

# Rules, regulations and recordkeeping

**R**ules, regulations, recordkeeping, sample plans, monitoring plans – list goes on. Where do you begin? What must be done? These are the typical questions that come from people who are responsible to operate and maintain their municipal, rural or other community water system.

I hope that this article can be used by all systems as an outline of which regulations systems must comply with. I wrote this article with groundwater Systems <10,000 and consecutive (purchasing) systems in mind.

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Tech Assistant



Kansas Administrative Regulations (KAR) 28-15 pertains to domestic water supply. There are also some important items that can be done to help each system. I suggest that if you look at the

regulations and good maintenance in terms of daily, monthly, quarterly, and annually, they might not seem so overwhelming.

## Daily

Kansas' regulations state that each public water system must take daily chlorine residuals from their distribution system and maintain the results of the residual test. Systems are recommended to have a site sampling plan with an address for each site. Ideally the plan would have 7 sites, one for each

day of the week. Remember to not avoid the ends of your distribution system. There are also some daily items that are not in regulation but are a good practice to follow. One such is to take a daily chlorine residual from your source water or point of entry (POE). This will help make sure you meet the distribution residual throughout your system. The regulation states your system must maintain at least a 0.2 mg/l free or 1.0 mg/l combined residual throughout your system.

Another daily item is to log meter readings from master meters (raw water) and the distribution meters. Also, log

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pump run hours on wells and high service pumps. If you take daily readings from meter and pump hours, any deviation should be evident. This might indicate that the system has a water leak, or drop in production.

It is a very good practice to check the chemical setting at least once each day. You should check feed rates and chemical measurement. By doing this you may notice a feeder that is in need of repair or maintenance. You will be able to monitor your system more efficiently if you have measurements about the amount of chemical your system is feeding – pounds, gallons, or inches.

## Monthly

You must collect the required number of bacteriological samples based on population served. See the table on samples. You must also have a written sample site plan with address for each site. A log or record must also be maintained for each bacteriological sample that is collected. Although not required, it is a good practice to read all meters including master meters and customer meters. Just having this information and reviewing it will help identify potential water loss problems before the problem becomes a crisis.

## Quarterly

The regulation states that each system will submit a Disinfectant By Product Report. The compliance report is due by the 10th day of each new quarter. You must also have on file as of January 31, 2004 a disinfectant by product monitoring plan. That plan identifies your maximum residence time. Systems that have had MCL violations for nitrate must collect quarterly nitrate samples. Any system that adds fluoride must collect fluoride samples each quarter. Each system will collect 4 consecutive quarterly samples between December 2003 and December 2007 for Radionuclide.

## Annual

There are a number of samples that the regulation states shall be collected annually. The regulations allow reduced monitoring on samples that have met the guidelines set for each sample. A nitrate sample must be collected yearly, unless your system has been placed on quarterly monitoring.

All water systems that have a water right are required to complete and submit a Water Use Report by March 1 of each year. A Consumer Confidence Report must be delivered to your customers by July 1st of each year. THM's and HAA<sub>5</sub> samples must be collected during the three warmest months each year. THM's and HAA<sub>5</sub> may be at a reduced monitoring period if levels meet guidelines. Lead and copper samples shall be collected yearly. Your system may be at a reduced monitoring period if your levels meet guidelines. Organic compounds: Inorganic, Volatile, and Synthetic shall be collected yearly; these samples may

qualify for reduced monitored if samples meet the criteria. An arsenic sample must be taken yearly, but this sample may be reduced if guidelines are met. An asbestos sample shall be collected each year for any system using cement-asbestos pipe in the distribution system.

## Recordkeeping

The regulation requires that each system keep on file records of all laboratory analysis, chlorine residuals, copies of written communication from KDHE for a period of 10 years. It is a good practice to keep on file all information from your water system for at least 10 years.

## Plans

There are a few plans you must complete and keep on file for your system. The daily chlorine residual distribution plan is not required but the bacteriological sample plan and the disinfectant by product monitor plan are. These have been described in the daily,

monthly and quarterly section of this article. An Emergency Operating Plan needs to be kept on file. The Emergency Operating Plan should list a chain of command and phone numbers in case of any type of emergency. A Water Conservation Plan should be kept on file for any type of water shortage or water emergency. A Wellhead Protection and Source Water Protection plan should be developed and kept on file to help identify possible sources of contamination. All Plans should be reviewed and updated yearly.

Kansas Rural Water staff will be happy to help any system develop any needed plans or logs. Just call to 785/336-3760 or email KRWA at [krwa@nvcs.com](mailto:krwa@nvcs.com).

See the next page for a listing of tests and reports systems are required to do.

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## Testing and recordkeeping responsibilities, groundwater systems serving 10,000 and fewer population and consecutive systems

### Daily tests/logs:

- Chlorine residual, distribution system \*
- Site Sample Plan to check chlorine residual
- Chlorine residual, source water
- Meter readings - master meters, raw and distribution
- Pump hours - wells and high service
- Chemical dosage settings - feed rates, chemical measurement: pounds, gallons, etc.
- Record all results and readings

### Monthly tests/reports:

- Bacteriological samples - per required # of samples per population (see table opposite page) \*
- Site Sampling Plan for bacteriological sites, with address \*
- Meter readings - distribution, purchased, produced, pumped, customer
- Record all results and readings

### Quarterly tests/reports:

- Disinfectant By Product Report - by 10th day of new quarter \*
- Site Sample Plan for Disinfectant By Products \*
- Nitrate - systems that have MCL violations \*
- Fluoride - systems that add \*
- Radionuclide - 4 consecutive quarters between 12/2003 and 12/2007 \*

### Annual tests/reports:

- Nitrate - point of entry \*
- Water Use Report (recommended for purchasing systems) \*
- Consumer Confidence Report \*
- THM's and HAA<sub>5</sub> - possible reduced monitoring 3 years \*
- Lead and Copper - possible reduced monitoring 3 years \*
- Inorganic Compounds - possible reduced monitoring 3 years \*\*
- Volatile Organic Compounds - possible reduced monitoring 3 years \*\*
- Synthetic Organic Compounds - possible reduced monitoring 3 years \*\*
- Arsenic - possible reduced monitoring 3 years \*\*
- Asbestos - any system using cement-asbestos pipe in distribution system \*

### Record Keeping:

- All chlorine residuals and site address - 10 years \*
- All chemical analyses - 10 years \*

### Plans:

- Chlorine residual sampling \*
- Bacteriological \*
- Disinfectant By Product \*
- Emergency Operating \*
- Water Conservation \*
- Wellhead Protection \*
- Source Water Protection \*

\* - Required by KAR 28-15

\*\* - MCL Violation Requires More Frequent Sampling