

Public Notification Handbook



DRINKING WATER PROGRAM

Department of Environment and Natural Resources

523 East Capitol Ave.

Pierre, SD 57501-3181

Phone: (605) 773-3754

Public Notification Handbook

The purpose of this handbook is to explain EPA's Public Notification Rule and provide specific examples of public notices. In addition to increasing the effectiveness of public notices, this handbook should make it easier for public water system owners and operators to comply with State and Federal requirements. Public notification of drinking water violations and other situations provides a means to protect public health, build trust with consumers through open and honest sharing of information, and establish an ongoing, positive relationship with your users.

If your water system serves at least 15 service connections or 25 people daily for at least 60 days out of the year, it is a **public water system** (PWS) and public notification will be required for violations of the State Drinking Water Standards. In South Dakota, the Department of Environment and Natural Resources (DENR) regulates drinking water systems through the Drinking Water Program (DWP). Specific requirements will differ somewhat depending on whether your system is a community public water system or a non-community public water system.

Public notification helps to ensure that consumers will always know if there is a problem with their drinking water. These notices immediately alert consumers if there is a serious problem with their drinking water (e.g., a boil water emergency). For less serious problems (e.g., a missed water test), water suppliers must notify consumers in a timely manner. Public notice requirements have always been a part of the Safe Drinking Water Act. EPA recently changed these requirements to make them even more effective.

Highlights of the Public Notice Requirements

- EPA/DENR specify three tiers of public notification, depending upon the severity of the situation. Water suppliers have from 24 hours to one year to notify their customers after a violation occurs; however, it is always best to issue your public notice as soon as possible after a violation occurs. Depending on what tier a violation situation falls into, water systems have different methods to deliver the notice.
- There is mandatory health effects language for each violation.
- For a Tier 1 violation, you must consult with the DENR within 24 hours for further public notice instructions.
- A "Certificate of Public Notice Distribution" must be submitted to DENR along with a copy of each public notice within ten days of issuance.

Tier 1 (Immediate Notice, Within 24 Hours)

Notice must be issued as soon as practical but must be within 24 hours via radio, TV, direct home delivery, hand delivery, or posting at conspicuous locations throughout system. Radio and TV notices must aired a minimum of three times during a 24-hour period. Postings must remain in place at least seven days or until the violation is resolved. The following are Tier 1 violations-

- Acute *E. coli* violations
- Nitrate, nitrite, or total nitrate/nitrite maximum contaminant level (MCL) violations
- Chlorine dioxide maximum residual detection level (MRDL) violation in distribution system
- Failure to take MRDL samples in distribution system when required
- Exceedance of maximum allowable turbidity level (single sample >1 NTU)
- Positive triggered/assessment Groundwater Rule (GWR) samples
- Special notice for non-community water systems (NCWSs) with a nitrate level between 10 mg/L and 20 mg/L, where the system is allowed to exceed 10 mg/L
- Waterborne disease outbreak or other waterborne emergency
- Other violations or situations determined by the Drinking Water Program

PWSs must also initiate consultation with the Drinking Water Program within 24 hours. The Drinking Water Program may establish additional PN requirements above the minimum during consultation.

Tier 2 (Notice as Soon as Possible, Within 30 Days)

Notice must be issued as soon as practical but must be within 30 days via mail, direct home delivery, or posting at conspicuous locations throughout system. Repeat notice every three months until violation is resolved. All PWSs must use additional delivery methods reasonably calculated to reach other consumers not notified by mail or direct home delivery. The following are Tier 2 violations-

- All MCL, MRDL, and treatment technique violations including-
 - Revised Total Coliform Rule (RTCR) assessments and sanitary defect corrections
 - Turbidity monthly average (not single sample turbidity exceedance)
 - Radium 226/228, uranium and gross alpha
 - Failure to correct significant deficiency or fail to maintain 4-log inactivation under the GWR
 - All inorganic chemicals, including fluoride and arsenic
- Certain monitoring violations
 - Nitrate and nitrite
 - Turbidity

Tier 3 (Annual Notice)

Notice must be issued as soon as practical but must be within 12 months via mail, direct home delivery, hand delivery or posting at conspicuous locations throughout system. Notice must be repeated annually for unresolved violations. Notices for individual violations can be combined into one annual notice as long as all public notification requirements are met. All PWSs must use additional delivery methods reasonably calculated to reach other consumers not notified by the first method. The following are Tier 3 violations-

- Monitoring/reporting violations (unless the Drinking Water Program elevates to Tier 2)
- Special public notices such as fluoride secondary maximum contaminant level exceedance or availability of unregulated contaminant monitoring results

Consultation with DENR for Tier 1 Violations and Any Daily Turbidity Violation

If you incur a Tier 1 Violation, you must consult with the DENR within 24 hours of learning of the violation. DENR may require additional PN requirements to better serve to customers of your system.

