

New rule boosts protection of underground drinking water

According to US EPA, more than 100 million Americans will enjoy greater protection of their drinking water under a new rule issued in October, 2006 by the U.S. Environmental Protection Agency. The rule targets utilities that provide water from underground sources and requires greater vigilance for potential contamination by disease-causing microorganisms.

"The new Ground Water Rule (GWR) boosts drinking water purity and public health security," said Benjamin H. Grumbles, assistant administrator for Water. "These first-ever standards will help communities prevent, detect and correct tainted ground water problems so citizens continue to have clean and affordable drinking water."

The risk-targeting strategy incorporated in the rule provides for:

- regular sanitary surveys of public water systems to look for significant deficiencies in key operational areas
- triggered source-water monitoring when a system that does not sufficiently disinfect drinking water identifies a positive sample during its regular monitoring to comply with existing rules.
- implementation of corrective actions by ground water systems with a significant deficiency or evidence of source water fecal contamination
- compliance monitoring for systems that are sufficiently treating drinking water to ensure effective removal of pathogens

A ground water system is subject to triggered source-water monitoring if its treatment methods don't already remove 99.99 percent of viruses. Systems must begin to comply with the new requirements by Dec. 1, 2009.

Contaminants in question are pathogenic viruses – such as rotavirus, echoviruses, noroviruses – and pathogenic bacteria, including *E. coli*, salmonella, and shigella. Utilities will be required to look for and correct deficiencies in their operations to prevent contamination from these pathogens.

Microbial contaminants can cause gastroenteritis or, in rare cases, serious illnesses such as meningitis, hepatitis, or myocarditis. The symptoms can range from mild to moderate cases lasting only a few days to more severe infections that can last several weeks and

may result in death for those with weakened immune systems. The new ground water rule will reduce the risk of these illnesses.

Fecal contamination can reach ground water sources, including drinking water wells, from failed septic systems, leaking sewer lines, and by passing through the soil and large cracks in the ground. Fecal contamination from the surface may also get into a drinking-water well along its casing or through cracks if the well is not properly constructed, protected, or maintained.

The Centers for Disease Control and Prevention reports that between 1991 and 2000 ground water systems were associated with 68 outbreaks that caused 10,926 illnesses. Contaminated source water was the cause of 79 percent of the outbreaks in ground water systems.

Ground Water Rule and more information about drinking water: epa.gov/safewater/disinfection/gwr

Summary: final Ground Water Rule

The Environmental Protection Agency (EPA) promulgated the final Ground Water Rule in October 2006 to reduce the risk of exposure to fecal contamination that may be present in public water systems that use ground water sources. EPA proposed the GWR on May 10, 2000 (65 Federal Register 30194). The rule establishes a risk-targeted strategy to identify ground water systems that are at high risk for fecal contamination. The GWR also specifies when corrective action (which may include disinfection) is required to protect consumers who receive water from ground water systems from bacteria and viruses.

Background

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

Ground water occurrence studies and recent outbreak data show that pathogenic viruses and bacteria can occur in public water systems that use ground water and that people may become ill due to exposure to contaminated ground water.

Most cases of waterborne disease are characterized by gastrointestinal symptoms (e.g., 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, the elderly, and persons with compromised immune systems).

Viral and bacterial pathogens are present in human and animal feces, which can, in turn, contaminate drinking water. Fecal contamination can reach ground water sources, including drinking water wells, from failed septic systems, leaking sewer lines, and by passing through the soil and large cracks in the ground. Fecal contamination from the surface may also get into a drinking water well along its casing or through cracks if the well is not properly constructed, protected, or maintained.

EPA does not believe all ground water systems are fecally contaminated; data indicates that only a small percentage of ground water systems are fecally contaminated. 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 applies to more than 147,000 public water systems that use ground water (as of 2003). 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 equivalent to surface water treatment. In total, these systems provide drinking water to more than 100 million consumers.

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 GWR is estimated to reduce the average number of waterborne viral (rotavirus and echovirus) illnesses by nearly 42,000 illnesses each year from the current baseline estimate of approximately 185,000 (a 23 percent reduction in total illnesses). In addition, nonquantified benefits from the rule resulting in illness reduction from other viruses and bacteria are expected to be significant.

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 final GWR are estimated to be approximately \$62 million (using three percent discount rate). Public water systems will bear the majority of costs. The annual household costs for community water systems (including those that do not add treatment) range from \$0.21 to \$16.54. Annual household costs for the subset of systems that undertake corrective actions range from \$.45 to \$52.38, with 90% having household cost increases of no more than \$3.20.

