

THE GROUNDWATER RULE IS FINALLY HERE!!

FROM: EPA's "FINAL GROUND WATER RULE", Office of Water (4607M), EPA 815-F-06-003, October 2006

SUMMARY

The Environmental Protection Agency (EPA) promulgated the final Groundwater Rule (GWR) in October 2006 to reduce the risk of exposure to fecal contamination that may be present in public water systems that use groundwater sources. EPA proposed the GWR on May 10, 2000. The rule establishes a risk-targeted strategy to identify groundwater 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 groundwater systems from bacteria and viruses.

BACKGROUND

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

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

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 groundwater 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 indicate that only a small percentage of groundwater systems are fecally contaminated. However, the severity of health impacts and the number of people potentially exposed to microbial pathogens in groundwater indicate that a regulatory response is warranted.

ABOUT THIS REGULATION

The GWR applies to public water systems that use groundwater. The rule also applies to any system that mixes surface and groundwater if the groundwater is added directly to the distribution system and provided to consumers without treatment equivalent to surface water treatment.

FINAL REQUIREMENTS

The rule addresses risks through a risk-targeting approach that relies on four major components:

1. **Periodic Sanitary Surveys** of groundwater systems that require the evaluation of eight critical elements and the identification of significant deficiencies (e.g., a well located near a leaking septic system). States must complete the initial survey by December 31, 2012 for most community water systems (CWSs) and by December 31, 2014 for CWSs with outstanding performance and for all non-community water systems.
2. **Source Water Monitoring** to test for the presence of E. coli, enterococci, or coliphage in the sample. There are two monitoring provisions:

Triggered monitoring- for systems that do not already provide treatment that achieves at least 99.99 percent (4-log) inactivation or removal of viruses and that have a total coliform-positive routine sample under Total Coliform Rule sampling in the distribution system.

Assessment monitoring- As a complement to triggered monitoring, a State has the option to require systems, at any time, to conduct source water assessment monitoring to help identify high risk systems. EPA recommends that the following risk factors be considered by states in targeting high risk systems:

- high population density combined with on-site wastewater treatment systems;
- aquifers with restricted geographic extent, such as barrier island sand aquifers;
- sensitive aquifers (e.g., karst, fractured bedrock and gravel);
- shallow unconfined aquifers;
- aquifers with thin or absent soil cover; and
- wells previously identified as having been fecally contaminated.

3. Corrective Actions required for any system with a significant deficiency or source water fecal contamination. The system must implement one or more of the following correction actions options::

- correct all significant deficiencies,
- eliminate the source of contamination,
- provide an alternative source of water, or
- provide treatment which reliably achieves 99.99 percent (4-log) inactivation or removal of viruses.

4. Compliance Monitoring to ensure that treatment technology installed to treat drinking water reliably achieves at least 99.99 percent (4-log) inactivation or removal of viruses.

OTHER QUESTIONS AND ANSWERS ON THE GROUND WATER RULE.

FROM: EPA website: <http://www.epa.gov/safewater/disinfection/gwr/Basicinformation.html>

What causes contamination of groundwater? Viral and bacterial pathogens are present in human and animal feces, which can, in turn, contaminate drinking water. Fecal contamination can reach groundwater 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.

What is a sanitary survey? A sanitary survey is a review conducted by the state that looks at critical components of a public water system. The sanitary survey provisions in this rule build on existing state programs established under the 1989 Total Coliform Rule and the Interim Enhanced Surface Water Treatment Rule and give states the authority to define both outstanding performance and significant deficiencies. The rule defines eight specific components that must be reviewed during a survey (to the extent that they apply to the individual water system being surveyed): source; treatment; distribution system; finished water storage; pumps, pump facilities, and controls; monitoring, reporting, and data verification; system management and operation; and operator compliance with state requirements.

What are the deadlines for completing actions required by the rule? States have three years to adopt the rule. The compliance date for triggered monitoring (and associated corrective actions) is December 1, 2009. There are no timeframes associated with the assessment monitoring because it is at the option of the state. States must complete their initial round of sanitary surveys by December 31, 2012 for most community water systems. States will have until December 31, 2014 to complete the initial sanitary survey for community water systems that are identified by the state as outstanding performers and noncommunity water systems.

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 10 a.m. to 4 p.m., Eastern time. For copies of the Federal Register notice of the final regulation and other related information on the Ground Water Rule, visit the EPA Safewater Web site, <http://www.epa.gov/safewater/disinfection/gwr>.