Phone numbers to consult with DENR are 605-773-3754 Monday-Friday 8:00 am-5:00 pm Central Time. On weekends, you may call 605-280-6831. This phone number will connect you to a member of the Drinking Water Program staff. If there is no answer, leave a message and you will be contacted.

Requirements for Ongoing Violations

All new billing units and customers must be notified prior to or at the time that service begins of ongoing violations or situations requiring notice.

Reporting and Record Keeping

- The water system have ten days after public notice issuance to send a “Certification of Public Notice Distribution” and a copy of the completed notice to the Drinking Water Program
- The public water systems and the Drinking Water Program must keep notices on file for three years

For More Information

Drinking Water Program
523 East Capitol Ave
Pierre SD 57501-3181
Phone: 605-773-3754

General Content of Public Notices

Unless otherwise specified in the regulations, each notice must contain:*

- 1) A description of the violation or situation, including contaminant levels if applicable
- 2) When the violation or situation occurred
- 3) Any potential adverse health effects-Standard health effects language must be used
- 4) The population at risk
- 5) Whether alternative water supplies should be used
- 6) What actions consumers should take
- 7) What the system is doing to correct the violation or situation
- 8) When the water system expects to return to compliance or resolve the situation
- 9) The name, business address, and phone number of the water system owner or operator
- 10) A statement (see below) encouraging distribution of the notice to others, where applicable

** These elements do not apply to notices for fluoride SMCL exceedances or availability of unregulated contaminant monitoring data. Content requirements for these notices are specified in the rule.*

Standard Language:

For all failure to monitor violations: We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During [period] we [did not monitor or test/did not complete all monitoring or testing] for [contaminant(s)] and therefore cannot be sure of the quality of the drinking water during that time.

Standard Distribution Language for all violations: Please share this information with all the people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

Sample Public Notices

Example No. 1

1 Fails to Monitor Water for Total Coliform/E. coli

1 is required to submit 2 drinking water samples per month to be analyzed for total coliform and *E. coli* bacteria. No sample was submitted during 3.

A water system is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 3 we did not monitor for total coliform/E. coli bacteria and therefore cannot be sure of the quality of the drinking water during that time.

The State of South Dakota and the US Environmental Protection Agency (EPA) set drinking water standards and have determined that the presence of *E. coli* is a possible health concern. Total coliforms are common in the environment and are generally not harmful themselves. Coliforms are used as an indicator that other, potentially harmful, bacteria MAY be present and are a signal to the water system that corrections may be necessary.

1 is taking the following actions to correct this problem. 4.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place, where there is access to the water and distributing copies by hand or mail.

For additional information, please contact 5.

-
1. Insert name of your water system.
 2. Insert the number of drinking water samples required per month.
 3. Insert month and year in which your system failed to collect the samples.
 4. Possible corrective actions you may take (include only those you will be utilizing):
 - We have since taken the required samples. The samples show we are meeting the standards.
 - We have taken additional measures within the water system administration to be sure that samples are taken properly in the future.
 - The proper number of samples were taken during the following month and we are now back in compliance with the sampling regulations.
 5. Insert the name, address, and telephone number of a contact person representing your water system.

Please note that paragraph one above may be altered depending on the type of failure to monitor violation that occurred at your water system. The example above illustrates when no routine samples have been submitted. You may have submitted some but not all routine samples.

Example No. 2

[THE WATER SYSTEM SHOULD USE ONE OF THE FOLLOWING APPLICABLE TITLES]

Level 1 Assessment of Water System Not Completed
or
Water System Fails to Correct Sanitary Defects

1 must submit drinking water samples each month to be tested for total coliform. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system.

During 2, we found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that are found.