How to get additional information

For general information on the GWR, contact the Safe Drinking Water Hotline, at (800) 426-4791. The Safe Drinking Water Hotline is open Monday through Friday, excluding Federal holidays, from 10 a.m. to 4 p.m., Eastern time. For copies of the Federal Register notice of the final regulation, visit the EPA Safewater Web site, epa.gov/safewater/disinfection/gwr.

A comment from Delbert Zerr, P.E., KRWA consultant and former KDHE District Director on the new Ground Water Rule announced in October 2006.

"There is so much yet to be decided regarding this rule. Most of the guidance documents have yet to be prepared but in EPA's literature there are comments such as "systems that do not provide sufficient disinfection treatment" or "compliance monitoring to ensure that treatment technology installed to treat drinking water reliably achieves 99.99 percent (4-log) inactivation or removal of viruses" which would indicate this rule could have significant impact to groundwater systems. The 4-log removal requirement could suggest that a minimum chlorine contact time would be needed before the water reaches the first user. Many systems in Kansas disinfect water at the well house only seconds before the first user."

"At this time it is difficult to determine the overall impact to groundwater systems because implementation rules are in the process of being developed but **groundwater systems need to be aware that new rules are coming.**"

S.W. Kansas wind farm to help power Kansas City

On September 12, 2006, Kansas City Power & Light (KCP&L), a subsidiary of Great Plains Energy, announced its Spearville Wind Energy Facility is fully operational.

The site's 67 wind turbines are capable of producing 100.5 megawatts of electricity. That is enough clean, renewable electricity to serve the annual energy needs of approximately 33,000 homes.

"Putting these wind turbines on the power grid is an important milestone in our comprehensive plan to meet the growing energy needs of the Kansas City area," said Kansas City Power & Light CEO Bill Downey. "This wind facility, combined with several innovative demand response and energy efficiency programs and investments in technologies to substantially reduce air emissions at existing power plants, and a new power plant near Weston, Mo., is part of our balanced approach

to power generation that will provide significant environmental and economic benefits."

Governor Kathleen Sebelius said, "I commend KCP&L for their site selection of Spearville out of the heart of the Flint Hills and for their leadership in developing this clean and renewable resource."

Construction of the 67 wind turbines began last June. When completed, total capital cost of the project will be approximately \$166 million.

KCP&L is the first regulated electric utility to own and operate a large-scale wind facility in Kansas. The 100.5-megawatt facility is located near Spearville, Kan., about 17 miles northeast of Dodge City.

Water: EPA should improve oversight of distribution – NRC report

More waterborne disease outbreaks might be the case if the U.S. water-treatment industry does not make "critical investments" in making repairs and replacing the nation's aging water distribution system, as described by a new National Research Council report.

"The water industry is fast approaching a time when it will have to make substantial critical investments in assessment of pipeline, as well as repair and replacement," says the report, released this past September.

The U.S. water-distribution system is estimated to have nearly 1 million miles of pipes – and according to the report, is often ignored by regulations that are focused on treatment plants. Many of these lines were installed in the late 19th century, the council makes an argument to direct regulators to shift attention to these aging pipelines.

Ben Grumbles, U.S. EPA's managing water administrator, described the report as "significant" and noted that the agency is weighing recommendations. "We requested the report, and we will use the findings to help guide our efforts to advance sustainable infrastructure and protect public health," he added.

The numbers on waterborne disease outbreaks are declining, but the number of them linked to distribution systems is rising, the report states.

The Safe Drinking Water Act and state regulations and building codes are aimed at protecting the quality of drinking water, the report notes the rules fail to address problems with water distribution. Many contaminants that affect water in its distribution are either not monitored or sampling requirements are not adequate to detect a problem, according to the report.

The report encourages regulators to make epidemiology studies and examine diseases linked to water distribution systems. It also recommends that EPA work with states to construct consistent "cross-connection" programs and consolidate diversified state

and local plumbing and construction codes into a consistent national code.

The report says that an option is to look at the distribution system during EPA's revision of rules for total coliform bacteria. The council makes a recommendation that the rule include consistent inspection of water storage facilities, improved sanitary practices during construction and repair of system infrastructure and do primary research into external and internal corrosion of distribution pipelines.

Rural water campaign succeeds in making new chemical security legislation better for water supplies

This fall - in the closing days of Congress, some U.S. House and Senate lawmakers proposed an amendment to the Department of Homeland Security (DHS) spending bill that would give the Department authority to issue new chemical security regulations.

