

Water Monitoring Requirements
and Proper **Sampling Techniques**

Transient non-community water systems



Indiana Department of
Environmental Management

Office of Water Quality
Drinking Water Branch

www.idem.IN.gov

This booklet is part of an effort to make environmental requirements accessible and understandable to Indiana water suppliers.

IDEM's responsibilities include:

- ▶ Monitoring and advising water suppliers in Indiana to ensure the delivery of clean, safe drinking water to its citizens and visitors; and,
- ▶ Ensuring that ground water used as a source of drinking water meets safe drinking water standards.

This document is intended solely as guidance and does not have the effect of law or represent formal IDEM decisions or final actions. The information contained herein should be used in conjunction with applicable rules and statutes (327 IAC 8-2-8.5 (Cited Document); 327 IAC 8-2-1 (Definitions); 327 IAC 8-2-13 (Reportive); 327 IAC 8-2.1-7 (PN); 327 IAC 8-2.1-8 (Tier 1); 327 IAC 8-2.1-9 (Tier 2); 327 IAC 8-2.1-10 (Tier 3); and 327 IAC 8-2.1-11 (PN Content)). It does not replace applicable rules and statutes, and if it conflicts with these rules and statutes, the rules and statutes shall control.

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Monitoring Your Water

What are the benefits of proper water monitoring?

Proper water monitoring ensures that the water your business or organization serves to customers, guests or employees is safe to drink. When you meet safe drinking water standards, you help prevent outbreaks of illness from harmful bacteria or chemicals such as septic system microbes or agricultural, landscape or other chemicals.

Proper water monitoring helps avoid potential liability costs, loss of business due to shutdowns and negative publicity should someone get sick from drinking contaminated water at your business or organization. The cost for testing is minimal compared to the potential cost to human health and your reputation.

Classifying Your System

What is a public water system?

A public water system is a system that pipes water for human consumption to at least 15 service connections [the point(s) at which water is drawn from a main water distribution line] or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. If you make water available for human consumption or for use at bathroom sinks and you don't obtain that water from a water utility, you most likely have a public water system subject to safe drinking water standards. On the other hand, if your business or organization gets its water from a water utility, you would be considered to be a part of that system and therefore exempt from the regulations outlined in this guide.

Public water systems may be publicly or privately owned or operated. Each system has a Public Water System Identification Number (PWSID) that is used for identification purposes. All system owners and operators should know their PWSID and identify themselves by their PWSID whenever they call or write IDEM about their system.

What type of public water system do I have?

Public water systems are divided by regulation into two categories—community and non-community. This division is based on the type of consumer served and the frequency the consumer uses the water. Detailed descriptions can be found on page 5.

Knowing your classification is important

because monitoring requirements vary with each type of system. If you're in doubt, call the Field Inspection Section of IDEM's Drinking Water Branch at **(800) 451-6027, ext. 4-7430**.

Revised Total Coliform Rule

The Revised Total Coliform Rule (RTCR) goes into effect for all Public Water Systems on April 1, 2016.

This publication has been updated to reflect new requirements under the Revised Total Coliform Rule.

Please carefully review this entire publication for changes that affect your system. Additional information

regarding the Revised Total Coliform

Rule can be found on IDEM's website at www.IN.gov/idem/cleanwater/2494.htm

Types of Public Water Systems

Community Water System

Simply put, a community water system serves water to a residential population. By definition, it is a public water system that:

Serves at least 15 service connections used by year-round residents, or

Regularly serves at least 25 year-round residents.

Community water systems generally serve:

- Apartment buildings;
- Communities;
- Condominiums;
- Institutions;
- Mobile/manufactured home parks;
- Nursing homes; and,
- Subdivisions.

Non-community Water System

A non-community water system is a public water system that:

Has at least 15 service connections used by non-residents; (travelers or transients); or

Which regularly serves 25 or more non-resident individuals daily for at least 60 days per year.



Two types of non-community water systems

Transient non-community water system

A transient non-community water system is a public water system that is not a community water system and which serves (daily when open) at least 25 people (travelers or transients) for at least 60 days a year. The people served are not generally the same individuals day in and day out. Examples include:

- Campgrounds;
- Churches;
- Golf courses;
- Highway rest stops,
- Lodges;
- Medical facilities;
- Meeting halls;
- Motels;
- Parks;
- Restaurants;
- Service stations; and,
- Small businesses.

Non-transient non-community water system

A non-transient non-community water system is a public water system that is not a community water system and which regularly serves the same 25 or more persons at least six months per year. Examples include:

- Day care centers;
- Factories;
- Industrial parks;
- Office buildings;
- Restaurants with 25 employees or more; and,
- Schools.

.....

Does a water system's classification ever change?

Yes, a water system's classification can change if the system expands or decreases in size. For example, a restaurant with 20 full-time employees that is open year round and serves 100 customers per day would be classified as a **transient non-community** water system. It would receive this classification because it serves at least 25 people (travelers or transients) for at least 60 days a year.

If the above restaurant were to increase its staff to 25 full-time employees, its classification would change to **non-transient non-community**. This change in classification occurs because the restaurant now provides water to the same 25 or more people (i.e., the 25 employees) at least six months per year.

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What is a sanitary survey and when is one conducted?

A sanitary survey is when IDEM inspects the water system's:

- Source;
- Treatment;
- Distribution system;
- Finished water storage;
- Pumps, pump facilities and controls;
- Monitoring, reporting and data verification;
- Security;
- System management and operation; and, financial;

for compliance with state requirements including producing and distributing safe drinking water. IDEM determines whether the existing monitoring

frequency is adequate and what measures you need to undertake to improve drinking water quality, if necessary. Sanitary survey requirements are as follows:

- ❶ Sanitary surveys are conducted every five years, or more frequently, as determined by IDEM.
- ❷ The public water system shall ensure that IDEM has access to the public water system and its records in order to verify compliance with this article and the federal Safe Drinking Water Act.