[THE WATER SYSTEM MUST USE ONE OF THE FOLLOWING APPLICABLE SENTENCES.]

- We failed to conduct the required assessment.
- We failed to correct all identified sanitary defects that were found during the assessment.

1 is taking the following actions to correct this problem- 3

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place, where there is access to the water and distributing copies by hand or mail.

For additional information, please contact 4.

-
1. Insert name of your water system.
 2. Insert month and year when the positive samples were collected.
 3. Possible corrective actions you may take:
 - Conducting the assessment.
 - Correcting the sanitary defects.
 - Develop a schedule in conjunction with SD DENR to correct the sanitary defects.
 4. Insert the name, address, and telephone number of a contact person representing your water system.

Example No. 3

E. coli Drinking Water Standard Exceeded

1 has exceeded the *E. coli* standard during the month of 2.

The State of South Dakota and the United States Environmental Protection Agency (EPA) set drinking water standards and have determined that the presence of *E. coli* is a serious health concern. *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.

The symptoms above are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice. People at increased risk should seek advice about drinking water from their health care providers.

DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST. Bring all water to a boil, let it boil for one minute, and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking, making ice, brushing teeth, washing dishes, and food preparation **until further notice**. Boiling kills bacteria and other organisms in the water.

Bacterial contamination can occur when increased run-off enters the drinking water source (for example, following heavy rains). It can also happen due to a break in the distribution system or a failure in the water treatment process.

1 is taking the following actions to correct this problem. 3.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place, where there is access to the water and distributing copies by hand or mail.

For additional information, please contact 4.

-
1. Insert name of your water system.
 2. Insert the month and year your system exceeded the *E. coli* bacteria standard.
 3. Possible corrective actions you may take include (list only those you plan to use)-
 - Installation of a continuous chlorinator
 - Batch chlorinating the water system
 - Increasing the coliform sampling
 - Investigating the source of the contamination
 - Increase chlorine levels
 - Flushing of main lines
 4. Insert the name, address, and telephone number of a contact person representing your public water system.

Example No. 4

Nitrate Maximum Contaminant Level Exceeded

The nitrate level in the 1 water supply was found to be 2 milligrams per liter mg/L when collected 3. This notice is to inform the public that the drinking water nitrate level is in excess of the maximum contaminant level (MCL) for nitrate, which is 10 mg/L.

The State of South Dakota and the United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that nitrate poses an acute health concern at certain levels of exposure. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome. Blue baby syndrome is indicated by blueness of the skin. Symptoms in infants can develop rapidly, with health deteriorating over a period of days. If symptoms occur, seek medical attention immediately.

Do not boil the water. Boiling, freezing, filtering, or letting water stand does not reduce the nitrate level. Excessive boiling can make the nitrates more concentrated because nitrates remain behind when the water evaporates. Adults and children older than six months can drink the tap water (nitrate is a concern for infants because they cannot process nitrates in the same way adults can). However, if you are pregnant or have specific health concerns, you may wish to consult your doctor. Water, juice, and formula for children less than six months of age should not be prepared with tap water. Bottled water or other water low in nitrates should be used for infants.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place, where there is access to the water and distributing copies by hand or mail.

For additional information, please contact 4.

-
1. Insert name of your water system.
 2. Insert the level of nitrate in the water.
 3. Insert the date the sample was collected.
 4. Insert the name, address, and telephone number of a contact person representing your public water system.

Example No. 5

Turbidity Limit Exceeded

1 has exceeded the turbidity requirements of the Surface Water Treatment Rule (SWTR) during 2. Turbidity is a measure of suspended matter in water. The SWTR allows 5% of all turbidity readings for a month to exceed the turbidity limit while 1 had 3 % of the readings exceed during 2. The turbidity levels are relatively low; however, their persistence is of concern.

The United States Environmental Protection Agency (EPA) and the State of South Dakota have set enforceable requirements for treating drinking water to reduce the risk of adverse health effects. Treatment such as filtering and disinfecting the water removes or destroys microbiological contaminants. We routinely monitor your water for turbidity (cloudiness). This tells us whether we are effectively filtering the water supply.

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. These symptoms are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice.

