

# Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

**To:** Commissioners **Date:** July 6, 2007  
**Thru:** LaDonna Castañuela, Chief Clerk  
Glenn Shankle, Executive Director  
**From:** Dan Eden, Deputy Director  
Office of Permitting, Remediation, and Registration  
**Docket No.:** 2006-1256-RUL  
**Subject:** Commission Approval for Proposed Rulemaking  
Chapter 290, Public Drinking Water, Subchapters D, F, and H  
Stage 2 Drinking Water Rules  
Rule Project No. 2006-045-290-PR

## Reasons for the rule package:

The United States Environmental Protection Agency (EPA) recently adopted new drinking water rules. The new EPA rules are: the Stage 2 Disinfectants and Disinfection Byproducts Rule (DBP2); the Long Term 2 Enhanced Surface Water Treatment Rule (LT2), and the Ground Water Rule (GWR).

In addition, this rule packages includes changes to adopt portions of the EPA Public Notification Rule (PNR); changes to the Texas Health and Safety Code (THSC), §341.033(i); and, the addition of the definition of the term “process control duties” from §30.387 of the commission’s rules. This rule package also proposes changes to ensure consistency of the state rules with the federal Total Coliforms (Including Fecal Coliforms and E. Coli) rule (TCR) and Disinfectants and Disinfection Byproducts (DBP1) rule.

- **Under what authority are we proposing these changes?** These amendments are proposed under Texas Water Code (TWC) §5.102, which establishes the commission’s general authority necessary to carry out its jurisdiction; §5.103, which establishes the commission’s general authority to adopt rules; §5.105, which establishes the commission’s authority to set policy by rule; and Texas Health and Safety Code (THSC) §341.031, which allows the commission to adopt rules to implement the federal Safe Drinking Water Act (SDWA), 42 United States Code §§300f to 300j-26; and THSC §341.0315, which requires public water systems to comply with commission rules adopted to ensure the supply of safe drinking water.
- **Is this rulemaking required by federal rule or state statute? Which ones?**  
Under Title 40, Code of Federal Regulations (40 CFR) §142.10, TCEQ must adopt rules at least as stringent as the federal rules in order to maintain primary enforcement authority (primacy) over public water systems in Texas.
- **Are there any legal deadlines by which these rules must be proposed, adopted, or effective?**  
TCEQ has two years to adopt rules for primacy. The deadline for adopting DBP2 is January 4, 2008; the deadline for adopting LT2 is January 5, 2008; and the deadline for adopting the GWR is October 11, 2008. There is no legal deadline for the amendments being made based on PNR, THSC §341.033(i), or the federal TCR and DBP1 rules.
- **What issue(s) or problem(s) are we trying to solve?**  
DBP2 will improve public health protection from potentially carcinogenic byproducts of drinking water disinfection. LT2 will improve public health protection from *Cryptosporidium* in surface

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water. The GWR will improve public health protection from fecal contamination of wells used by public water systems (PWSs). The PNR will ensure that customers of public water systems are informed when their drinking water does not meet the standards. The DBP1 changes will help distinguish the new DBP2 requirements from the existing provisions and the TCR revisions correct an erroneous formula used to determine compliance with maximum contaminant level (MCL) limits. The changes based on THSC, §341.033(i) require public water systems to maintain internal procedures to notify the commission in the event of a threat to the security of the water supply.

- **Why is it important that we do this rule package?**

The rule package is required in order to maintain primacy over drinking water. Maintaining primacy ensures that Texas rules are implemented in a manner consistent with the TCEQ mission; ensures that Texans get the same level of public health protection as citizens of other states; ensures that State Revolving Fund loans are made available to Texas public water systems consistent with Texas policies and procedures; and ensures federal funding for elements of the Public Water System Supervision Program within TCEQ, including elements within the Field Operations Division, Quality Assurance Section, Enforcement Division, and Water Supply Division (WSD).