Seasonal Systems

Under the Revised Total Coliform Rule a seasonal system is any system that starts up and shuts down (i.e. depressurizes the system) at the beginning and end of each operating season (e.g. campgrounds, golf courses, parks).

Seasonal systems are required to complete state-approved start-up procedures, including a satisfactory total coliform sample, prior to serving water to customers and must submit verification to IDEM that those procedures were completed (See Page 37 or visit IDEM's website at www.IN.gov/idem/cleanwater/2494.htm). Failure to complete the required procedures will result in a Coliform Treatment Technique Violation and will require the system to issue a Tier 2 Public Notice (See page 27).

Under the RTCR, all seasonal systems are required to monitor for total coliform during each month that the system is in operation.

Maximum Contaminant Level

What is a maximum contaminant level?

A maximum contaminant level (MCL) is the maximum concentration of a contaminant allowable in water that is served to your customers, guests and employees.

Contaminants to Monitor

Which contaminants must I monitor?

Businesses and organizations with transient non-community water systems are required to monitor:

➤ **Total Coliform and Nitrate**

Monitoring Involves:

Collecting the water sample (or arranging to have the sample collected);

•

Ensuring the results are forwarded to IDEM; and,

•

Keeping records of test results.

Your chosen certified laboratory is responsible for analyzing the sample and providing results to you (and IDEM, at your request). If you have a positive total coliform result or nitrate MCL, IDEM must be notified within 24 hours.

What is total coliform and why must I sample for it?

Total coliform includes all types of coliform microorganisms. The presence of total coliform in water generally indicates surface water contamination. This contamination may be caused by a cracked well casing or some other kind of leak. Water contaminated by total coliform may contain disease-causing organisms that especially can be harmful to infants, small children, the elderly and individuals who are in a weakened condition. When a certified laboratory finds total coliform in a water sample, it will automatically perform an additional test to determine if the water contains E. coli. An E. coli positive test result indicates the

water may contain sewage and bacteria that potentially can cause enteric diseases, such as salmonellosis and shigellosis. Generally, these diseases are characterized by vomiting, diarrhea, fever and other symptoms. Keep records of these tests (10 years for chemicals and 5 years for microbiology). The system is ultimately responsible for sending results to IDEM.

What is nitrate and why must I be concerned?

Nitrate is a chemical used in fertilizers. Low levels of nitrate occur naturally in ground water, but sometimes high levels of nitrate enter ground water as a result of run-off or seepage from fertilized agricultural lands, municipal and industrial wastewater, garbage dumps, animal feedlots, septic tanks, urban drainage and decaying plant debris.

High levels of nitrate in drinking water can cause serious illness and even death in infants under six months of age. This illness is commonly known as “blue baby syndrome.” It occurs because nitrate converts to nitrite in the body, and nitrite decreases the amount of oxygen the blood can carry. Symptoms include shortness of breath and blueness of the skin. The child’s condition can deteriorate rapidly over a period of days. Expert medical advice should be sought immediately if these symptoms occur. In addition, non-specific symptoms of illness may occur in older children, so a medical exam is advised for them if nitrate-contaminated drinking water is suspected.

Who can I contact for more information?

Contact the U.S. Environmental Protection Agency, the IDEM Drinking Water Branch, your local health department or a physician for more information on the health effects of nitrate in drinking water.

**U.S. EPA Safe Drinking Water HOTLINE
(800) 426-4791**

Total Coliform Monitoring Requirements and Sampling Techniques

How frequently must I monitor for total coliform?

If your system is open year-round, uses only ground water, and serves 1,000 or fewer persons a day (daily average over a six month period), you must

TCR Sampling for Systems with Populations of > 1000

Population	Samples Per Month
<1,000	1
1,001—2,500	2
2,501—3,300	3
3,301—4,100	4
4,101—4,900	5

Table 2

Ground Water Quarterly Sample Collection Calendar	
2016	<input type="radio"/> January 1—March 31 <input type="radio"/> April 1—June 30 <input type="radio"/> July 1—September 30 <input type="radio"/> October 1—December 31
2017	<input type="radio"/> January 1—March 31 <input type="radio"/> April 1—June 30 <input type="radio"/> July 1—September 30 <input type="radio"/> October 1—December 31
2018	<input type="radio"/> January 1—March 31 <input type="radio"/> April 1—June 30 <input type="radio"/> July 1—September 30 <input type="radio"/> October 1—December 31
2019	<input type="radio"/> January 1—March 31 <input type="radio"/> April 1—June 30 <input type="radio"/> July 1—September 30 <input type="radio"/> October 1—December 31
2020	<input type="radio"/> January 1—March 31 <input type="radio"/> April 1—June 30 <input type="radio"/> July 1—September 30 <input type="radio"/> October 1—December 31
2021	<input type="radio"/> January 1—March 31 <input type="radio"/> April 1—June 30 <input type="radio"/> July 1—September 30 <input type="radio"/> October 1—December 31

Table 1

collect one (1) water sample every calendar quarter (see Table 1) and have it tested. If your system operates seasonally, you must collect monthly samples for total coliform, and have them tested, during the months you are in operation.

IDEM encourages you to have your water tested early rather than late in the quarter to avoid possible delays. For example, a bottle could break during transit and you would have to recollect and re-mail the sample. Or, your sample could be delayed during shipment to the laboratory. These delays could cause you to miss the due date for turning in your test results.

If your system uses only ground water and serves more than 1,000 persons a day (daily average over a six month period), you must monitor monthly based on population (see Table 2).

