



Proposed Ground Water Rule

Summary

EPA proposed the Ground Water Rule (GWR) on May 10, 2000 (65 *Federal Register* 30194). The purpose of the rule is to establish a multiple-barrier approach to protect against waterborne pathogens in drinking water from ground water sources.

Background

The 1996 Amendments to the Safe Drinking Water Act require EPA to develop regulations that require disinfection of ground water systems “as necessary” to protect the public health (§§1412(b)(8)).

Ground water occurrence studies and recent outbreak data shows pathogenic viruses and bacteria occur in public water systems that serve ground water and that people become ill, and some may die, due to exposure to contaminated ground water.

Most cases of waterborne disease are characterized by gastrointestinal symptoms (diarrhea, vomiting, etc.) that are frequently self-limiting in healthy individuals and rarely require medical treatment. However, these same symptoms are much more serious and can be fatal for persons in sensitive subpopulations (such as, young children, elderly and persons with compromised immune systems).

EPA does not believe all ground water systems are fecally contaminated; data indicate that only a small percentage of ground water systems at risk of microbial fecal contamination. However, the severity of health impacts and the number of people potentially exposed to microbial pathogens in ground water indicate that a regulatory response is warranted.

About this Regulation

The GWR will apply to public water systems that serve ground water. The rule also applies to any system that mixes surface and ground water if the ground water is added directly to the distribution system and provided to consumers without treatment.

Proposed Requirements: The proposed targeted, risk-based strategy addresses risks through a multiple-barrier approach that relies on five major components:

1. Periodic sanitary surveys of systems requiring the evaluation of eight elements and the identification of significant deficiencies;
2. Hydrogeologic sensitivity assessments to identify wells sensitive to microbial fecal contamination;

3. Source water monitoring to test for the presence of *E. coli*, enterococci, or coliphage in the sample. There are two monitoring provisions:
 - Routine monitoring* for systems that do not provide 4-log treatment (inactivation or removal of viruses) and draw water from sensitive wells
 - Triggered monitoring* for systems that do not provide 4-log treatment and have a total-coliform positive sample under Total Coliform Rule.
4. Corrective action is required for any system with a significant deficiency or source water fecal contamination. The system must implement one or more of the following correction action options:
 - correct the significant deficiency,
 - eliminate the source of contamination,
 - provide an alternate source of water, or
 - provide treatment which achieves at 4-log inactivation or removal of viruses.
5. Compliance monitoring to ensure treatment technology reliably achieves 4-log inactivation or removal of viruses.

Environmental and Public Health Benefits

The GWR will reduce public health risk from contaminated ground water drinking water sources, especially in high risk or high priority systems. The proposed GWR is estimated to reduce the number of waterborne viral illnesses by just over 96,300 illnesses each year from the current baseline estimate of approximately 168,000 (a 57 percent reduction in total illnesses). It is also estimated to reduce the number of deaths that result from waterborne illness by about nine each year.

Cost of the Regulation

The GWR will result in increased costs to public water systems and States. The mean annualized present value national compliance costs of the proposed GWR are estimated to range from approximately \$177.0 to \$188.4 million (using a three percent discount rate). Public water systems will bear approximately 89% of this total cost (\$156.4 to \$167.9 million), with States incurring the remaining 11% (\$20.6 to \$20.6 million). The average annual household cost is estimated to be \$2.67 for all public and private CWSs, and \$3.86 for all public and private CWSs taking corrective action or fixing significant defects.

How to Get Additional Information

For general information on the GWR, please contact the Safe Drinking Water Hotline, at (800) 426-4791. The Safe Drinking Water Hotline is open Monday through Friday, excluding Federal holidays, from 9:00 am to 5:00 p.m. Eastern Time. For copies of the Federal Register notice of the proposed regulation or technical fact sheets, visit EPA's Safewater website.