- **Other important background or historical information.**

The SDWA passed in 1974 and Texas first received primacy in 1979. Since then, Congress mandated that EPA adopt a series of rules to increase the public health protection of customers served by public water systems. The current rules are part of a group of rules mandated by the SDWA amendments of 1996 called the microbial/disinfection rule cluster.

**Scope of the rulemaking:**

DBP2 provisions include a one-year period of EPA-required increased early implementation sampling called the Initial Distribution System Evaluation (IDSE) that will be used to select new compliance monitoring sites; new compliance determination methods; operational evaluation level reporting; increased detail for currently required monitoring plans; and updated analytical methods.

LT2 provisions include a special period of increased early implementation sampling to determine the concentration of *Cryptosporidium* oocysts in source water; new required treatment levels for *Cryptosporidium* removal determined on a plant-by-plant basis; defined technologies for *Cryptosporidium* removal called the microbial toolbox; and updated analytical methods.

GWR provisions include raw water sampling at wells following any total coliform detection in a distribution system; required corrective action if fecal indicators are detected in a well; newly defined violations for presence of fecal contaminants in raw water; and updated analytical methods.

TCEQ adopted requirements of the federal PNR in 2002, but three provisions remain to be added to our rule language. First, the rules require all public water systems that must do public notice to certify in writing that the notice has been sent. Second, the rules change the amount of time in which a public water system must notify the TCEQ and its customers of an acute violation from one business day to 24 hours. Third, the rules ensure appropriate enforcement and tracking of public notice violations by including a reference to public notice violations under each constituent's compliance determination subsection. The revisions to the PNR are required by EPA to maintain primacy.

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The new requirement of THSC that public water systems contact TCEQ when emergencies occur is included in this rule package and the definition of “process control duties” previously within the operator licensing requirements is moved to the public water system regulations.

- **Changes required by federal rule:**

The following changes are required by federal rule in order to maintain primacy over the public drinking water program:

- Incorporate the EPA GWR regulations regarding triggered well sampling for fecal contaminants when total coliform organisms are detected in the distribution system;
- Incorporate the EPA GWR regulations regarding significant deficiencies at public water systems that use groundwater;
- Incorporate the EPA GWR regulations regarding corrective actions at public water systems that detect fecal organisms in wells;
- Incorporate the EPA LT2 regulations regarding *Cryptosporidium* sampling at public water systems that treat surface water or groundwater under the direct influence of surface water (GUI);
- Incorporate the EPA LT2 regulations for setting *Cryptosporidium* removal requirements at public water systems that treat surface water or GUI, also known as bin classification;
- Incorporate the EPA LT2 regulations for technology used for removal of *Cryptosporidium* from surface water or GUI sources, also known as the tool box technology options;
- Incorporate the EPA DBP2 regulations for disinfection byproduct sampling, including the initial distribution system evaluation;
- Incorporate the EPA DBP2 regulations for determining public water system compliance with disinfection byproduct maximum contaminant levels using the new calculation method, known as locational running annual averages;
- Incorporate the EPA DBP2 regulations for operational evaluation levels and follow up reporting; and
- Incorporate the EPA PNR requirement that any submittal to TCEQ of required public notification documentation be accompanied by a signed certification that the notice was delivered to customers, and explicitly identify failure to perform required public notification as a violation.

- **Changes required by state statute:**

- Senate Bill 9 from the 79<sup>th</sup> Regular Legislative Session amended THSC, §341.033(i). This change to the statute is self-implementing; however, the TCEQ is incorporating this provision in its rule for consistency with the statute. The proposed amendments to §290.46 resulting from changes made to the THSC, §341.033(i), require a public water system to maintain internal procedures to notify the executive director in the event of a threat to the security of the water supply. This proposed provision gives the water supply system wide latitude in how it chooses to comply with the rule; it does not require the system to incur any costs in the development of this plan, nor does it require publication or distribution of the plan.

- **Staff recommendations that are not expressly required by federal rule or state statute:**

Staff recommends relocating the definition of “process control duties” for water operators that was previously contained in 30 TAC §30.387 to Chapter 290. The rule language of Chapter 30 related to water operators is under revision in the Occupational Licensing rule package, rule project number 2006-041-030-CE. The definition of “process control duties” is proposed to be deleted and moved to

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Chapter 290. The docket number for the Occupational Licensing rule package is 2006-1699-RUL. The Occupational Licensing rule package is scheduled to go to agenda in September 2007 for adoption.