The Revised Total Coliform Rule requires year-round systems to monitor quarterly. However, certain violations or triggers will increase monitoring to monthly. Those violations and triggers include:

- ▶ One Level 2 or two Level 1 assessments in a rolling 12-month period
- ▶ An E. coli MCL violation
- ▶ A Total Coliform Treatment Technique Violation
 - Failure to conduct a required assessment within 30 days of learning of the trigger
 - Failure to correct any sanitary defects found during an assessment
- ▶ Two RTCR monitoring violations in a rolling 12-month period
- ▶ One RTCR monitoring violation and one Level 1 assessment in a rolling 12-month period

If you are unsure of your monitoring schedule please visit the IDEM Drinking Water Watch website at: <https://myweb.in.gov/IDEM/DWW/> to review your system's monitoring schedule.

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What is the maximum contaminant level violation for E. coli?

The maximum contaminant level (MCL) for E. coli is based on the presence or absence of E. coli in a sample.

As an example, if your water tested positive for total coliform, you would be required to take a set of repeat samples to verify the original test result. If any repeat sample tests positive for E. coli, your system would be in violation of the MCL for total coliform. This violation might pose an acute risk to health, and public notification (see page 25) would be required. An E. coli positive routine sample followed by any of the repeat samples testing positive for total coliform or E. coli is also a violation of the MCL for E. coli. Failure to collect all of the repeats, following an E. coli positive routine sample, will result in a violation of the MCL for E. coli.

.....

How does monitoring frequency change if my water tests positive for total coliform?

If your routine sample is total-coliform positive, you must collect a set of three (3) repeat samples and a source sample within 24 hours of being notified of the positive result. IDEM may extend the 24 hour limit up to 48 hours if a system has a problem beyond its control in collecting the repeat samples within 24 hours.

At least one (1) repeat sample must be collected from each of the following:

- ① The sampling tap where the original total coliform-positive sample was taken;
- ② A tap upstream of the original sampling location;
- ③ A tap downstream of the original sampling location; and,
- ④ **A source sample is also required, under the Groundwater Rule, from each well in use during the time the total coliform positive sample was collected. Source samples should be collected from a dedicated, smooth-bore sample tap located prior to any treatment or storage (including pressure tanks).**

If you are unsure of where to sample, contact the IDEM Drinking Water Branch at **(800) 451-6027, ext. 4-7430** and request to speak with your inspector.

You must collect three (3) routine samples the month after your repeat sampling. Transient non-community water systems that have one or more total coliform-positive samples and monitor quarterly must collect and have at least three (3) routine samples tested during the next month the system provides water to the public. For example, if a routine sample collected July 10 for the third quarter is total coliform-positive, you must collect three (3) repeat samples and one (1) source sample within 24 hours of being notified of the positive sample as explained above, and you must also collect three (3) routine samples in August.

If any repeat sample is total coliform positive, your system must conduct a level 1 or level 2 assessment.

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How do I properly sample for total coliform?

Proper sampling is essential if you want to get accurate test results. For example, your finger could have bacteria and could contaminate the sample, or improper transport or storage could cause the sample to test positive if you do not follow proper sampling procedures. If this result occurs, you'll need to do repeat sampling to prove that the water is indeed safe and the test was a "false positive." You can avoid the hassles and costs of more tests by doing it right the first time and by using a certified lab. You must use a laboratory certified to test drinking water.

Certified laboratory lists are available from IDEM's Drinking Water Branch or go to www.IN.gov/isdh/24859.htm. Certified labs provide their own sampling kits (bottles, labels, packing boxes) and instructions for proper sampling. Read your laboratory's instructions carefully and follow them, but also review the total coliform sampling procedures below to be sure you are following IDEM's recommended sampling techniques. Call your lab or the Field Inspection Section of IDEM's Drinking Water Branch if you have any questions.

Before You Begin

- ▶ **Always** wash your hands thoroughly before collecting your sample, and don't sneeze or cough while doing your sampling. Handle the containers carefully as they are pre-sterilized.
- ▶ Be sure you have the sampling kit for **total coliform** sampling, and assemble all the sampling supplies before you begin. Double checking the type of sampling kit you're using is important because kits and instructions vary according to the type of contaminant for which you're sampling. If cold packs will be used, freeze them prior to sample collection.

- ▶ Sampling containers may contain a preservative. **Don't rinse it out, and don't add preservatives** to the sample unless specifically instructed to do so by the laboratory.
- ▶ The container also may contain a dechlorinating agent that may appear as a white crystal, a spot of powder or a small drop of water. It's there because standard testing methods require that samples taken from disinfected water supplies be dechlorinated. **Do not** rinse it out!

Site Sampling Plan

The Revised Total Coliform Rule requires all systems to have a Site Sampling Plan on file. This plan outlines the sites or taps where all routine, repeat, and source samples should be collected by the system. The system should keep this plan on file and available for review by IDEM at every sanitary survey. If you need a Site Sampling Plan template, please go to www.IN.gov/idem/cleanwater/2494.htm

Proper Sampling Procedures for Total Coliform

1

Choose a commonly used spigot or tap, such as a faucet or small valve that is commonly used. The spigot should be in good repair (no leaks) and it shouldn't have new plumbing that hasn't been disinfected. Try to avoid one that has an aerator, screen or hose at the end. Don't pick a spigot or tap that is subject to fouling by splashing, unusual handling, greasy rags or by drip from leaky packing.

Important:

Never use a fire hydrant, frost proof yard hydrant, stand pipe, mop sink, drinking fountain or threaded hose bib as a sampling point. If possible, avoid faucets with swivel necks or hot/cold mixed valves. Be sure to avoid smoking areas.

Note:

If you're doing repeat sampling, please note the sampling point requirements on page 9.

