



WISCONSIN DEPARTMENT OF NATURAL RESOURCES NOTICE OF FINAL GUIDANCE & CERTIFICATION

Pursuant to ch. 227, Wis. Stats., the Wisconsin Department of Natural Resources has finalized and hereby certifies the following guidance document.

DOCUMENT ID

DG-19-003-C

DOCUMENT TITLE

Preparing for a Municipal Drinking Water System Sanitary Survey

PROGRAM/BUREAU

Drinking Water & Groundwater

STATUTORY AUTHORITY OR LEGAL CITATION

Chapters 809 – 811, Wis. Adm. Code, and chapters 280 and 281, Wis. Stats.

DATE SENT TO LEGISLATIVE REFERENCE BUREAU (FOR PUBLIC COMMENTS)

September 23, 2019

DATE FINALIZED

November 6, 2019

DNR DISCLAIMER

This document is intended solely as guidance and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

DNR CERTIFICATION

I have reviewed this guidance document or proposed guidance document and I certify that it complies with sections 227.10 and 227.11 of the Wisconsin Statutes. I further certify that the guidance document or proposed guidance document contains no standard, requirement, or threshold that is not explicitly required or explicitly permitted by a statute or a rule that has been lawfully promulgated. I further certify that the guidance document or proposed guidance document contains no standard, requirement, or threshold that is more restrictive than a standard, requirement, or threshold contained in the Wisconsin Statutes.

Signature

11/6/19

Date



A sanitary survey is an inspection of drinking water system facilities, operations and records to ensure the delivery of safe and reliable drinking water. In Wisconsin, a representative of the Department of Natural Resources (department) conducts routine sanitary surveys of municipal drinking water systems at least once every three years.

While having a department representative on-site inspecting your facilities may seem somewhat intimidating, a little pre-planning and timely, up-to-date record-keeping can greatly improve the results and make the process run smoothly. The department wants your drinking water system sanitary survey to be successful and is providing the information below to help you understand the process to ensure a smooth and efficient review. The department is your partner in ensuring the delivery of safe drinking water.

Why does the department do drinking water system sanitary surveys?

You already know that proper operation and maintenance of your municipal drinking water system is essential for providing safe drinking water to your community. State and federal regulations are in place to make sure you have adequate technical, financial and managerial capacity to provide a safe, high-quality and adequate supply of drinking water. The drinking water system sanitary survey process verifies the effectiveness of these elements.

State authority for conducting sanitary surveys is established in Sections 280.13(1)(c) and 281.97, Wis. Stats., which allow the department to inspect municipal drinking water systems, records and information to ascertain compliance with regulations. Section NR 809.35, Wis. Adm. Code, requires the department to perform sanitary surveys at municipal drinking water systems at least once every three years.

What should I expect during the municipal drinking water system sanitary survey?

Typically, the department representative will contact the operator-in-charge or other knowledgeable staff to schedule a convenient time for the survey. They will need to visit every component of the water system. This includes wells, pumping stations, treatment plants, water storage structures, booster stations, etc. Be prepared to access these locations and navigate snow, rain and cold temperatures. The day will also include a review of required operation and maintenance records, monitoring protocols, ordinance implementation and financial reports. The survey will conclude with a discussion of the results and a plan and timetable for correcting any noted deficiencies.

Elements of a Municipal Drinking Water System Sanitary Survey

- Source
- Treatment
- Distribution System
- Finished Water Storage
- Pumps, Pump Facilities, Controls
- Monitoring and Reporting
- Water System Management and Operations
- Operator Certification

What should I do to prepare for the municipal drinking water system sanitary survey?

During drinking water system sanitary surveys, the department evaluates the adequacy of the water source and examines the facilities, equipment, operation, maintenance, monitoring, record-keeping and any required public noticing.

Your department representative will request that the operator-in-charge be present for the survey as he/she is typically the most knowledgeable about the physical water system and its operation. In addition, any water system official that is involved with any part of the water system is encouraged to attend. See the insert on the previous page for the elements that will be covered. Gather staff that can address topics like those below. This may include a sanitary district or village president, mayor, director of public works, clerk, other operators or board members.

- Shortfalls and reliability of your water source
- Storage capacity and how the water is 'turned over' in the distribution system
- Pump capacity, booster pump control settings, recent maintenance work completed
- How your treatment process works and the reason you use the methods, chemicals and procedures (a process diagram is helpful)
- The procedure for flushing, boil water advisories, water main breaks, collecting water samples and analyzing chemical residuals
- The procedures used to perform and document operation and maintenance activities and the finances available to fund these activities
- Process used to collect, analyze, and report water samples for compliance with the Safe Drinking Water Act as well as those used to maintain the treatment processes
- Protocol for operator oversight of the water system
- Procedures used for communicating with consumers, including emergency notifications and complaint logs

Another step you can take to ensure your survey runs smoothly is to gather and organize all records ahead of time. This can save a lot of time by not having to search for paperwork during the survey. Being prepared with the information requested will enable you to answer questions knowledgeably and with confidence. One way to organize your records is to review the department requirements, looking for conditions that require action like: monitor, record, keep, maintain, inspect, log, calculate, replace, test, etc. Then look at the frequency required to complete the action along with the instructions for each action. Check to see whether you have been performing all required actions at the required frequencies and whether the documents include all items listed. Also make sure to note how long each record must be retained.