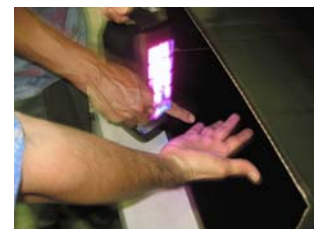
KAUAI AND HAWAII COUNTY FAIR

The Safe Drinking Water Branch continued its efforts to be involved with public outreach activities by having a display/booth at this year's Kauai County Farm Fair held on August 24-27, 2006 and the Hawaii County Fair held on September 14-17, 2006. The Safe Drinking Water Branch's Kauai County Farm Fair display/booth was manned by Jude Schwarze of the Kauai office and Kumar Bhagavan of the Honolulu office while the Hawaii County Fair display/booth was manned by Theresa Takiue of the Hilo office, as well as Kumar Bhagavan and Daniel Chang of the Honolulu office.

The display/booth included copies of the Hawaii Safe Drinking Water Branch, Groundwater and Source Water Protection Posters, and EPA's Drinking Water Posters. Copies of the Posters, Water Conservation Activities Booklet, Water for Kids-Science Fair and Waterspot newsletters, Water Cycle Bookmarks, and pencils were also given away. It was encouraging to see students ranging from elementary- through college-age as well as adults stopping by the booth to learn more about water. A number of teachers also stopped by and were provided with EPA Education disks. The Hawaii County Fair included an interactive hands-on computer education program that students were allowed to use. The following are photographs from the Hawaii County Fair.



Also at the Fair was the Sanitation Branch's "How Well Do You Wash Your Hands? -Take the Handwashing Challenge."



HAWAII WATER WORKS ASSOCIATION CONFERENCE

The 2006 Hawaii Water Works Association (HWWA) Annual Conference, "Planning for the Future" was hosted by Wynne Ushigome, Acting Manager and her Kauai Department of Water at the Kauai Beach Hotel and Resort on October 11-13, 2006.

Presentations included those related to Source Water Protection, overview and discussion of the importance of water to Kamehameha Schools, and an update of the Kauai General Plan. The County Water Managers and Boards were also informed about the Wellhead Protection - Financial Assistance Program, a new program under the Department of Health's Safe Drinking Water Branch to provide funding assistance for the planning and implementation of groundwater source protection.

Other presentations and activities kept all of the conference participants busy - a productive and good time was had by all.



Stuart Yamada, Safe Drinking Water Branch Chief was the lunch speaker. Mr. Yamada talked about lessons learned in responding to an E. coli positive sample. Participants paid attention thanks to the hi-tech presentation and the "... **this could happen to you.**" warning.



The Maui Group lead by Mike Victorino (middle), Chairman of the Maui County Water Board, Eric Yamashige (left), Deputy Manager of the Maui Department of Water Supply, and Daniel Dancil, 2007 William Y. Thompson Award winner (as the outstanding water department employee).



The soon to be infamous line-dance, lead by Bruce Inouye, Kauai Department of Water. *We may need to destroy the video or line-dancing as we know it will never be the same.*

NEW LARGE CAPACITY CESSPOOL PROGRAM CONTACT AT EPA - REGION 9

As of October 1, 2006, Laura Bose has been reassigned to a new project at EPA. With Laura's reassignment and Shannon Fitzgerald's departure in July 2006, Rebecca (Becky) Tuden (in the Groundwater Office) has stepped up to the plate to take on the Hawaii Large Capacity Cesspool Program for EPA.

Becky has been with EPA for 15 years working on a variety of water quality issues including wetlands, watershed planning, water quality standards, and dredging material management. For the last 5 years, she has worked in a unique position at the County and State level (in California) on reducing pathogen loadings from malfunctioning septic systems.

Becky can be reached at by phone at (415) 972-3538 or via email at tuden.rebecca@epa.gov. Please refer all LCC calls/queries to her.

UCMR2 EXPECTED TO BE FINAL IN DECEMBER 2006

The Environmental Protection Agency is expecting the Unregulated Contaminant Monitoring Rule 2 to be finalized in December 2006. This rule will require large public water systems and selected other public water systems to conduct assessment monitoring and possibly screening surveys for selected unregulated contaminants. Once the rule is finalized these water systems have 90 days to submit contact information and 210 days to submit sampling locations for UCMR2 monitoring (failure to meet this requirement is considered a violation). Actual monitoring is not expected to begin until sometime in 2008.

