

WATER CONSERVATION REGULATIONS AND IMPLEMENTATION FOR THE STATE OF GEORGIA

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BACKGROUND

Adequate quantities of water for drinking, industrial and agricultural use are essential for maintaining our quality of life. To meet these needs, surface water (from lakes and rivers) or ground water (from wells) is withdrawn, treated and pumped through pipe distribution networks to our homes and businesses. In recent years, the pressures and demands upon our water supplies have increased substantially due to rapid population growth as well as concerns of neighboring states. Meeting current as well as future demands while also protecting the quality of our limited and vital water resources, is a difficult challenge yet it is one that cannot be delayed. In order to accomplish this goal, the many opportunities to conserve water through pro-active programs such as enhanced public education, xeriscaping (water saving landscaping technique), ultra-low flow plumbing fixtures, water rates that encourage conservation, etc... must receive a much higher priority to insure that our water resources are used as efficiently as possible.

WATER RESOURCES MANAGEMENT

Georgia's comprehensive water management strategy began with the passage of the Ground Water Use Act in 1973. Together with the 1977 Surface Water Withdrawal amendments to the Water Quality Control Act, these parallel laws (and Rules adopted thereunder) allow the State to regulate each use of 100,000 gallons of water per day or greater through permits. For a number of years, permit applicants have been required to develop water conservation plans in accordance with State guidelines which address water leakage, metering, plumbing codes, drought planning, water re-use and public education. In 1990, Georgia became one of the first states to adopt ultra-low flow standards for plumbing fixtures. Under this law, local governments were required to adopt ultra-low flow

standards (1.6 gpf toilets, 2.5 gpm showerheads, 1.0gpf urinals, etc.) in order to remain eligible to receive any State water or wastewater grant or loan.

In 1994, the Georgia General Assembly passed a new law (Senate Bill 10) which required the Board of Natural Resources to adopt rules and regulations relating to the conduct, content and submission of water conservation plans required by Code Sections 12-5-31 (Surface Water Withdrawals) and 12-5-96 (Ground Water Withdrawals). In particular, the Act required that "for those permit applications which indicate an increase in water usage (ground water or surface water), except permits solely for agricultural use, a water conservation plan approved by the director and prepared based on guidelines issued by the director" must be contained with the application. The Act also required the Director of EPD to appoint a twelve person Task Force to assist in the writing of the required rules and regulations pertaining to water conservation plans and to collect and disseminate information as deemed appropriate to assist applicants in the preparation of water conservation plans.

Beginning in June 1994 with the selection and appointment of Task Force members representing Business/Industry, Local Governments, Agriculture and Environmental/Citizen groups, a series of meeting was held to develop the Rules required by S.B.10. The Revised Rules which are now in effect were recommended by the Task Force and adopted by the Board of Natural Resources in December 1994. In addition to the revised rules, the Division also developed an overview and a companion commentary to accompany the new Rules. The basic requirements of the new rules are outlined as follows.

WATER CONSERVATION RULES

The water conservation Rules have been written in general terms to allow water systems flexibility in

determining which programs are needed and would be most effective based on local conditions. However, all plans must still address improvements needed to reduce unaccounted for water (UAW - leakage and/or unmetered usage) and/or describe programs already implemented for that purpose. In addition, all systems should address basic water demand management activities in their plan such as public education programs and the use of ultra-low flow plumbing fixtures in accordance with State and federal requirements. Areas experiencing rapid population growth with limited water resources such as many areas of north Georgia and areas where the quality and quantity of the water resources are being negatively impacted by high water demands whether by industry or population growth will probably need to implement more aggressive, proactive water conservation programs. In general, there are three important goals which the water conservation rules attempt to address:

1. **Water Loss:** Reduce water loss and/or UAW through enhanced system management programs such as meter installation, replacement and calibration; leak detection; theft prevention; etc...

2. **Water Demand Management:** Establish programs to improve long term management of the water system demand. Equitable, cost based water billing based on metered use is desirable for all water systems. Compliance with plumbing code provisions requiring the use of ultra - low flow plumbing fixtures is also an essential component of a comprehensive demand management strategy. Some areas with high peak demands, very high growth rates, etc.. may benefit from implementing more proactive measures such as peak demand surcharges, intensive public education programs, recycling, retrofitting of ultra-low flow plumbing fixtures, etc... To be successful, public education and involvement must be included as essential components of the water conservation plan.

3. **Long Range Planning:** Develop long term water demand projections which reflect demand reductions based on the implementation of continuous water conservation measures as outlined in your plan.