2

Clear away any potential contamination sources such as debris, chemicals, etc. from around the spigot. Remove the attachment (aerator, strainer or hose), if there is one. Bleach in a spray bottle may be used to disinfect the spigot. Do not try to flame sterilize the spigot. It doesn't do much good and can damage the spigot. Fill out all applicable fields on the state approved lab forms.

3

Wash hands thoroughly.

4

Turn on the cold water tap from which you'll be collecting the sample and allow it to run full force for at least five minutes to clean away possible debris inside the tap. Monitor the time by a clock

or watch—do not guess! Reduce the flow to a steady stream about the size of a pencil (approximately a 1/8 inch diameter flow) and allow it to flow an additional five minutes at this rate. Check for steady flow. Do not change the water flow once you have started sampling. It could dislodge microbial growth.

5

Grasp the sample bottle around the lower half to reduce the chance of finger contamination (Figure 1).



Figure 1

Carefully remove the cap from the bottle (Figure 2). Don't lay the cap down or put it in your pocket!



Figure 2

Be careful not to touch the inside of the sterile bottle or cap with your fingers. Hold the bottle in one hand and the cap in the other. Hold the cap in a horizontal position until you are ready to put it back on the bottle. This will protect the cap from falling dust particles or stray droplets.

Don't rinse out the bottle before collecting the sample!

6

Position the bottle under the water flow (Figure 3) and collect the required volume of water (100 ml for total coliform analysis). Fill it to the shoulder or to about 1/4 inch from the top.



Figure 3

Don't permit the faucet to touch the lip or inside of the bottle!

7

Screw the cap on the bottle (Figure 4). Don't touch the inside of the cap and don't over tighten.

8

Turn the tap off. Replace the aerator, strainer or hose, if applicable.



Figure 4

9

Complete any state approved forms supplied by the testing laboratory with the requested information, such as your PWSID, sample type, collection location, sampling time and date.

10

Pack the sample and completed forms as instructed by the laboratory. The temperature of the sample must be kept between 4 to 10° C. If the laboratory is nearby, ice and deliver the sample there directly. If not, pack the sample with the pre-frozen chemical cold packs (blue ice) to keep it at the proper temperature. Ship it overnight by U.S. mail or an overnight courier. The samples must reach the laboratory within 30 hours of collection.

Troubleshooting Total Coliform

What causes total coliform positive test results and what can I do to correct the situation?

A total coliform positive result can be caused by any of the following:

- ❶ Contamination of the sample through improper collection procedures;
- ❷ Bacteria contained in water or wastewater may be entering the well either:
 - Through a crack in the well casing or a leaking wellhead sanitary seal;
 - Along the outside of the well casing and into the well screen due to improper or inadequate grouting or back filling of the area around the well casing during well construction; or,
 - Through the soil to contaminate the ground water prior to its being drawn into the well screen.
- ❸ A cross connection or back siphonage condition in the plumbing causing bacteria-contaminated water to be drawn into the water pipe near the sample location.
- ❹ Maintenance of plumbing (e.g., replacing lines, taps) may cause a total coliform positive result.

What do I need to do if any repeat samples are total coliform positive?

If any repeat samples are total coliform positive you have exceeded a Treatment Technique (TT) trigger and are required to complete a Level 1 Assessment. Level 1 Assessments may be completed by the system, however if you have any questions you may contact the IDEM Drinking Water Branch at (800) 451-6027, ext. 4-7430. If this is the second Level 1 Assessment triggered by your system, within a rolling 12-month period, your system will be required to complete a Level 2 Assessment.

What is an Assessment and when is one required?

An assessment is an examination of a system's infrastructure and operating practices to identify

potential pathways for contamination. Assessments are required after a system has exceeded certain Treatment Technique (TT) triggers. These TT triggers and their corresponding required assessment levels are as follows:

► Level 1 TT Triggers

- A total coliform positive routine sample followed by any total coliform positive repeat sample or
- Two or more total coliform positive samples in the same month
- Failure to collect all required repeat samples following a routine total coliform positive sample

► Level 2 TT Triggers

- E. coli MCL violation
- Second Level 1 TT trigger in a rolling 12-month period

Failure to conduct the necessary assessment, and/or failure to correct any sanitary defects found during an assessment, will result in the system incurring a Coliform Treatment Technique Violation. When a system incurs a Coliform Treatment Technique Violation they are required to issue a Tier 2 Public Notice (See page 29) and, if on quarterly monitoring, will be increased to monthly monitoring for total coliform.

What is the difference between the two levels of assessments?

A Level 1 Assessment is a basic examination of the system and operating practices. Level 1 Assessments may be conducted by the system. A Level 2 Assessment is a more in-depth and detailed examination of the system. Any person conducting a Level 2 Assessment shall not have conducted a previous Level 1 Assessment, for the same system, within a rolling 12-month period. A Level 2 Assessment must be conducted by the state, or a party approved by the state. For more information on who may conduct Level 2 Assessments contact the IDEM Drinking Water Branch at (317) 234-7430, or visit IDEM's website at www.IN.gov/idem/cleanwater/2494.htm.

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Should I disinfect my water supply well?

Disinfection of the well is required after any rehabilitation or construction work has been performed on the system. Rehabilitation or construction may be required to correct sanitary defects found during an assessment. Prior to disinfecting it is recommended you consult a well driller, plumber, or your IDEM Field Inspector.

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How do I disinfect my water supply well?

