

**WATER CONSERVATION RULES
WITH COMMENTARY**

391-3-6-.07 Surface Water Withdrawals. Amended

Rule (3)8. In the preparation of a permit application for a new permit or modification of an existing permit which includes an increase in the permitted water use (except for a farm use permit application), the applicant must submit to the Director for approval a water conservation plan prepared in accordance with the following guidelines. The plan must address the following items (or contain a statement why the item is not an appropriate part of the plan):

GUIDELINES

COMMENTARY

<p>(I) System management;</p> <p style="padding-left: 40px;">(I) Within the most recent 24 month period, a minimum of twelve consecutive months of UAW data;</p> <p style="padding-left: 40px;">(II) A description of any current or planned programs to reduce UAW such as those listed below (include proposed schedules for planned activities):</p> <p style="padding-left: 80px;">I. Leak detection and elimination;</p> <p style="padding-left: 80px;">II. Availability of accurate maps of the water system;</p> <p style="padding-left: 80px;">III. Meter maintenance, testing, replacement, calibration, etc;</p> <p style="padding-left: 80px;">IV. Prevention of tank overflows;</p> <p style="padding-left: 80px;">V. Flushing programs without degradation of water quality;</p> <p style="padding-left: 80px;">VI. Prevention of unauthorized water use – fire hydrants, fire lines, etc.;</p> <p style="padding-left: 80px;">VII. A list of unmetered service connections including publicly owned facilities, churches, etc.;</p> <p style="padding-left: 80px;">VIII. Other;</p> <p style="padding-left: 40px;">(III) A list of inter-connections with other water systems and a description of any contractual agreements, type (emergency back-up, wholesale sale or purchase) and purchase amounts;</p> <p style="padding-left: 80px;">(IV) Any additional current or planned activities pertaining to system management that will contribute to water conservation.</p> <p style="font-size: small; margin-top: 20px;">*As defined in the Rules for Ground Water Use, UAW (unaccounted for water) is the difference between the total amount of water pumped into the water system from the source(s) and the amount of metered use by the customers of the water system expressed as a percentage of the total water pumped into the system. UAW generally includes system leakage and unmetered use such as fire fighting, line flushing, broken water mains, etc...</p>	<p>In general water systems should develop programs and adhere to sound management practices in operation of their systems to insure that maximum beneficial use is obtained from the permitted withdrawal. To accomplish this goal, water system management must be optimized to reduce UAW to the lowest practical level. A standard water industry goal is to achieve an UAW level of 10 %. As a first step in reducing UAW, a water audits should be conducted to identify how water is being used Also of primary importance in reducing UAW is to insure that system meters are properly calibrated, tested or replaced in accordance with AWWA and manufacturers recommendations - annual calibration for larger meters and testing and/or replacement every 10 -15 years for small commercial and residential meters.</p> <p>Other programs which can help reduce UAW such as scheduled replacement of old water lines that experience frequent line breaks or require frequent flushing due red water, valve maintenance programs, etc... should be implemented as needed.</p> <p>Water systems with excessive UAW may not receive the requested withdrawal increase, unless programs to reduce UAW are adequately addressed in the plan.</p>
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(ii) Treatment plant management;

(I) The condition, calibration frequency, type, etc. of raw and finished water metering;

(II) An analysis of in-plant water use for filter backwashing, overflows, laboratory use, etc. as a percentage of total plant production. Also, the plan must outline any ongoing or planned plant improvements (including schedules for planned improvements) and/or revised operational procedures to reduce in-plant use;

(III) A description of any recycling or reuse of filter backwash water.

iii) Rate making policies;

(I) A list of non-billed service connections. Also, if available, a breakdown by number of meters or % of total production for each class of customer, e.g., residential, commercial, industrial, wholesale;

(II) A copy of the water rate structure currently in use including any surcharges, demand charges, etc., which may apply to certain customers and a description of the effects of this rate structure on water conservation;

(III) A description of any system policies concerning second meters for landscape irrigation and any use of sewer meters for billing;

(IV) A statement in response to the

Water use and losses in a water treatment plant can be a significant percentage of the total source water withdrawn and therefore should not be overlooked as a potential water conservation measure. Backwash rates and procedures should be evaluated for potential savings. Overflows from basins, storage tanks as well as leakage should also be considered.