Key Provisions of the Rules:

- Submittal of annual unaccounted-for water data;
- Submittal of five year progress reports demonstrating the effectiveness of the applicant's water conservation plan;
- Incorporation of water conservation into long term planning

IMPLEMENTATION

Currently, permittees requesting an increase to an existing permit and new applicants for surface and/or ground water withdrawals are required to submit water conservation plans for approval as required by the S. B. 10 regulations. As a result, water conservation planning is receiving a higher priority in the long term water supply planning process and the Division is working with local water systems on a cooperative basis to encourage the ongoing development and implementation of effective water conservation plans. In general, small systems have experienced greater difficulty in complying with the regulations due to the lack of resources and expertise and they will continue to require assistance from the State and other organizations such as AWWA, Rural Water, Extension, etc.. in developing effective programs.

CURRENT MANAGEMENT

The rules as developed by the task force are included in every permit withdrawal application packet. However, though the law was passed and the rules were written, questions still remained as to what exactly constitutes a good water conservation plan. Unfortunately, at the time, there were no consistent definitions, guidelines or criteria available. Likewise, there were no standard review procedures in place. The EPD has two current priorities concerning the development and submission of effective water conservation plans. The first is to develop a set of evaluation criteria for water conservation plans. The second is the development of a guidance manual that will facilitate the translation of the Water Conservation Plan rules into a succinct, standardized effective plan.

The EPD is actively committed to evaluating water conservation plans in a consistent and effective manner. A water conservation specialist was hired during January of 1999, to act as a resource for Georgia's water purveyors. The responsibilities of this specialist also include reviewing water conservation plans, the development of the training document, as well as facilitating workshops on water conservation planning to teach water suppliers about the training document.

TRAINING DOCUMENT

This document's development was initiated at approximately the same time as the U.S. EPA released its

first draft of Water Conservation Plan Guidelines for States. The EPA guidelines were written as a part of the Safe Drinking Water Act and generally geared toward states with little or no formal water conservation planning requirements. Nevertheless, these guidelines are a valuable tool in the clarification and organization of the existing rules. This document will be the primary training manual used by EPD, in assisting local governments with the development of water conservation plans.

Elements of the Training Document

The document contains several noteworthy features. First, a water system profile assists water purveyors in the compilation of their system characteristics. This will help them assess their current situation and plan for the future. These system characteristics are: estimated service population, annual average water supply, number of total connections, current rate structures, metered sales and unaccounted for water. A series of guideline categories which take system size and capabilities into account when designing a conservation plan are also integral to the training document.

In the effort to cater to different needs and capabilities between different water systems, the EPD has adopted a three-tiered system based upon a system's water withdrawal. Those systems withdrawing 100,000 gpd - 1 mgd are asked to follow the basic guidelines, 1 - 10 mgd fall in to the intermediate category, and 10 mgd and over follow the advanced guidelines. By organizing suggested conservation measures in a cumulative manner, the bigger users are asked to consider more comprehensive conservation measures. Similarly, systems with less financial resources (generally those who withdraw smaller amounts of water) are given a place to start and direction as how to progress. All water systems are expected to accomplish or be working toward the four points under the Basic Guidelines. The State considers analysis of leak detection, meter maintenance, rate making policies, and Education the minimum level of conservation compliance. In all, these suggestions provide a benchmark to see where Georgia's water purveyors should be and what they can be striving toward.

In addition to the Water System Profile and the Guideline Categories, supplemental information will be included as appendices. The appendices will include step-by-step instructions to guide the water system through a cost/benefit analysis of conservation measures. A completed water conservation plan, which will be the standard used by the EPD reviewer in processing water conservation plans is also included. Additional Water

Conservation Measures and conservation techniques are provided for those systems that want to develop a more comprehensive and individualized water conservation program. There will also be inspiring accounts given by real Georgia water systems on their success and experience with their own water conservation planning. When completed, the training document finished, and any auxiliary information will be available on and downloadable from the EPD website.

The goal of the program is to go beyond the mere submittal of water conservation plans and to have those water conservation measures effectively implemented at the system level. EPD is actively trying to help Georgia water systems benefit from the cost savings available through the implementation of sound water conservation practices. While these steps will facilitate improvements in water conservation planning in Georgia, they are certainly not exhaustive and leave the door open for the consideration of future needs.

FUTURE NEEDS

1. Continue implementation of current guidelines and provide technical assistance to small systems as needed to help develop effective water conservation programs.
2. Metering of all customer service connections and water rates based on actual usage should be required for all systems.
3. Continue to encourage reuse of treated wastewater for irrigation or other uses (where feasible) to reduce impact of future water withdrawals.
4. Promote water conservation landscaping (*Xeriscaping*) and water rates that encourage conservation to reduce peak water demands.

CONCLUSION

The challenge for the future is for water systems and their customers (most of us) to reach a level of understanding that water conservation must be a continuous process if it is to achieve effective results. Periodic re-evaluation is also very important to determine the success of the program, receive input from system customers and make any needed changes.