Follow these steps:

- 1 Turn off all electricity and clear debris from around the top of the well;
- 2 Repair the electrical system and pump if needed. Contact a qualified electrician, well contractor, or pump contractor if you are not experienced with this type of work;

- 5 Using a 5-gallon bucket, mix the bleach from Table 1 with 3-5 gallons of water (12-19 liters);
- 6 Remove the vent cap;
- 7 Pour the bleach water mixture into the well using a funnel. Avoid all electrical connections. Attach a clean hose to the nearest hose bib and use it to circulate water back into the well for thorough mixing;
- 8 Rinse the inside of the well casing with a garden hose or bucket for 5-10 minutes;
- 9 Open all faucets inside the water system and run the water until you notice a strong odor of chlorine (bleach) at each faucet. Turn off all faucets and allow the solution to remain in the well and plumbing for a minimum of 12 hours;
- 10 After at least 12 hours, attach a hose to an outside faucet and drain the chlorinated

Depth of Water	Diameter of Well Casing					
	4 inches	6 inches	8 inches	10 inches	24 inches	36 inches
20 feet	6 ½ tbsp	1 cup	1 ½ cups	2 ½ cups	14 cups	2 gal
30 feet	9 ¾ tbsp	1 ½ cups	2 ¼ cups	3 ¾ cups	1 ¼ gal	3 gal
40 feet	13 tbsp	2 cups	3 cups	5 cups	1 ¾ gal	4 gal
50 feet	1 cup	2 ½ cups	3 ¾ cups	6 ¼ cups	2 ¼ gal	5 gal
100 feet	2 cups	5 cups	7 ½ cups	12 ½ cups	4 ½ gal	10 gal

Table 3 Approximate Amount of Bleach for Disinfection of a Drilled or Driven Well

Notes:

- Use only unscented household liquid chlorine bleach.
- Bleach concentrations can vary between 5% and 6%.
- Quantities given in this table are approximate and are rounded to the nearest practical measurement. Amounts given are calculated in accordance with reaching a chlorine concentration of 100 mg/L

Key:

- tbsp: tablespoon
- gal: gallon
- 1 cup = 8 fluid ounces = 16 tablespoons
- 1 gallon = 16 cups

- 3 Start the pump and run water until it is clear. Use the outside faucet nearest to the well to drain the potentially contaminated water from the well and keep the unsafe well water out of the interior plumbing. If the well is connected to interior plumbing, close valves to any water softener units;
- 4 Use Table 3 to determine the amount of liquid household bleach (5%-6%) needed to disinfect the well. Use only unscented bleach;

water onto a non-vegetated area such as a driveway. Continue draining until the chlorine odor disappears. Avoid draining into open sources of water (streams, ponds, etc.);

- 11 Turn on all indoor faucets and run water until the chlorine odor disappears; and
- 12 Until well water has been tested, boil it (rolling boil for 1 minute) before use or utilize an alternative water source.

Testing After Disinfection of Drilled Wells

It is recommended that a five-to seven-day interval occur before another well water sample is collected for bacterial analysis. Repeated unsatisfactory bacteriological test results may indicate a need for well repair/replacement or cross-connect correction. Consult a plumber or well service professional for assistance. Chlorination units for continuous disinfection of drinking water supplies can be obtained through a water treatment company. If you have additional questions, contact the Field Inspection Section of IDEM's Drinking Water Branch or your local health department.

Formula
Amount of disinfectant required for each 100 gallons of water for 100 parts per million chlorine concentration
Laundry Bleach (5.25% chlorine)
3 cups 1 cup = 8 ounce measuring cup (2 cups = 1 pint; 4 cups = 1 quart)
Hypochlorite Granules (70% chlorine)
2 ounces 1 ounce = 1 heaping tablespoon granules (16 ounces = 1 pound)

Table 4

NITRATE Monitoring Requirements and Sampling Techniques

How frequently must I monitor for nitrate?

Transient non-community water systems must monitor for nitrate once per year at each entry point to the distribution system. The entry point would be the first place you can draw water after any treatment (e.g., chlorination, water softener), or the tap closest to the well, if there is not any treatment.

Monitor Nitrate Once Per Year
<input type="radio"/> 2016 <input type="radio"/> 2017 <input type="radio"/> 2018 <input type="radio"/> 2019 <input type="radio"/> 2020 <input type="radio"/> 2021

Table 5

What is the maximum contaminant level for nitrate and what if I exceed it?

The maximum contaminant level (MCL) for nitrate is 10 milligrams per liter (mg/L or parts per million). If the result of any one of your nitrate samples is greater than 10 mg/L, you must collect a confirmation sample within 24 hours of the time you are notified of the result of the initial sampling. If the average of the initial sample and the confirmation sample is greater than 10 mg/L, your system has exceeded the MCL for nitrate. Contact IDEM Drinking Water Branch at (800) 451-6027, ext. 4-7430 for assistance with nitrate sampling.

If the average of your initial and confirmation samples is greater than 10 mg/L, continuous public notification is required (as described on page 22). Don't serve the water to children under six months of age, pregnant women or the elderly. **Use only safe water from a known low nitrate source.** Do not boil water in an attempt to reduce the nitrate level. Boiling actually increases nitrate concentration when evaporation occurs.

If the average of your initial and confirmation samples is greater than 20 mg/L, you will need to monitor for nitrate on a quarterly basis in addition to meeting the conditions described above. Your system also must pursue corrective measures to reduce nitrate levels.

Technical Note:

The 10 mg/L standard expressed as nitrogen (NO_3 as N) is equivalent to 45 mg/L nitrate expressed as nitrate (NO_3 as NO_3). It's important to know how your water sample result for nitrate analysis is expressed. Your laboratory should report your results as N.

How do I properly sample for nitrate?

Certified laboratories provide their own sampling kits (bottles, labels, packing boxes) and instructions for proper sampling. Call IDEM's Drinking Water Branch for certified laboratory lists or go to www.IN.gov/isdh/24859.htm. Read your laboratory's instructions carefully and follow them, but please also review the following proper sampling procedures for nitrate to be sure you are following IDEM's recommended sampling techniques. Call your lab or the Inspection Section of IDEM's Drinking Water Branch if you have any questions.

