<td></td>
</tr>
<tr>
<td>Class IV</td>
<td>6 hours basic water operator course work</td>
</tr>
<tr>
<td>Class III</td>
<td>40 hours basic water operator course work</td>
</tr>
<tr>
<td>Class II</td>
<td>48 hours advanced water operator course work</td>
</tr>
<tr>
<td>Class I</td>
<td>No additional</td>
</tr>
<tr>
<td>Biological Wastewater Treatment System</td>
<td></td>
</tr>
<tr>
<td>Operator</td>
<td></td>
</tr>
<tr>
<td>Class IV</td>
<td>6 hours basic waste stabilization pond operator course work</td>
</tr>
<tr>
<td>Class III</td>
<td>40 hours basic wastewater operator course work</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Class II</td>
<td>48 hours advanced wastewater operator course work</td>
</tr>
<tr>
<td>Class I</td>
<td>No additional</td>
</tr>
<tr>
<td>Industrial Wastewater Treatment System Operator</td>
<td>27 hours industrial wastewater operator course work</td>
</tr>
<tr>
<td>Water Laboratory Analyst</td>
<td>27 hours basic water laboratory course work or Associate Degree or higher in Biology, Environmental Science, Chemistry, or an equivalent degree</td>
</tr>
<tr>
<td>Wastewater Laboratory Analyst</td>
<td>27 hours basic wastewater laboratory course work or Associate Degree or higher in Biology, Environmental Science, Chemistry, or an equivalent degree</td>
</tr>
<tr>
<td>Water Distribution System Operator</td>
<td>27 hours water distribution course work</td>
</tr>
<tr>
<td>Wastewater Collection System Operator</td>
<td>27 hours wastewater collection course work</td>
</tr>
</tbody>
</table>

(e) Examination. An applicant must pass a written examination in order to receive a certificate.

Authority O.C.G.A. Secs. 43-51-5, 43-51-6, 43-51-7, 43-1-19, 43-1-25, 43-51-8, 43-51-6.1. History.
750-4.01 Applications for Examination.

(1) All applications for examination and re-examination, together with the required fee shall be submitted to the designated agent of the Board. Completed applications for examination and re-examination must be received by the designated agent no later than 45 days before the scheduled examination.

(2) The Board through its designated agent, will provide reasonable accommodation to a qualified applicant with a disability in accordance with the Americans With Disabilities Act. The request for an accommodation by an individual with a disability must be in writing and received by the designated agent of the Board by the application deadline along with appropriate documentation, as indicated in the Request for Disability Accommodation Guidelines.

750-4-.02 Application for Certificate. Amended.

Upon passing the examination described in this chapter, a qualified applicant may apply for certificate. The application must be submitted to the Board accompanied by documentation that the course work, education, and experience requirements were met prior to taking the examination, as reported by the applicant on the application for examination. A non-refundable application fee must be submitted with the application for certificate.

750-4.03 Certification by Endorsement.

(1) The Board may, upon application, issue a certificate without examination to any person who holds a certificate in good standing issued by another country or by any state, territory, or possession of the United States when the following criteria are fulfilled:

(a) The country, state, territory, or possession of the United States has, in the opinion of the Board, requirements substantially similar to those of the Board;

(b) The applicant must submit a written application for certification by endorsement on forms which will be provided by the Board;

(c) An endorsement form must be completed by the country, province, state, territory, or possession of the United States of certification and submitted to the Board specifying that the applicant has a current certification and is in good standing;

(d) The applicant must have earned a minimum of a high school diploma or GED certificate and must provide proof of education when he/she submits his/her application to the Board;

(e) The applicant must submit the appropriate application fee. (See Fee Schedule.) The application fee is non-refundable.

(2) In the event that the applicant cannot satisfy the standards above, the applicant may apply for certification under Rule 750-3-.04 entitled Requirements.

(3) The Board shall maintain a written list of current approved countries, provinces, and states, territories, and possessions of the United States from which applicants may be endorsed. Such list may be furnished upon request.