Staff also recommends changes to ensure consistency of the state rules with the existing federal TCR and DBP1 rules. The DBP1 changes will help distinguish the new DBP2 requirements from the existing provisions and the TCR revisions correct an erroneous formula used to determine compliance with MCL limits.

**Impact on the regulated community:**

- **Who will be affected?**

Public water systems will be affected. A public water system is defined as an entity that provides drinking water to 25 or more people, or 15 or more connections, for 60 or more days a year. There are approximately 6,700 active public water systems in Texas serving approximately 22 million people.

- **Does it create a group of affected persons who were not affected previously? How?**

This rulemaking does not create any new group of affected persons.

- **Will there be a fiscal impact? If so, estimate.**

The fiscal impact of the rules includes benefits associated with improved public health, additional costs to most public water systems for sampling, and increased capital and operational costs for the small subset of public water systems that have to make changes to comply with the new rules. The EPA performed cost/benefit on GWR, LT2, and DBP2 and selected the option for each that maximized the public health benefit while minimizing costs.

The GWR and LT2 both address risks from pathogens, so the benefits primarily result from a decrease in illnesses resulting from waterborne disease. The benefits of DBP2 result from bladder cancer cases avoided by reducing the levels of potentially carcinogenic disinfection byproducts.

Almost all public water systems will experience some cost increases for sampling. The extent of sampling required by the rules is generally based on population served, so costs will be generally less for small systems. Sampling is phased in for large systems first, so the impact to small systems will be generally delayed. A small percentage of systems are anticipated to be required to make changes to their treatment plants or distribution systems to meet the new rule requirements. For these systems, costs may be high. Systems required to comply with the GWR will be required to collect additional coliform samples in wells, at approximately \$25 each, if routine distribution sampling indicates the presence of total coliform bacteria. Systems with surface water treatment plants will be required to perform initial *Cryptosporidium* or *E. coli* samples to determine source water quality at a cost ranging from approximately \$1,000 for a small system with one plant, to as much as \$16,000 for a large system with one plant. Systems that must comply with DBP2 will be required to perform initial sampling to identify locations high in disinfection byproducts. Systems with fewer than 500 customers may receive a waiver to this sampling and avoid the cost; other systems will have a cost ranging from about \$1,300 for a system serving 501 customers to a cost of about \$60,000 for a system serving more than one million but less than five million people.

Some systems will need to make significant changes to meet the new EPA rule requirements. The estimated potential treatment costs vary considerably as a function of system size, system location,

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and source water quality. The potential least-cost solution to solve a compliance issue would be to identify an alternate source of water at a nearby system that meets the rules, and purchase water from that system. Treatment costs may be spread over many years, and funding may be available from loan or grant funds. The cost of changes to treatment will be realized over an extended period of time, as proactive systems make changes in advance of effective dates, and as other systems make changes in response to violations and enforcement actions. EPA generally phases in requirements on the basis of system size, so large systems are expected to make changes sooner than small systems.

The proposed amendments resulting from the federal TCR and PNR are being proposed to more accurately reflect the federal rules, but because the agency's current rule requirements comply with the federal rules, no changes to state implementation will result. The revisions to the PNR are required by the EPA to maintain primacy.

Amendments to DBP1 proposed by this rulemaking would change references so that the Chapter 290 rules distinguish between the DBP1 and DBP2 rules. Because these amendments are for clarity only and will not change implementation, they will result in no fiscal impact.

The proposed amendments resulting from changes made to the THSC require a public water system to maintain internal procedures to notify the executive director in the event of a threat to the security of the water supply. This provision does not require the system to incur any costs in the development of this plan, nor does it require publication or distribution of the plan, so an entity can comply with the rule at little or no cost.