Before You Begin

- ▶ **Always** wash your hands thoroughly before collecting your sample. Handle the containers carefully as they are usually pre-sterilized.
- ▶ Be sure you have the sampling kit for **nitrate** sampling, and assemble all the sampling supplies before you begin. Double-checking the type of sampling kit you're using is important because kits and instructions vary according to the type of contaminant for which you're sampling. If cold packs will be used, freeze them prior to sample collection.
- ▶ The sample bottle may contain acid as a preservative. Take special care in handling the sample bottle. **Do not** rinse it out!

Proper Sampling Procedures for Nitrate and Nitrite

1

Locate a sampling point at the entry point to the distribution system. This point would be the first place you can draw water after any treatment (e.g., chlorination, water softener), or the tap closest to the well if there is no treatment. If applicable, use a commonly used spigot or tap, such as a faucet or small valve that is commonly used and receives reasonable protection. Remove the attachment (aerator, strainer or hose), if there is one.

2

Wash hands thoroughly.

3

Turn on the cold water tap from which you'll be collecting the sample and allow it to run full force for at least five minutes to clean away possible debris inside the tap. Monitor the time by a clock or watch—do not guess! Reduce the flow to a steady stream about the size of a pencil (approximately a 1/8 inch diameter flow) and allow it to flow an additional five minutes at this rate. Check for steady flow. Do not change the water flow once you have started sampling.

4

Grasp the sample bottle around the lower half to reduce the chance of finger contamination (Figure 1).



Figure 1

Carefully remove the cap from the bottle. Don't lay the cap down or put it in your pocket! Be careful not to touch the inside of the sterile bottle or cap with your fingers. Hold the bottle in one hand and the cap in the other. Hold the cap in a horizontal position until you are ready to put it back on the bottle (Figure 2). This will protect the cap from falling dust particles or stray droplets.



Figure 2

Don't rinse out the bottle before collecting the sample!

5

Position the bottle under the water flow and collect the required volume of water (125 ml for nitrate analysis). Fill it to the shoulder or to about 1/4 inch from the top.

Don't permit the faucet to touch the lip or inside of the bottle!



Figure 3

6

Screw the cap on the bottle. Don't touch the inside of the cap and don't over tighten.



Figure 4

7

Turn the tap off. Replace the aerator, strainer or hose if applicable.

8

Check that the information on the label is correct. Complete any other forms supplied by the testing laboratory with the requested information, such as your PWSID, sample collection location, sampling time and date. A chain-of-custody form which you are required to fill out should be provided by the laboratory. The information on the chain-of-custody form must match the information on the container label.

9

Pack the sample and completed forms as instructed by the laboratory. The temperature of the sample must be kept between 4 to 10° C. If the laboratory is nearby, ice and deliver the sample there directly. If not, pack the sample with the pre-frozen chemical cold packs (blue ice) to keep it at the proper temperature. Ship it overnight by U.S. mail or an overnight courier. The time between sample collection and arrival at the laboratory depends on what test the lab is running, so follow your lab's instructions.

Troubleshooting Nitrate and Nitrite

Nitrate testing is less sensitive than total coliform testing. Nitrate is not a bacteria, so improper collection procedures such as putting your finger in the sampling jar or sneezing on the sample do not affect test results. Nevertheless, IDEM encourages you to closely follow the sampling instructions for nitrate on page 16.

It is often difficult to pinpoint sources of nitrates because there are many possibilities. Sources of nitrogen and nitrates may include run-off or seepage from fertilized agricultural lands, municipal and industrial wastewater, garbage dumps, animal feedlots, septic tanks, urban drainage and decaying plant debris. The geologic formations and directions of ground water flow influence the potential for nitrate contamination from a particular source. The closer the well is to the source of nitrogen or nitrate, the greater the likelihood that elevated levels of nitrate could occur. Shallow (less than 50 feet deep) water wells are more prone to experiencing higher nitrate concentrations. Well construction and the depth of the well casing also are important factors to consider.

Water treatment devices such as reverse osmosis, distillation, ion exchange and deionization have been shown to be effective in reducing nitrate levels in drinking water when properly installed and maintained. Boiling or disinfecting your water will not remove nitrates. Boiling will increase nitrate concentration. Contact IDEM's Drinking Water Branch or a water treatment professional for more information.

Test Results and Record Keeping

What should I do with my test results?

Copies of all laboratory test results must be received at IDEM on or before the 10th day of the month following the end of each monitoring period. Some laboratories automatically mail sample results to IDEM. Others don't because they have confidentiality policies. We recommend you call your lab to verify that your lab will be sending the results directly to IDEM. It is your responsibility to ensure sample results are provided to IDEM. The results may be sent via any of the methods listed below:

Indiana Department of Environmental Management

Office of Water Quality
Drinking Water Branch - Compliance Section
100 N. Senate Ave.
IGCN 1201
Indianapolis, IN 46204-2251

Email: DWBMGR@idem.in.gov

Fax: (317) 234-7462

.....

What are my record keeping responsibilities?

Transient non-community water systems must retain the following records on their premises or at a convenient location nearby:

- ① Records of total coliform analyses must be kept for at least five years, and records of nitrate analyses must be kept for at least ten years. Actual laboratory reports may be kept or data may be transferred to tabular summaries, provided the following information is included:
 - a) Date, place and time of sampling, and the name of the person who collected the sample;
 - b) Identification of the sample as to whether it was a routine or repeat sample;
 - c) Date on which the analysis was performed;
 - d) Laboratory and person responsible for performing the analysis;
 - e) Analytical technique/method used; and,
 - f) Results of the analysis.
- ② Records of action taken to correct violations shall be kept for at least three years after the last action taken with respect to the particular violation involved.
- ③ Copies of any written reports, summaries or communications relating to sanitary surveys of the system shall be kept for at least ten years after completion of the sanitary survey involved.

