

Mapping Ground Water Rule Requirements: Sanitary Survey and Corrective Action

This is the fourth article in a series of five developed by US Environmental Protection Agency (EPA), Office of Ground Water and Drinking Water (OGWDW) that summarize key components of the Ground Water Rule (GWR). As with all drinking water rules, please check with your Primacy Agency for specific State-related requirements.

What are the Basic Requirements of the Ground Water Rule (GWR)?

Two of the four GWR requirements (Source Water and Compliance Monitoring) have been discussed in previous articles. Source Water Monitoring, which includes Triggered, Additional, and Assessment Monitoring, is required for systems not providing 4-log treatment. Compliance Monitoring is how an operator documents 4-log treatment of viruses by monitoring and maintaining a State-determined minimum disinfectant residual. In this article we will discuss the two remaining requirements: *Sanitary Surveys* and *Corrective Action*.

How the GWR impacts the State’s role in Sanitary Surveys

The purpose of a sanitary survey is to review the public water system’s source, equipment, facilities and treatment procedures to ensure they have been properly maintained and operated to make certain that safe drinking water is distributed to the public. Under the TCR, the States conducted sanitary surveys on a five-year cycle for community and non-community water systems (CWSs and NCWSs) that collected fewer than five TCR samples per month and every 10 years for NCWSs that disinfected their source. Under the GWR, the sanitary survey requirements have been revised for GWSs to be consistent with surface water systems by increasing the frequency and completeness of the sanitary surveys to enhance the public health protection. GWR requirements regarding sanitary survey frequency and deadlines are shown in Table 1.

Table 1. Sanitary Survey Frequencies and Dates

System Type	Minimum Frequency	Compliance Date¹
Community GWS (conducting triggered source water monitoring)	Every 3 years	December 31, 2012
Community GWS providing 4-log treatment (conducting compliance monitoring)	Every 5 years	December 31, 2014
Community GWS with an outstanding performance record ²		
Non-community GWS		

¹Initial sanitary survey must be completed by the compliance date.

²Outstanding performance records are determined by the State.

How the Sanitary Surveys Might Impact Public Water Systems

The GWR requires that a sanitary survey address eight specific elements and for the surveyor to identify any significant deficiencies that may exist at the water system. A significant deficiency identified during the sanitary survey must be addressed by the public water system within a specified time frame determined by the State. GWSs should be aware of the eight elements in a sanitary survey and what might be considered a significant deficiency by the State to avoid compromising the quality of the water and public health. The eight elements and some examples of what might be evaluated are described below:

1. *Source* – well construction, potential source contamination, setback distances, source quantity and quality, well locations, source water transmission mains, site security, and general housekeeping.
2. *Treatment* – design criteria, plant records, past inspections, operation, maintenance, and overall management of treatment facility.
3. *Distribution System* – review schematics, operation and maintenance records, operating procedures, construction standards, and distribution system water quality data.
4. *Finished Water Storage* – tank integrity, operational readiness, site security, potential sanitary risks, proper maintenance checks, and operation & maintenance procedures.
5. *Pumps, Pump Facilities, and Controls* – pump capacity, maintenance, pump control system, emergency power back up, pump tests, remote monitoring, controls and alarms.
6. *Monitoring, Reporting and Data Verification* – compliance with site sampling and monitoring plans, monthly reports, daily logs, analytical results and monitoring data, and record keeping requirements.
7. *System Management and Operation* – managerial, and financial and technical sustainability.
8. *Operator Compliance with State Requirements* – properly certified staff depending on the size and type of system.

If while conducting a sanitary survey the State identifies a significant deficiency, it is the State's responsibility to inform the public water system of the deficiency and to work with the public water system to correct the significant deficiency.