It is advised that you review the prior survey report for any previously identified deficiencies. The department representative will be interested in verifying the correction of previously identified deficiencies, so compiling documentation of when and how prior deficiencies were corrected will be helpful. Another way to access the list of prior deficiencies is through the department data system, as follows:

1. Navigate to dnr.wi.gov, search "PWS data viewer."
2. Click "Find Public Water System."
3. Enter your water system name or ID number in the search box.
4. Click the "+" symbol.

5. Click “PWS Data.”

6. Scroll to the bottom of the page; click “System Deficiencies.”

Thoroughly preparing for a sanitary survey may help you identify potential deficiencies ahead of time. If you find a deficiency, be proactive. Begin to correct anything you find that does not match the requirements. However, you may need to obtain plan approval prior to correcting a deficiency you identify, so keep your department representative informed. It is best to demonstrate a good faith effort to address any noncompliance. An issue can be resolved much more easily if you speak frankly with the department representative and are prepared with a plan to take corrective action.

The sanitary survey is also an opportunity for you to discuss your drinking water system with your department representative, ask questions, learn new strategies to optimize your operations and catch potential problems before they lead to unsafe drinking water or procedural violations. It is a good idea to make a list of any questions, comments or concerns you would like your department representative to resolve or be aware of, and either have them ready on the day of the survey or submit them beforehand so your department representative can be prepared to provide answers.

For more information on how to prepare, see the “Survey Preparation Checklist” at the end of this document.

What’s next and what does it mean?

At the conclusion of the municipal drinking water system sanitary survey, your department representative will review any deficiencies identified and discuss allowable timeframes for corrections. Within 30 days of the survey, your department representative will send you a report, regardless of whether any deficiencies have been identified. If there are deficiencies that require corrective action, the report also serves as a Notice of Noncompliance. If there are any items in the survey report you don’t understand, don’t hesitate to contact your department representative. Keep these reports for future reference.

Set aside time to prepare a written response to the sanitary survey report by the due date included in the report. If any deficiencies are identified, you are required to respond to your department representative in writing. Failure to respond may result in additional enforcement action.

The following definitions explain terms that may be found in drinking water sanitary survey reports:

“Significant Deficiencies” indicate noncompliance with one or more Wisconsin Administrative Codes and/or represent an immediate health risk to consumers. This includes, but is not limited to, defects in design, operation or maintenance of a public water system. It also includes a failure or malfunction of or issue with the water source or the treatment, storage or distribution system that the department determines is introducing contamination into the water delivered to consumers or that is posing a health risk to consumers.

“Deficiencies” are problems in the drinking water system that have the potential to cause serious health risks or represent long-term health risks to consumers. These deficiencies may indicate noncompliance with one or more Wisconsin Administrative Codes.

“Recommendations” are intended to address problems in the drinking water system that hinder a public water system from consistently providing safe drinking water to consumers.

“Non-conforming Features” are drinking water system features that met code requirements at the time of a water system’s construction but do not meet current code. These are technically not deficiencies, but they are noted in the survey because they will need to be corrected when the system completes upgrades in the future. However, if the

department determines that a health risk exists due to the non-conforming feature, the department may require correction sooner, per s. NR 811.01, Wis. Adm. Code.

Avoid these common deficiencies

(Review the referenced Administrative Code: <https://legis.wisconsin.gov/> for details on how to comply.)

Department representatives commonly find that drinking water systems are not:

1. Implementing a comprehensive Cross-Connection Control Program because inspection reports are not being completed correctly, the inspections are not occurring at the required frequency, and/or public education materials are not distributed to customers every three years in lieu of full home inspections. (s. NR 810.15, Wis. Adm. Code)
2. Implementing a comprehensive Private Well Abandonment / Permitting Program. This may occur if the system has an expired permit or does not have a well filling and sealing report for all private wells within the water service area. Additional deficiencies may occur if neither the operator nor the well driller/pump installer is verifying that the well does not serve a fixture that is also connected to the public water system and/or the wells are not being inspected by a licensed well driller or licensed pump installer at least once every 10 years. (s. NR 810.16, Wis. Adm. Code)
3. Maintaining and practicing a comprehensive Emergency Operations Plan and/or an Emergency Chlorination Plan. This may occur because the plan does not include a means for establishing emergency communications or for sharing information with all customers. It may also be lacking a procedure for emergency water production and/or a current contact list including critical customers. (s. NR 810.23(2), Wis. Adm. Code)
4. Providing the department with a current, adequate distribution system map when changes are made. (s. NR 810.26(2), Wis. Adm. Code)
5. Properly storing and handling chemicals. Examples include unsealed or unlabeled chemical storage containers or lack of accurate chemical use measurement. (ss. NR 810.09(1)(d) and (f), NR 811.40, Wis. Adm. Code)
6. Maintaining the required valves and/or appurtenances on the well discharge piping. This may include unscreened air vacuum relief valve discharges, incorrect location of chemical injectors or failure to test and calibrate the master meter at least every two years. (ss. NR 811.37, 811.39, 810.13(2)(e), Wis. Adm. Code)
7. Conducting annual and 5-year water storage inspections. (s. NR 810.14, Wis. Adm. Code)
8. Operating and maintaining water storage reservoirs in accordance with chapter NR 811 requirements. Improper overflow configurations, missing screens, access tube gaps and uncorrected defects are often identified as deficiencies during 5-year inspections. (s. NR 811.64(4), (7), and (8), Wis. Adm. Code)
9. Implementing an adequate valve exercise program. (s. NR 810.13(2)(a), Wis. Adm. Code)
10. Testing auxiliary power monthly and under load quarterly and keeping a log book for this testing. (s. NR 810.13(1)(d), Wis. Adm. Code)