You do not need to boil your water or take other actions. We do not know of any contamination, and none of our testing has shown disease-causing organisms in the drinking water. People with severely compromised immune systems, infants, and some elderly may be at increased risk. These people should seek advice about drinking water from their health care providers.

A problem has occurred with the treatment system at the water plant. 1 is taking the following actions to correct this problem. 4.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place, where there is access to the water and distributing copies by hand or mail.

For additional information, please contact 5.

-
1. Insert your system's name.
 2. Insert the month and year turbidity requirements were exceeded.
 3. Insert the percent of turbidity readings exceeded.
 4. Possible corrective actions you may take include-
 - Made chemical adjustment to reduce turbidity levels.
 - Adjusted chlorine levels to compensate for filtration problems.
 - Called in consultants for technical assistance on the filtration problems.
 5. Insert the name, address, and telephone number of a contact person representing your public water system.

Example No. 6

1 Fails to Monitor for Nitrate/Nitrite

1 water system is required to monitor the drinking water for nitrate annually and nitrite triennially. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 2, this water system did not monitor for nitrate and/or nitrite and therefore, cannot be sure of the quality of our drinking water during that time.

The United States Environmental Protection Agency (EPA) and the State of South Dakota have set enforceable requirements for treating drinking water to reduce the risk of adverse health effects. Nitrate and nitrite is used in fertilizer and is found in sewage and wastes from humans and animals. Infants below the age of six months who drink water containing nitrate and/or nitrite in excess of the MCL (maximum contaminant level) could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome. Drinking water that meets the nitrate and nitrite standards is associated with little to none of these health risks and should be considered safe to drink with respect to the nitrate and nitrite levels.

1 is taking the following actions to correct this problem. 3.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place, where there is access to the water and distributing copies by hand or mail.

For additional information, please contact 4.

-
1. Insert the name of your water system.
 2. Insert the year in which your system failed to monitor.
 3. One possible corrective action you may be taking is listed below.
-We have taken additional measures within the water system administration to be sure that samples are taken properly in the future.
 4. Insert the name, address, and telephone number of a contact person representing your public water system.

Please note the wording of your public notice may vary slightly depending upon if you did not collect the nitrate, did not collect the nitrite or did not collect both nitrate and nitrite. Your violation letter will tell you exactly what you did not monitor for.

Example No. 7

Triggered Source Water Monitoring Samples Not Collected

1 water system recently failed to collect source water samples for *E.coli* (fecal indicators) following a total coliform-positive routine distribution system water sample during 2. We were required to collect a sample from each water source in use at the time the positive water sample was collected.

The State of South Dakota and the United States Environmental Protection Agency (EPA) set drinking water standards and have determined that the presence of *E. coli* is a serious health concern. *E. coli* is a microbe whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches or other symptoms. They may pose a special health risk for infants, young children, some of the elderly and people with severely compromised immune systems.

The following corrective actions were taken by this water system: 3

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place, where there is access to the water and distributing copies by hand or mail.

For additional information contact: 4

-
1. Insert the name of your water system.
 2. Insert the month and year your system failed to monitor.
 3. One possible corrective action you may be taking is listed below.
-We have taken additional measures within the water system administration to be sure that samples are taken properly in the future.
 4. Insert the name, address, and telephone number of a contact person representing your public water system.

Example No. 8

Presence of Fecal Indicators in Triggered Source Water Samples

1 water system had a drinking water routine sample from the distribution system that was positive for total coliform bacteria during 2. One of our followup steps was to collect samples from any ground water sources in use at the time of collection of the positive routine sample. The sample(s) from 3 wells collected 4 tested positive for *E. coli*. We are now conducting additional sampling of the well to determine the extent of the problem and are conducting a thorough investigation to determine the source of the contamination.

DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST. Bring all water to a rolling boil, let it boil for one minute, and let it cool before using it. Boiling kills bacteria and other organisms in the water. You may also use bottled water. Use boiled or bottled water for drinking, making ice, preparing food, and washing dishes until further notice.

Also, if you have a severely compromised immune system, have an infant, or are elderly, you may be at increased risk and should seek advice about drinking water from your health care providers.

Inadequately treated or inadequately protected water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches. Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems. These symptoms are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice.

1 water system is conducting a thorough investigation to determine the source of the contamination and will be working with the South Dakota Drinking Water Program to implement corrective actions to ensure that our water supplies are protected against contamination. We will keep you informed of the steps we are taking to protect your drinking water and will provide information on any steps you should be taking, until this problem is corrected.