Under a Partnership Agreement signed with the EPA, the SDWB is expected to (1) review the draft State Monitoring Plan (SMP) to verify proper classification of public water systems with respect to system size, type, source water type, and UCMR2 applicability; and (2) perform supplemental responsibilities which include providing or ensuring the proper PWS inventory data for each PWS, review representative sampling plans for reduced monitoring submitted by PWSs with groundwater sources that have multiple entry points to the distribution system, notify very large and large PWSs of their Assessment Monitoring and/or Screening Survey responsibilities, notify small PWSs that are part of the final SMP of their Assessment Monitoring and/or Screening Survey responsibilities, and assist the EPA in obtaining compliance through follow-up contact with PWSs concerning their monitoring responsibilities and concerning instances of noncompliance.

The SDWB will contact and work with water systems which must conduct UCMR2 monitoring after the rule has been finalized.

The following large public water systems are required to conduct UCMR2 monitoring:

WATER SYSTEM NAME AND NUMBER	ASSESSMENT MONITORING	SCREENING SURVEY
Hawaii DWS - Hilo (101)	Yes	No
Hawaii DWS - South Kohala (130)	Yes	No
Hawaii DWS - North Kona (131)	Yes	No
Maui DWS - Wailuku (212)	Yes	No
Maui DWS - Makawao (213)	Yes	No
Maui DWS - Lahaina (214)	Yes	No
Honolulu BWS - Honolulu-Windward-Pearl Harbor (331)	Yes	Yes
Honolulu BWS - Waialua (332)	Yes	No
Honolulu BWS - Wahiawa (333)	Yes	No
Honolulu BWS - Waipio Heights (334)	Yes	No
Honolulu BWS - Waipahu-Ewa-Waianae (335)	Yes	Yes
Army - Schofield Barracks (345)	Yes	No
Navy - Pearl Harbor (360)	Yes	Yes
Honolulu BWS - Mililani (367)	Yes	No
Kauai DOW - Lihue (400)	Yes	No

The following smaller water systems have been selected conduct UCMR2 sampling with analysis to be performed through EPA:

WATER SYSTEM NAME AND NUMBER	ASSESSMENT MONITORING	SCREENING SURVEY
Hawaii DWS - Haina (161)	Yes	No
Kapalua (204)	Yes	No
Kaanapali (205)	Yes	No
Kauai DOW - Hanapepe-Eleele (404)	No	Yes

ABPA HAWAII CERTIFICATION SCHEDULE

Testing will be held on the last Friday of the following months throughout the year: January, May, September at the Fleet Reserve Center Honolulu, 891 Valkenburgh Street near the Honolulu Airport.

Applications for testing are accepted during the month prior to the exam and can be mailed to: M. FitzGerald
94-214 Koke Place
Waipahu, HI 97897-5428

Upcoming Schedule for the next two (2) years are as follows:

2007: January 26, May 25, September 28

2008: January 25, May 30, September 26

Please send your suggestions, ideas, questions or comments to:

THE WATER SPOT 2006
Safe Drinking Water Branch
State Department of Health
919 Ala Moana Blvd., Room 308
Honolulu, Hawaii 96814

Fax us at (808) 586-4351,
Attn: "THE WATER SPOT 2006"

SDWB WEB SITE:
<http://www.hawaii.gov/health/environmental/water/sdwb>



LINDA LINGLE
Governor of Hawaii

CHIYOME LEINAALA FUKINO, M.D.
Director of Health

LAURENCE K. LAU
Deputy Director for Environmental Health

We provide access to our activities without regard to race, color, national origin (including language), age, sex, religion, or disability. Write or call our Affirmative Action Officer at Box 3378, Honolulu, HI 96801-3378 or at (808) 586-4616 (voice) within 180 days of a problem.



The Water Spot 2006 (October/November 2006)
Safe Drinking Water Branch
Environmental Management Division
Hawai`i Department of Health
919 Ala Moana Boulevard, Room 308
Honolulu HI 96814

On the Spot:

Groundwater Rule.....	1
Kauai andHawaii County Fair.....	3
HWWA Annual Conference.....	4
New LCC Contact at EPA - Region 9.....	4
UCMR2 Expected to be Final in December 2006.....	5
Cross-Connection Training Schedule.....	6