Contact information

If you have any questions about the information in this document, contact your department representative or find the department Drinking Water and Groundwater staff assigned to your county:

<https://dnr.wi.gov/topic/DrinkingWater/documents/CountyContacts.pdf>.



Additional resources

Wisconsin Department of Natural Resources Drinking Water and Groundwater:

<https://dnr.wi.gov/topic/drinkingwater/>

Wisconsin Rural Water Association (WRWA): <https://www.wrwa.org/>

Rural Community Assistance Partnership (RCAP) main page: <https://rcap.org/>
and Sanitary Survey Preparations page: <https://rcap.org/resource/sanitary-survey-preparations/>

American Water Works Association (AWWA): <https://www.awwa.org/>

Wateroperator.org - Articles on common drinking water system deficiencies:

- Common Source Water Deficiencies: <http://wateroperator.org/blog/postid/1248/common-source-water-deficiencies>
- Common Treatment Deficiencies: <http://wateroperator.org/blog/postid/1247/common-treatment-deficiencies>
- Common Distribution System Deficiencies: <http://wateroperator.org/blog/postid/1246/common-distribution-system-deficiencies>

Wisconsin sanitary survey statutes and administrative codes

- [Section 280.13\(1\)\(c\), Wis. Stats. \[exit DNR\]](#)
- [Section NR 809.35, Wis. Adm. Code \[exit DNR\]](#)

This document is intended solely as guidance, and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations, and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by these agencies in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of Interior, Washington, D.C. 20240. This publication is available in alternative format (large print, Braille, audiotape, etc.) upon request. Please call 608-266-1054 for more information.





Preparing for Your Sanitary Survey

A Sanitary Survey has been scheduled for your water system.

Please complete the following tasks prior to the survey.

Frequently Asked Questions

Who should attend the survey?

For most systems, only the Operator-in-Charge needs to be at the survey. Additional operators and/or managers are also welcome to attend.

How long will the survey take?

Surveys can be as short as a couple of hours for small groundwater systems or up to multiple days for large surface water systems.

What typically happens during a survey?

Most surveys start out with an office meeting with operator(s) to review records and ask questions regarding monitoring, reporting, inspection reports, and management and operation of the water system. This is followed by an inspection of each of the well houses, treatment plants, towers, reservoirs and any other relevant facilities.

What can I expect as a result of the sanitary survey?

Nearly every sanitary survey identifies some significant deficiencies or deficiencies. After the survey, you will receive a letter detailing these deficiencies along with dates by which each deficiency must be corrected. A response to the letter is required within 45 days of the letter date.

Sanitary Survey Preparation Checklist

Review previous Sanitary Survey.

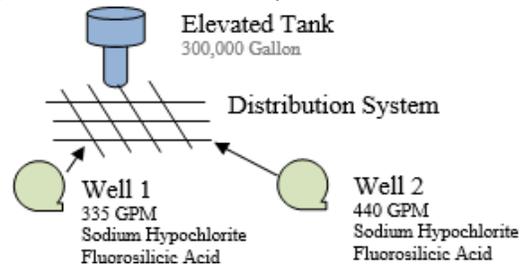
- Verify that all deficiencies have been corrected.
- Highlight or mark any information that requires updating.

Review Approved Monitoring Site Plan

- Verify that all sites used for compliance monitoring are listed.
 - Should include the following: raw water, entry point, distribution system bacti and fluoride, lead/copper and disinfection by-product sites.
- Verify that any sites no longer used are inactivated/removed.

Provide copies of the following documents (digital preferred).

- Private Well Abandonment Ordinance
- Cross-Connection Control Ordinance
- Cross-Connection Control Written Plan
- System map showing the following:
 - Size and location of all watermains
 - Locations of valves, hydrants, wells, storage facilities, pumping stations, interconnections and treatment plants
 - Overflow elevations of storage facilities
 - Delineation of pressure zones
- System Schematic (example below, hand drawn is fine)



Have copies of the following available for viewing:

- Latest fire flow study/data
- Latest storage facility inspection reports
- Cross-Connection Inspection Forms
- Customer meter testing records
- Materials inventory information (public and private)
- Valve turning records
- Hydrant flushing and exercising records
- Auxiliary power operation logs

For more information about water system requirements, contact your local Department of Natural Resources' [Public Drinking Water staff](#).