Water conservation should be considered in the design and selection of new treatment facilities, processes, components, etc... However under future federal drinking water regulations, recycling of filter backwash water may not be approved or may require special treatment considerations due to the potential for concentrating and recycling of pathogenic organisms. Appropriate regulatory authorities should be consulted before implementing any new recycling of filter backwash water.

Water systems with limited supply options which are experiencing rapid growth, high peak demands, etc.. should consider developing more proactive programs to address demand management. Before selecting any specific conservation alternative, an analysis of water use by customer category should be performed to determine what types of programs to consider based on the specific needs of the system. The goal of demand management is to improve the efficiency of customer water usage which results in a reduction of long term water demand projections for a particular system.

Although equitable, cost based water rates based on metered usage are recommended for all water systems, water rates which incorporate peak demand surcharges or other conservation incentives can be an effective demand management strategy.

All water systems should be financially self –supporting.

NOTE: Although metering is desirable for all water usage, there may be circumstances that render metering impractical and uneconomical.

following questions:

I. Is the water system financially self-supporting?

II. Are water system expenditures subsidized by non-water/sewer system revenues?

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<p>(iv) Plumbing ordinances and/or codes;</p> <p>(I) A description of compliance with State Water Conservation Law which requires the use of ultra-low flow plumbing fixtures. The applicant may include copies of adopted ordinances if applicable;</p> <p>(II) Ordinances/codes or other special requirements pertaining to outside water use such as landscape irrigation systems, commercial car washes, etc.</p>	<p>Water systems must verify compliance with State law requiring the installation of ultra-low flow plumbing fixtures - 1.6 gallon toilets, 2.2 gpm lavatory faucets, 2.2 gpm kitchen faucets, 2.5 gpm showerheads and 1.0 gallon urinals. Compliance with these standards will result in long term water savings which can be estimated based on projected growth rates for a water system.</p> <p>Systems with very high growth rates may want to consider the cost effectiveness of retrofit or rebate programs for customer replacement older high flow plumbing fixtures such as 5.0 gallon toilets, etc...</p> <p>Any other ordinances such as requirements for recycling by commercial car washes, etc.. should be outlined in the plan</p>
<p>(v) Recycle - reuse;</p> <p>A description or accounting of any recycling or reuse of treated wastewater.</p>	<p>Any current or planned use of recycled water should be outlined in the plan.</p>
<p>(vi) A description of current and planned education programs for the promotion of water conservation.</p>	<p>To be successful, a water conservation plan must incorporate programs for public education and involvement. The scope of these programs will vary according to the needs of the individual water system; however, programs which encourage the xeriscape landscape methods, involve schools, community groups, etc... should be developed where possible. Use of outside resources (promotional materials, expertise) can facilitate the implementation of these programs.</p>

<p>(vii) Progress report;</p> <p>Five years after issuance of a new or modified Surface Water Withdrawal Permit, the permittee must submit to the Director a progress report that outlines actions and/or improvements made to conserve water and reduce water loss, e.g., leak detection/repair, meter installation, calibration, or replacement, summer and/or peak use surcharges, enforcement of ultra-low flow plumbing fixture requirements, etc. Permittees with a total permitted withdrawal less than one million gallons per day on a monthly average may use a simplified reporting format supplied by the Division.</p>	<p>The report should outline improvements and include an estimate of the resulting water savings such as reduction of UAW, installation of ultra flow plumbing fixtures in new construction or retrofits, etc... The report should also summarize other conservation related activities such as public education programs and any new activities should be outlined in the progress report.</p>
<p>(viii) Water use data;</p> <p>(I) Permittees must submit to the Director an annual water use data report that includes information on unaccounted for water for the past 12 months. This report will be submitted in conjunction with the annual water use report that is required pursuant to subsection 391-3-6-.07(15).</p>	<p>Collection and dissemination of UAW data and related technical information will help improve the overall efficiency of water systems in the State which will contribute to the enhanced protection of the water resources.</p>
<p>(ix) Long range planning;</p> <p>All permittees must incorporate water conservation into long term water demand and supply planning. Permittees must develop water demand projections covering a 20 year time period using a method or methods approved by the Director. The demand projections must reflect the effects (demand reductions) inherent in the implementation of new or enhanced water conservation programs.</p>	<p>Water demand projections will demonstrate a utility's long term ongoing commitment to the implementation of effective water conservation programs which will produce beneficial results for the water system and its customers while enhancing the protection of the water resources of the State.</p>

<p>(x) A description of any additional water conservation activities.</p>	
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