750-4-.04 Examinations.

(1) Examinations shall be offered at least six times annually at time and location designated by the Board.

(2) An applicant must pass a written examination in order to receive a certificate.

750-5.01 Operational Activities Without Further Certification. Amended.
(1) Certified Class I, II, or III Public Water Supply System Operators may operate water distribution systems without further certification.
(2) Certified Class I, II or III Biological Wastewater Treatment System Operators may operate wastewater collection systems without further certification.
(3) Certified Class I, II or III Biological Wastewater Treatment System Operators may operate industrial wastewater treatment plants without further certification.
(4) Certified Industrial Wastewater Treatment System Operators may operate industrial wastewater treatment plants and/or collection systems tributary to their plant.
(5) Certified Class I or II Public Water Supply System Operators may perform the duties of a water laboratory analyst and certified Class I or II Biological Wastewater Treatment System Operators may perform the duties of a wastewater laboratory analyst in conducting certain tests for reporting purposes as defined by the Board without further certification.
(6) Certified Class IV Very Small Water System Operators may operate only very small public water supply systems and their distribution systems.
(7) Certified Class IV Wastewater Treatment System Operators may operate only Class IV Wastewater Treatment Systems and their collection systems.
750-6-.01 Expiration Date.

All certificates expire June 30 of odd-numbered years.

750-6.02 Renewal of a Certificate. Amended.

(1) An application for renewal of a certificate must be accompanied by a renewal fee (see Fee Schedule) and attestation of continuing education points accumulated since the last renewal period. The following chart lists the required number of points for each renewal certification:

<table>
<thead>
<tr>
<th>CERTIFICATION HELD</th>
<th>CONTINUING EDUCATION POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I Operator</td>
<td>18</td>
</tr>
<tr>
<td>Class II Operator</td>
<td>12</td>
</tr>
<tr>
<td>Industrial Wastewater Operator</td>
<td>12</td>
</tr>
<tr>
<td>Water and Wastewater Laboratory Analyst</td>
<td>12</td>
</tr>
<tr>
<td>Class III Operator</td>
<td>6</td>
</tr>
<tr>
<td>Water Distribution System Operator</td>
<td>6</td>
</tr>
<tr>
<td>Wastewater Collection System Operator</td>
<td>6</td>
</tr>
<tr>
<td>Class IV Operator</td>
<td>2</td>
</tr>
</tbody>
</table>

(2) The biennial renewal fee is due and payable by June 30 of odd-numbered years. A surcharge will be added for payments which are received within a three month penalty period, between July 1 and September 30 of odd-numbered years. (See Fee Schedule).

(3) Any continuing education points acquired to renew that certificate during the penalty period may not be used again during the next renewal cycle.

An individual who passes an examination required by the Board for certification is exempt from all continuing education requirements for the first following renewal period after passage of the exam.

750-6-.03 Renewal of More Than One Certificate. Amended.

(1) An operator may maintain current certification in only one class of a category. When a person receives a higher class certificate, their lower class certificate shall be rendered void.

(2) An operator or analyst who holds more than one certificate must submit the following:
   (a) a renewal application for each certificate;
   (b) a renewal fee for each certificate; and
   (c) attestation of the highest number of continuing education points which are required to renew any of the Operator’s or Laboratory Analyst’s certificates (i.e., 18, 12, or 6).

750-6-.04 Basic, Advanced and Continuing Education Courses.

(1) The Board shall maintain a list of currently approved course providers in accordance with eligibility criteria published by the Board. Course providers must be approved by the Board or its designee in order for applicants to receive credit. The Board may also elect to approve individual courses. A request by a course provider for approval must be submitted on a form that may be obtained from the Board and must be accompanied by the appropriate fee and supporting documents as required by the Board. (See Fee Schedule). All course approvals shall expire on or before June 30 of odd-numbered years.