A monthly report of operation (MRO) must be completed by a system and submitted to IDEM if any chemicals (other than softening) are added to the drinking water for treatment. Call IDEM's Drinking Water Branch at **(800) 451-6027, ext. 4-7430** for the MRO form.

Informing Your Customers, Guests and Employees

What is public notification and when is it required?

Public notification is the process used by public water systems to notify their customers, guests and employees when the water system has violated a drinking water regulation.

Public notification is required by rule when a water system exceeds a maximum contaminant level (MCL) or fails to monitor.

Public notification serves several important purposes:

- ▶ To announce violations of regulations and standards;
- ▶ To explain the frequency and duration of the problem;
- ▶ To warn about potential adverse health effects;
- ▶ To direct the public to an alternate water supply, if necessary;
- ▶ To inform the public of steps being taken to correct the violation;
- ▶ To educate consumers about the possible need for improvements in their public water systems; and,
- ▶ To foster support to finance any needed improvements in the system.

How do I issue a public notice?

If you exceed the maximum contaminant level for E. coli or nitrate, you must notify persons served by your system (customers, guests and employees) no later than 24 hours after the violation has been discovered. You must hand-deliver a notice and/or post a public notice in conspicuous places within the area served by the system. Posting must continue for as long as the violation exists. Notice by hand delivery must be repeated at least every three months for as long as the violation exists for nitrates only.

If you fail to monitor for total coliform or nitrate, you must notify persons served by your system (customers, guests and employees) as outlined above within 30 days of missing your monitoring deadline. In this case, public notification should be posted for as long as the violation occurs, but no less than 14 days.

You must submit a copy of each public notice distributed, published, posted or made available to the persons served by your system to the Compliance Section of IDEM's Drinking Water Branch within 10 days of delivery and/or posting. You must also submit the certification form. You may submit public notices and certification forms via any of the methods listed below.

Indiana Department of Environmental Management

Office of Water Quality
Drinking Water Branch - Compliance Section
100 N. Senate Ave.
IGCN 1201
Indianapolis, IN 46204-2251

Email: DWBMGR@idem.in.gov

Fax: (317) 234-7462

How to get other available information

Additional information can be obtained from IDEM's Drinking Water Branch. Call (800) 451-6027, ext. 4-7430.

► **Chemistry Laboratories Certified in Indiana**

This document lists chemistry laboratories certified by the Indiana State Department of Health to perform nitrate testing.

► **Microbiological Laboratories Certified in Indiana**

This document lists Indiana State Department of Health certified drinking water laboratories that do total coliform testing.

Both of the above certified laboratory lists are available at www.IN.gov/isdh/24859.htm.

► **Inspection Area Maps**

Inspection area maps are available in black and white and color. Visit www.IN.gov/idem/cleanwater/2385.htm.

► **Water Monitoring Requirements Poster**

This poster summarizes water monitoring requirements for transient non-community water systems. IDEM recommends that you post it in a prominent location at your business or organization to serve as a reminder of your water monitoring responsibilities.



Permit Requirements

Construction Guidelines

The current laws regarding construction state that whenever facilities, equipment, or devices are added or modified, a construction permit is necessary before construction can begin. Facilities, equipment and devices include, but are not limited to:

- All drinking water wells (all new wells must have a well site survey completed).
- All chemical treatment equipment.
- All pumping equipment.
- All storage equipment.
- All water main extension.

Obtaining Permits Application

Contact:

Indiana Department of Environmental Management
Drinking Water Branch
Permit Section at (800) 451-6027, ext. 4-7430
or visit www.IN.gov/idem/cleanwater/2384.htm

To Obtain a Well Site Survey

Contact the Indiana Department of Environmental Management, Drinking Water Branch, Field Inspection Section at (800) 451-6027, ext. 4-7430 to obtain a well site survey form.

Sample Public Notices

Pages 23- 36 contain these sample public notices:

For Total Coliform

Violation of Routine Coliform
Testing Schedule
Page 23

For E. coli:

E.coli Maximum Contaminant
Level Exceedance
Page 25

For Nitrate:

Failure to Conduct
Nitrate Sampling
Page 33

Tests Show High Nitrate Levels
in Tap Water. Use Other Source
of Water for Infants.
Page 35

You may either photocopy the sample provided and fill in the requested information, or you may draft your own public notification for your system. If you draft your own public notification, be sure to include the minimum required language presented in the sample. You are encouraged to include in your public notification any additional information regarding the circumstances of the violation and any corrective measures undertaken.

Detailed instructions on how to issue the public notice are included on the reverse side of each sample public notice.

**IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
REVISED TOTAL COLIFORM RULE
Monitoring and Reporting Requirements Not Met for:**

_____ *System Name*

Our water system recently violated a drinking water standard. Although this is not an emergency, as our customers, you have a right to know what happened, what you should do, and what we are doing to correct this situation.

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 standards meet EPA's health standards. During _____ we **did not test** for **Total Coliform** and therefore cannot be sure of the quality of our drinking water at that time.

What should I do?

There is nothing you need to do at this time.

What does this mean?

This is not an immediate risk. If it had been, you would have been notified immediately.

What Happened? What is being done? Explain below.

We anticipate resolving the problem within _____ *estimated time frame*.

For more information, please contact _____ at _____ *name of contact*
_____ or _____ *phone number* *mailing address*

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 or distributing copies by hand or mail.