Additional Information: _____

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place, where there is access to the water and distributing copies by hand or mail.

For more information, please contact: 5

1. Insert the name of your water system.
2. Insert the month and year your system exceeded the *E. coli* bacteria standard.
3. Insert which wells were positive for fecal indicators.
4. Insert the date of the positive triggered source water samples.
5. Insert the name, address, and telephone number of a contact person representing your public water system.

South Dakota Department of Environment and Natural Resources
 Drinking Water Program
 523 E. Capitol Ave., Foss Bldg.
 Pierre, South Dakota 57501-3181

RECOMMENDED PROCEDURE FOR CHLORINE DISINFECTION OF SPRING BOX,
 ELEVATED STORAGE, GROUND RESERVOIR, CISTERN, WATER TREATMENT PLAN BASIN

Introduction

A ground reservoir, elevated tank, spring box, cistern, or water treatment plant basin should be thoroughly cleaned and then disinfected with a strong chlorine solution after:

- | | |
|------------------------------|-----------------------------------------------|
| 1. ORIGINAL CONSTRUCTION | 4. A PERIOD OF NON-USE |
| 2. ANY REPAIR OR MAINTENANCE | 5. TWO OR MORE "UNSAFE" BACTERIOLOGICAL WATER |
| 3. FLOODING | SAMPLES ARE TRACED TO THE WELL |

Adequate chlorine requires a certain chlorine dosage for a minimum contact time - 100 parts per million for 2 hours, or 50 parts per million for 8 hours, or 25 parts per million for 24 hours.

Chlorine for disinfection for these water systems can be either 5.25% sodium hypochlorite solution or 65% calcium hypochlorite powder. A 5.25% hypochlorite solution is common house-hold bleach such "Hilex", "Clorox", or "Purex" available at grocery stores and supermarkets. The 65% calcium hypochlorite powder is available from chemical supply houses and is known commercially as "HTH", "Perchloron", or "Pittchlor".

Recommended Procedures

1. The unit to be disinfected should be full of water.
2. Determine recommended chlorine disinfection dosage for the desired contact time from the following table:

AMOUNT OF CHLORINE NECESSARY FOR DOSAGE AND TIME COMBINATIONS													
Volume of Box, Basin, Reservoir or Cistern		5.25% Sodium Hypochlorite (Bleach)						65% Calcium Hypochlorite					
		100 ppm* for 2 hrs		50 ppm* for 8 hrs		25 ppm* for 24 hrs		100 ppm* for 2 hrs		50 ppm* for 8 hrs		25 ppm* for 24 hours	
50	gal	1½	cups	¾	cup	¾	cup	---	--	---	--	---	--
100	gal	3	cups	1½	cups	¾	cup	---	--	---	--	---	--
200	gal	6	cups	3	cups	1½	cups	---	--	---	--	---	--
500	gal	1	gal	7½	cups	3 ¾	cups	9½	oz	---	--	---	--
1,000	gal	2	gals	1	gal	7½	cups	1 lb 3 oz	oz	9½	oz	---	--
2,000	gal	4	gals	2	gals	1	gal	2 lb 6 oz	lbs	1 lb 3 oz	oz	9½	oz
5,000	gal	--	--	5	gals	2½	gals	6	lbs	3	lbs	1 lb 8 oz	oz
10,000	gal	--	--	---	--	5	gals	12	lbs	6	lbs	3	lbs
20,000	gal	--	--	---	--	---	--	24	lbs	12	lbs	6	lbs
50,000	gal	--	--	---	--	---	--	60	lbs	30	lbs	15	lbs
100,000	gal	--	--	---	--	---	--	120	lbs	60	lbs	30	lbs

* ppm = parts per million

3. Completely mix the chlorine dosage throughout the unit to be disinfected.
4. Leave the chlorine solution in the unit for the recommended contact time.
5. Do not use the heavily chlorinated water.
6. At the end of the contact time, remove the water from the unit and discharge to waste.
DO NOT ALLOW THE WATER TO ENTER A RIVER, LAKE, OR STREAM.
7. Fill the unit with clean water and collect a water sample for bacteriological testing after one or two days of use.