(2) Persons who have attended courses which have not received prior Board approval may petition the Board for approval, and the Board may grant credit at its discretion.


750-6-.05 Documentation of Continuing Education. Amended.

(1) Each operator or laboratory analyst shall maintain for three years their own record of the continuing education activities which they have completed. The Board will not maintain continuing education files.

(2) Applicants shall attest on their biennial renewal application that they have satisfied the continuing education requirements set out in these Rules. Documentation of these activities should be retained by the applicant and not sent to the Board (unless required to do so under section 750-6-.05(3) below). False attestation of satisfaction of the continuing education requirements on a renewal application shall subject the applicant to disciplinary action, including revocation.

(3) The Board may conduct an audit of the renewal applications to insure compliance with requirements. Applicants who are audited will be required to document their continuing education activities. Documentation must be in the form of a certificate of attendance, a statement signed by the provider verifying participation in the activity, or official transcript. Failure to provide the Board with documentation of the hours attested to on the renewal application shall be grounds for disapproving the application for renewal or, if the certificate has been renewed, revoking the certificate.

750-7-.01 Revocation for Failure to Renew.

Failure to renew a certificate by October 1 of renewal year shall have the same effect as revocation of the certificate.


750-7-.02 Reinstatement.

(1) Certificates that have not been renewed may be reinstated at the discretion of the Board. An operator or analyst may not be issued more than one certificate number in a class or category.

(2) Applications for reinstatement shall be accompanied by:
(a) A reinstatement fee established by the Board (see fee schedule);
(b) Evidence of the completion, since the last renewal, of the total continuing education points which would have been required if the certificate had been maintained in a current status; and
(c) Evidence of meeting the minimum current education requirements for that class and category of certificate.

(3) If a certificate has lapsed for a period of more than 2 years, the Board shall require, as a prerequisite for reinstatement, passage of an examination for that category of certificate in lieu of the continuing education in paragraph (2)(b) of this rule.

750-8.01 Change of Name or Address.

(1) Change of Name. The holder of a certificate shall notify the Board office, in writing within 30 days of a change in their name and must accompany such notice with a certified copy of the marriage certificate, court order, or other documentation of a legal name change, with the appropriate fee. See Fee Schedule.

(2) Change of Address. The holder of a certificate shall notify the Board office, in writing within 30 days of a change in their mailing address.

750-9-.01 Fees.

Refer to the Fee Schedule for appropriate fees payable to the Board or its agent. Fees may be reviewed and changed at the discretion of the Board. An indebtedness to the Board caused by a returned check will be dealt with in accordance with Code Section 16-9-20 of the Criminal Code of Georgia.

750-10.01 Disciplinary Procedures.

Disciplinary proceedings will be in accordance with Chapter 13 of Title 50 of the Georgia Administrative Procedures Act, O.C.G.A. 43-1-19, and O.C.G.A. 43-51-9.

(a) The Board may revoke or suspend the certificate of an Operator or Laboratory Analyst, following a hearing conducted in accordance with Chapter 13 of the Title 50, the "Georgia Administrative Procedure Act".

(b) The Board may, upon its own motion or upon the verified complaint in writing of any person, investigate the actions of any Operator or Laboratory Analyst or anyone who shall assume to act in such capacity, if the Board has reason to believe a violation of the Laws and Rules regulating Water and Wastewater Plant Operators or Laboratory Analysts may have occurred. Complaints which the Board may investigate include, but are not limited to, that the Operator or Laboratory Analyst may have practiced fraud or deception; that reasonable care, judgment, or the application of his knowledge or ability was not used in performance of his duties; or that the Operator or Laboratory Analyst is incompetent or unable to perform his duties properly.

(c) The Board may impose any sanction authorized in O.C.G.A. 43-1-19.


History: Original Rule entitled "Procedural Rules" was filed on August 26, 1976; effective September 15, 1976.

Amended: Rule amended and renumbered as 750-7-01. Filed November 19, 1980; effective December 9, 1980.