**Impact on the public:**

- **Who will be affected?**  
Texans who drink water from public water systems will be affected. Approximately 95% of Texas citizens are served by public water systems. In addition, people traveling to Texas who drink water from public water systems will be affected.
- **Does it create a group of affected persons who were not affected previously? How?**  
This rulemaking does not create any group of affected persons who were not affected previously.
- **Will there be a fiscal impact? If so, estimate.**  
There will be a potential fiscal impact on public water system customers. For residents that receive water from community water systems, monthly water bill costs may increase. Most public water systems are expected to be able to meet the new rules without making changes, so their customers will see no direct cost increase. Another group of systems will have sampling costs but no other changes, and their customers may experience increases in their water bills ranging from \$0.61 to \$12 per year. There will be a small number of public water systems that must make significant changes to meet the new rules, and at these systems EPA estimates that customers could potentially expect an increase of up to \$420 per year or more.

**Impact on agency programs:**

There will be a significant impact on TCEQ programs as a result of these rule changes. Funding for increased activities will be available through the Public Water System Supervision Program (PWSSP) Performance Partnership Grant and State Revolving Fund set-asides, but will require an increase in state matching funds or identification of in-kind activities.

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The programs that will be affected are those that are part of the PWSSP, specifically, in order of magnitude of impact: WSD's Public Drinking Water Section and Utilities and Districts Section; Field Operations Division and Field Operations Support Division; Small Business and Local Government Assistance; Enforcement Division; Quality Assurance Section; and Operator Licensing Section.

The WSD will experience the greatest changes from the new rules, with a measurable resource impact. Within the Public Drinking Water Section, numerous programmatic changes will be required. New guidance documents and forms will have to be created. Specifically, guidance documents that will be revised include: Rules Guidance (RG-195); Standards Guidance (RG-346); Monitoring Plan Guidance (RG-384); Surface Water Monthly Operating Report Guidance (RG-211); and Coliform Guidance (RG-421). Some specific forms that will need to be revised or created include: Surface Water Monthly Operating Report; Groundwater/Purchased Water Monthly Operating Report; Initial Distribution System Sample Plan (and Waiver) forms; and Raw Water Monitoring Plan form.

The Public Drinking Water Section will be required to develop new compliance determination programs for the new rules, and will have more violations to oversee. More data acquisition procedures will be required to enter and track additional raw groundwater and surface water results. It will be necessary to provide increased compliance assistance to public water systems, because the Section has legislative performance measures based on the number and percent of public water systems that are in compliance with TCEQ rules. Business processes will have to be developed to review and approve new documents, including source monitoring plans for the GWR, raw monitoring plans under LT2, and initial distribution system evaluation plans and reports under DBP2. LT2 is expected to generate additional exception requests and innovative technology reviews. Staff guidances will be developed in order to establish how to approve various types of new technology. Because of EPA's early implementation sampling requirements, some of this work is already being generated, and various programs will be phased in as different rule effective dates occur. The WSD may find it necessary to implement efficiencies, increase contract activities, and/or obtain additional resources.

In the WSD's Utilities and Districts Section, it is anticipated that the increased complexity of rule compliance, and the added new technological options for accomplishing compliance, will cause the number of plan submittals by public water systems to continue to increase. The Stage 1 rule packages that preceded the current rulemaking had this effect. Systems that have cost impacts as a result of the rule may have to review their rates so it is anticipated that the number of rate cases will increase.

Within the Field Operations Division, additional requirements for the frequency of sanitary surveys, which are accomplished in Texas using comprehensive compliance investigations (CCIs), are included in the special primacy requirements of the GWR. While this will not require changes to rule language, the impact will be significant. Also, increases in the complexity of the drinking water regulations will make CCIs of public water systems more complex, thus increasing training needs for field investigators. The Small Business and Environmental Assistance Division (SBEA) may experience an impact through their assistance to systems required to comply with the new rules.

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The Enforcement Division will have an increased number of enforcement cases as a result of these new rules. That impact will be felt for the GWR by 2010, and for LT2 and DBP2 in approximately 2014.