The regulatory proposal would have covered water and wastewater supplies – and included new civil penalties for violations of the proposed regulations. As Congress was deciding on the final legislation, state rural water associations urged Congress to treat small communities differently than the chemical industry.

"Small communities' water and wastewater utilities routinely use chemicals to treat/disinfect drinking water and wastewater to promote public health and protect the environment. However, small and rural community water supplies are self-governing, nonprofit organizations, they are not businesses, and have no incentive not to take all security actions possible. They are fundamentally different from chemical businesses.

A list of over 50,000 small communities (many governed by local volunteers, teachers, mayors, doctors, retired citizens, farmers, etc.) that would be open to new regulations and new civil penalties under these legislative proposals is available at: www.ruralwater.org/seclist.txt.

Advancing security in small communities is more of a RESOURCE problem than a REGULATORY problem. Every small community faces unlimited challenges and needs – with limited financial, administrative, and technical resources – and they need to ensure these resources are most effectively allocated. Please consider an approach to enhance security by prioritizing funding, technical assistance, education, and federal resources - the most effective methods for the federal government to protect small wastewater systems without overburdening the capabilities and resources of small local government."

On September 25, 2006, NRWA was successful – thanks to the grassroots effort to persuade Congress to stand up for small and rural communities. Congress

exempted water and wastewater supplies from the new chemical facilities regulation. Congratulations to all the rural water members who urged their Congressmen and Senators to “stand up for rural water.” Many of the biggest industry and environmental community lobbyists, who were closely watching the legislation, were impressed with rural water’s ability to persuade key decision makers on Capitol Hill of the NRWA position in the final days of this process. The President has signed this bill into law.

For the text of the legislation (House Report No. 109 – 699, Conference Report on H.R. 5441) and more on this and other topics, see <http://www.ruralwater.org>.

Annual RWD survey compiled by KRWA

Since 1985, KRWA has compiled an annual survey of financial and other operational issues on rural water districts in Kansas. The survey results are available to other water systems. The information has also proven to be invaluable when presented to legislative committees as they have debated various fees or other programs which water systems would be required to pay.

Basic information on RWDs in Kansas:

Total Gallons sold in 290 RWDs: 7,965,678,000

Water Rates: Monthly Minimum 5,000 gallons 20,000 gallons

Low	\$ 4.00	\$ 7.85	\$ 13.00
High	\$50.00	\$15.59	\$179.66
Average	\$18.03	\$53.08	\$163.60

Benefit Unit Charge Water Loss

Low	\$ 50	Low	-22% (reported)
High	\$7,700	High	65%
Average	\$2,088	Average	18%

Cost of Electricity per 1,000 gal. sold: State avg. \$0.2850

Cost of Audit/legal, per 1,000 gal. sold: \$0.06 per thousand

Salaries: State avg. per 1,000 gal. sold: \$0.998 per thousand

Kansas to get money out of Bunge settlement

The Justice Department announced that oilseed processor Bunge North America Inc. and three subsidiaries agreed this month to pay \$13.9 million in a pollution settlement with the federal government.

As part of the agreement, the Justice Department said, the St. Louis-based Bunge Ltd. will sanitize emissions at 12 plants spread across eight states – 11 soybean-processing plants, including one in Emporia, Kansas – eventually eliminating more than 2,200 tons of harmful pollution emissions per year.

The agreement, detailed in a consent decree filed by the Justice Department in U.S. court in Urbana, Ill., comes after others with competing oilseed processors Cargill Inc. and Archer Daniels Midland Co. The consent decree will be held to a 30-day public comment period followed by judicial approval.

The Justice Department said, Bunge or a subsidiary violated the federal Clean Air Act standards at some or all of the 12 plants with "serious" modifications of those plants without obtaining permits or following pollution controls, the government said.

In finally settling the suit, Bunge will spend around \$12 million on emission-fighting projects and pay \$625,000 in a cash penalty, to be divided among the federal government and the eight states.

Kansas will receive \$22,000 of the \$625,000 in civil fines, the Kansas Department of Health and Environment said in their press release during the last week of October.

Bunge will spend more than \$1.25 million on community-based projects in the named states, including mercury removal, taking lead and asbestos from Louisiana schools and refitting diesel school buses and other public vehicles in Kansas, Ohio, Indiana, Alabama and Iowa.

The environmental projects will total \$93,335 in Kansas, a KDHE spokesperson said.

The company will also provide environmental classes in Kansas and residential lead abatement education in Illinois. The spokesperson for KDHE also said the organizations in Kansas that will receive the extra environmental projects are Emporia USD 253, \$22,640; Southern Lyon County USD 252, \$16,065; and Kansas Association for Conservation and Environment, \$44,630.