Corrective Action

Corrective action is required if the GWS falls into one of the scenarios described below:

- Significant deficiencies identified by the State during a field visit or a sanitary survey.
- One of the samples collected during triggered source water monitoring is fecal indicator-positive (FI+) and the State requests the system to go straight to corrective action.
- One of the samples collected during additional source water monitoring is FI+

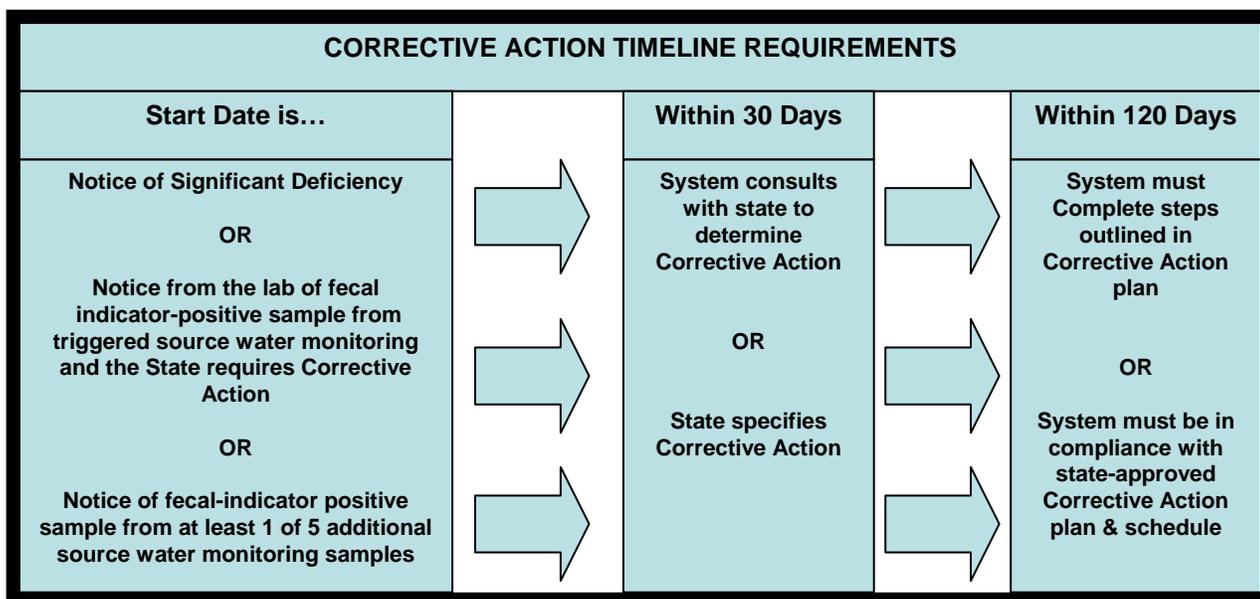
There are four main corrective action options:

1. Correct all significant deficiencies.
2. Provide an alternate source of water.
3. Eliminate the source of contamination.
4. Provide treatment that reliably achieves 4-log treatment of viruses.

The GWR specifies a schedule for corrective actions. The State notifies the GWS of a significant deficiency. The public water system has 30 days to consult with the State to determine an appropriate corrective action. The GWR states that the system has 120 days to complete measures or steps as indicated in their corrective action plan or they must be in compliance with a state-approved corrective action schedule.

Table 2 below provides a graphic representation of the GWR requirements for corrective action.

Table 2. Corrective Action Timeline



Frequently Asked Questions for Sanitary Surveys and Corrective Action

Question #1: Can the system alone (without input from the State or Primacy Agency) decide whether to go directly to corrective action or to conduct additional source water monitoring?

Answer #1: No. If a triggered source water sample is FI +, the GWS must conduct additional source water monitoring unless it is directed by the state to complete a corrective action. If any of the additional source water monitoring samples are FI+ the system must take corrective action. GWSs must consult with the state within 30 days of being notified by the state of a significant deficiency or receiving the results from the lab that one or more of the additional source water monitoring samples were FI+.

Question #2: Can a significant deficiency only be identified during a sanitary survey?

Answer #2: No. Under the GWR, states have the authority to identify a significant deficiency at any time.

Question #3: Are significant deficiencies limited to fecal contamination (i.e., only virus-related contamination)?

Answer #3: No. A significant deficiency is defined as a situation that is causing, or has the potential to cause, introduction of contamination into the water delivered to consumers.

Training Opportunities

EPA has concluded conducting its workshops and webcast trainings on the GWR at this time; however there still may be trainings sponsored by your State, EPA Region, or technical assistance providers. Contact your EPA Region or State for more information on workshops or trainings that might be conducted near you. For more information on the GWR, please visit the GWR homepage at: www.epa.gov/safewater/disinfection/gwr. The next and last article will cover the GWR requirements for Public Notification, Consumer Confidence Report and Special Notice.