The Quality Assurance Section has added some analytical methods to its fields of certification, and slightly expanded the scope of certification audits.

The Operator Licensing Section will need to ensure that certification training is consistent with the new rule requirements.

Some data management tools used by TCEQ or stakeholders will need modification as a result of the new rules. The Water Utilities Database will need to be adapted to allow data management of new types of data resulting from all three new rules. The Consolidated Compliance and Enforcement Data System will need to have compliance checklists modified to deal with new types of violations created in the new rules. The Texas Safe Drinking Water Information System will need to be updated for delivery of new data elements to EPA to meet grant reporting requirements. The TCEQ web presence will need to be modified to reflect the presence of the new data.

**Stakeholder meetings:**

- **Have any stakeholder meetings been held?** Yes. A series of four stakeholder meetings were held. Different meetings were held to target stakeholder groups with specific interests.
- **With whom?** The long-standing Drinking Water Advisory Work Group (DWA WG) formed the basis for the stakeholder group meetings, but notices posted on the web noted that anyone could attend. Public water system owners, managers, operators, consulting engineers and drinking water consumers participated in the stakeholder process.
- **What were the general sentiments?** The regulated community remains supportive of TCEQ maintaining primacy over drinking water through adoption of Texas rules, rather than having EPA implementing new rules. They supported the increased public health protection, while expressing concern over the associated costs.
- **Were any changes made in response to stakeholder concerns?** Yes. Where EPA had provided flexibility for specific technical issues, stakeholder input was used in determining how to use that flexibility. For example, the stakeholders recommended that TCEQ identify well disinfection as a corrective action when fecal contamination is detected in a public water supply.

The stakeholders also recommended that the TCEQ implement some of the rarely-used LT2 microbial toolbox treatment options through the existing "exception" process rather than explicitly addressing them in rule language. These changes were incorporated into the proposed rule. In addition, the proposal also reflects stakeholder suggestions for applying the treatment credits at plants that are only required to meet existing treatment technique requirements.

**Policy issues:**

- **What policy issues are affected?**  
As part of the primacy agreement with EPA, TCEQ has special requirements described in 40 CFR §142 that may have the potential to impact policies for lab certification, drinking water facility plan

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review, capacity development, and how State Revolving Fund loans are provided to public water systems. Where advances in drinking water technology have gone beyond existing state-specific rule requirements, policy will have to be developed to incorporate the ability to provide approval of new technology so that the regulated community can adopt innovative technology that is optimum from a cost and rule compliance perspective. It is not currently anticipated that any major changes to policy will be driven by the current rulemaking.

- **Are any policies that are not currently based on rule being made into a rule?** No.
- **What are the consequences if this rulemaking is not approved to go forward?**  
If this rulemaking does not go forward at this time, an extension to the primacy deadline may be requested from EPA. If this rulemaking does not go forward at all, TCEQ and EPA would enter negotiations to determine whether TCEQ retained primacy, and what activities EPA would perform within Texas to directly implement the SDWA and its amendments.
- **Are there alternatives?** EPA has not provided alternatives to the requirement that primacy agencies must adopt, implement, and enforce rules at least as stringent as the federal rules under the SDWA.

**Potentially controversial matters:**

These EPA rules will increase sampling costs to many public water systems; will increase capital expense for the few systems that must install treatment to meet new standards, and may increase operating costs for some systems. The affected systems would include both large and small surface water and groundwater systems and the systems could be either publicly or privately owned.

Additionally, public health protection issues in the rules may be of interest to consumer protection or environmental groups. The rules were developed by EPA with a significant level of stakeholder input, and there is little or no flexibility available to make changes at this stage, since the TCEQ maintains primacy by adopting rules as stringent as the EPA rules.

**Key points in proposed rulemaking schedule:**

- **Anticipated proposal date:** July 25, 2007
- **Anticipated *Texas Register* publication date:** August 10, 2007
- **Public hearing date (if any):** August 30, 2007
- **Public comment period:** August 10, 2007 through September 10, 2007
- **Anticipated adoption date:** January 9, 2008

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Attachments

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