"This agreement acknowledges the steps Bunge has taken and will take to ensure that we meet or exceed all applicable environmental regulations," noted Carl Hausmann, Bunge North America's president and chief executive officer. "Bunge is committed to being a good citizen in the communities we serve, which includes operating our business in a safe and environmentally responsible manner."

The EPA "expects companies to act responsibly and within the law when it comes to protecting public health and the environment," Granta Nakayama, the EPA's assistant administrator for the Office of Enforcement and Compliance Assurance, noted in a prepared statement.

The agreement covers soybean-processing facilities in the Illinois communities of Cairo and Danville; Delphos and Marion in the state of Ohio; the Indiana cities of Decatur and Morristown; Decatur, Ala.; Marks, Miss.; Destrehan, La.; Emporia, Kan.; and Council Bluffs, Iowa. Also included is a corn plant in Danville, Ill.

Kansas Rural Development invests \$21.8 million in water projects

USDA Rural Development State Director Chuck Banks announced in late September that the agency approved more than \$21.8 million in funding assistance for 19 Kansas communities to improve their public water and wastewater systems during FY 2006. Rural Development's funding year ends on September 30.

A news release obtained from the agency's Web site provided additional information concerning the water and wastewater disposal programs.

"USDA Rural Development's rural water funding programs is one of the most important community and economic development efforts this agency administers," said State Director Banks. "These USDA funds, combined with the agency's technical assistance which supports local leadership, helps make these critical needed services a reality. Water is the most basic need to help support community and economic development in rural Kansas. These valuable USDA programs promote economic growth and enhance the quality of life of the area residents served by these projects and all of Kansas," Banks said.

USDA Rural Development's Water and Waste Disposal Program and Emergency Community Water assistance Grant Program invested \$21,818,552 during Fiscal year 2006 benefiting 19 Kansas communities. The approved funding, split between \$14,968,400 in loans and \$6,850,152 in grants, will support the construction and/or completion of important projects that will provide long-term economic and community health benefits to nearly 12,500 Kansans, according to the agency. Since 1980, USDA Rural Development has invested more than \$280 million in funding for rural water and wastewater projects in Kansas. These programs have helped support and estimated \$4.2 billion in rural economic development and benefited more than 260,000 Kansas citizens.

USDA Rural Development's mission is to deliver programs that support increasing economic opportunity and improve the quality of life of rural residents. The agency provides equity and technical assistance to finance and foster growth in home ownership, business development, and critical community technology infrastructure in rural America.

For additional information regarding USDA Rural Development programs, interested parties may call the agency's state headquarters at 785/271-2700 or log onto the Kansas Rural Development Web site at www.rurdev.usda.gov/ks.

USDA Rural Development Project Funding: FY 2006

Project	Purpose	Loan	Grant
City of Atwood, Phase III	Water	\$1,500,000	\$984,500
City of Belpre	Water	\$99,000	\$139,800
City of Bucklin, Phase III	Water	\$470,000	\$301,000
City of Burlingame, Phase I	Water	\$377,600	\$0
City of Elwood, Phase II	Wastewater	\$952,000	\$409,252
City of Geneseo	Wastewater	\$336,700	\$0
City of Harveyville	Water	\$518,000	\$172,000
City of Hillsboro	Water	\$4,552,500	\$750,000
Lakewood Hills Improvement Dist.	Wastewater	\$0	\$97,000
City of Lyndon	Water	\$162,000	\$90,900
Morris RWD 1	Water	\$60,000	\$0
City of Osawatomie	Wastewater	\$3,550,000	\$1,500,000
Pottawatomie RWD 2	Water	\$15,300	\$83,900
Public Wholesale 20, Phase II	Water	\$524,000	\$1,127,000
City of Quenemo	Wastewater	\$736,000	\$194,400
Saline County, Community of Kipp	Water	\$82,700	\$47,800
Trego RWD 2, Pases III and IIIA	Water	\$782,600	\$0
Wilson RWD 1	Water	\$250,000	\$0

Emergency Community Water Assistance Grant Program

City of Atwood, Phase III	Water	\$0	\$500,000
Osborne RWD 1A	Water	\$0	\$452,600
Total		\$14,968,400	\$6,850,152

Kansans Benefited: 12,498

In the summer issue of KRWA's *Clarifier* newsletter, credit for the story, "Cost increases in water marketing program released," should have been given to Chad Lawhorn of the *Lawrence Journal World*.