RECOMMENDED PROCEDURE FOR CHLORINE DISINFECTION OF WATER WELLS
 (Reference - AWWA A100-6, Standard for Deep Wells)

Introduction

A water well should be thoroughly cleaned and disinfected with a strong chlorine solution after:

- | | |
|------------------------------|-----------------------------------------------|
| 1. ORIGINAL CONSTRUCTION | 4. A PERIOD OF NON-USE |
| 2. ANY REPAIR OR MAINTENANCE | 5. TWO OR MORE "UNSAFE" BACTERIOLOGICAL WATER |
| 3. FLOODING | SAMPLES ARE TRACED TO THE WELL |

Adequate chlorine requires a certain chlorine dosage for a minimum contact time - 100 parts per million for 2 hours, or 50 parts per million for 8 hours, or 25 parts per million for 24 hours.

Chlorine for disinfection for these water systems can be either 5.25% sodium hypochlorite solution or 65% calcium hypochlorite powder. A 5.25% hypochlorite solution is common house-hold bleach such "Hilex", "Clorox", or "Purex" available at grocery stores and supermarkets. The 65% calcium hypochlorite powder is available from chemical supply houses and is known commercially as "HTH", "Perchloron", or "Pittchlor".

Recommended Procedures

- Determine the chlorine dosage for the desired contact time from the following table:

AMOUNT OF CHLORINE NECESSARY PER 10 FEET OF WATER IN WELL													
Inside diameter of well casing		5.25% Sodium Hypochlorite (Bleach)						65% Calcium Hypochlorite					
		100 ppm* for 2 hrs		50 ppm* for 8 hrs		25 ppm* for 24 hrs		100 ppm* for 2 hrs		50 ppm* for 8 hrs		25 ppm* for 24 hrs	
1½	inches	1/8	fl oz	---	--	---	--	---	--	---	--	---	--
2	inches	1/2	fl oz	1/4	fl oz	1/8	fl oz	---	--	---	--	---	--
3	inches	1	fl oz	1/2	fl oz	¼	fl oz	---	--	---	--	---	--
4	inches	1½	fl oz	¾	fl oz	¾	fl oz	---	--	---	--	---	--
6	inches	4	fl oz	2	fl oz	1	fl oz	1/4	oz	1/8	oz	1/16	oz
8	inches	7	fl oz	3½	fl oz	1 ¾	fl oz	1/2	oz	1/4	oz	1/8	oz
10	inches	10	fl oz	5	fl oz	2	fl oz	¾	oz	¾	oz	3/16	oz
12	inches	2	cups	1	cup	½	cup	1	oz	1/2	oz	1/4	oz
18	inches	4½	cups	2¼	cups	1 1/8	cups	2½	oz	1¼	oz	5/7	oz
24	inches	7½	cups	3 ¾	cups	1 7/8	cups	4½	oz	2¼	oz	1 1/8	oz
36	inches	17½	cups	8 ¾	cups	4 ¾	cups	10	oz	5	oz	2½	oz

* ppm = parts per million 1 heaping tablespoon of 65% chlorine powder = 1/2 oz. 8 fluid ounces = 1 cup

- Prepare a chlorine solution, lift well pump, and pour the chlorine solution into the well.
- Lower the pump and operate until a chlorine odor is noticed at all discharge points.
- Leave the chlorine solution in the unit for the recommended contact time. Do not use the water.
- At the end of the contact time, pump the well to waste until the chlorine odor cannot be detected.
DO NOT ALLOW THE WATER TO ENTER A RIVER, LAKE, OR STREAM.
- Pump the well for considerable period of time and collect a bacteriological water sample and submit it for testing.

Certificate of Public Notice Distribution

Public water systems must submit a copy of this certificate as well as a copy of each public notice with ten days of issuance.

PWS Name- _____

PWS ID#- _____

Violation- _____

Occurring on- _____

I affirm that the attached public notice has been provided to consumers in accordance with the Public Notice Regulations. The public notice was distributed by the following method(s)-[Please check as appropriate]

- TV Station _____
- Radio Station _____
- Direct Home Delivery
- Posting at Numerous Locations Throughout System-Please indicate number of postings _____
- Other-Please indicate method _____

Date of Notice Distribution/Issuance _____

Signature

Date