This notice is being sent to you by _____ *system name*

Public Water Supply ID# _____ *PWSID #*

Date Distributed _____

Tier 3

Public Notice Instructions

You are required to provide the enclosed public notice within 24 hours upon learning of the violation. You must use one or more of the following methods to deliver the notice to consumers:

- Radio
- Television
- Hand or direct delivery
- **Posting in conspicuous locations**
- Publishing in newspaper within the area served

You may need to use additional methods since notice must be provided in a manner reasonably calculated to reach all persons served. You may modify the enclosed public notice to tailor it to your specific situation, **but you must still include all the required elements and the health effects language in italics must remain unchanged.** This language is mandatory.

After issuing the notice

Send a copy of each type of notice and the enclosed certification form within ten (10) days from the time you issue the notice to the following address:

Indiana Department of Environmental Management (IDEM)
OWQ Drinking Water – Mail Code 66-34
100 N. Senate Avenue
Indianapolis, IN 46204-2251
Fax 317/234-7436

CERTIFICATION FORM FOR PUBLIC NOTICE

PWS Name: _____ PWSID # _____
(public water system name) *(public water system number)*

For Violation: RTCR Major Monitoring & Reporting (VC 3A & 4B) Occurring in: _____
(describe violation or situation) *(insert date)*

The public water system indicated above hereby affirms that public notice has been provided to consumers in accordance with the delivery, content, and format requirements and deadlines in 327 IAC 8-2.1-7.

- Consultation with primacy agency (if required) on _____
(insert date)
- Notice distributed by _____ on _____
(insert method) *(insert date)*
- Notice distributed by (if needed) _____ on _____
(insert method) *(insert date)*
- Content – required elements.

Signature of owner or operator

Date

DRINKING WATER WARNING
***E. coli* is Present in the water of**

_____ *System Name*

BOIL YOUR WATER BEFORE DRINKING OR USING

“Our water system has exceeded the *E. coli* MCL standard set by the Revised Total Coliform Rule. As our customers, you have a right to know what happened, what you should do, and what we did to correct this situation. We collected a routine sample on _____ and repeat samples on _____. Among these samples one or more has tested positive for *E. coli*. We are now conducting additional sampling to determine the extent of the problem and are conducting thorough investigation to determine the source of the contamination.”

What should I do?

- **Do not drink the water without boiling it first.** Bring all water to a rolling boil, let it boil for five minutes, 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 subsequent sampling results show we are in compliance. Boiling kills bacteria and other organisms in the water.
- *E.coli* are bacteria whose presence indicates that the water maybe contaminated with human or animal waste. Human pathogens in these wastes can cause short-term 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.

What Happened? What is being done? Explain below.

We will inform you when tests show no bacteria and you no longer need to boil your water. We anticipate resolving the problem within _____
estimated time frame

For more information, please contact _____ at _____
name of contact
_____ or _____
phone number *mailing address*

General guidelines on ways to lessen the risk of infection by microbes are available from the EPA Safe Drinking Water Hotline at 1 (800) 426-4791.

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 or distributing copies by hand or mail.

This notice is being sent to you by _____
system name

Public Water Supply ID# _____
PWSID #

Date Distributed _____

**Tier 1
Public Notice Instructions**

You are required to provide the enclosed public notice within 24 hours upon learning of the violation. You must use one or more of the following methods to deliver the notice to consumers:

- Radio
- Television
- Hand or direct delivery
- **Posting in conspicuous locations**
- Publishing in newspaper within the area served

You may need to use additional methods since notice must be provided in a manner reasonably calculated to reach all persons served. You may modify the enclosed public notice to tailor it to your specific situation, **but you must still include all the required elements and the health effects language in italics must remain unchanged.** This language is mandatory.

After issuing the notice

Send a copy of each type of notice and the enclosed certification form within ten (10) days from the time you issue the notice to the following address:

Indiana Department of Environmental Management (IDEM)
OWQ Drinking Water – Mail Code 66-34
100 N. Senate Avenue
Indianapolis, IN 46204-2251
Fax 317/234-7436

CERTIFICATION FORM FOR PUBLIC NOTICE

PWS Name _____ PWSID # _____
(public water system name) *(public water system number)*

For Violation: RTCR MCL Exceedance Occurring in: _____
(describe violation or situation) *(insert date)*

The public water system indicated above hereby affirms that public notice has been provided to consumers in accordance with the delivery, content, and format requirements and deadlines in 327 IAC 8-2.1-7.

- Consultation with primacy agency (if required) on _____.
(insert date)
- Notice distributed by _____ on _____.
(insert method) *(insert date)*
- Notice distributed by *(if needed)* _____ on _____.
(insert method) *(insert date)*
- Content – required elements.

Signature of owner or operator

Date

DRINKING WATER NOTICE REVISED TOTAL COLIFORM RULE

System Name

Failed to Perform State-Approved Start-up Procedures Prior to Serving Water to the Public

Prior to serving water to the Public in _____, we failed to perform the state-approved start-up procedures for our water system. As our customers, you have a right to know what happened, what you should do, and what we are doing to correct this situation. Because we failed to implement these procedures, we have violated a requirement of the Revised Total Coliform Rule.

What should I do?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

Failure to perform state-approved start-up procedures prior to serving water to the public has the potential to cause source water contamination. *Inadequately treated or inadequately protected water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.* Failure to perform the start-up procedures prolonged the risk of fecal contamination of our source water. While we have not detected any evidence of fecal contamination in our source water, we are committed to correcting the deficiency to eliminate the threat of contamination.

What should I do?

If you have specific health concerns, consult your doctor.

If you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from their health care providers about drinking this water. General guidelines on ways to lessen the risk of infection by microbes are available from EPA's Safe Drinking Water Hotline at (800) 426-4791.

What is being done?

For more information, please contact _____ at
name of contact
_____ or _____.
phone number *mailing address*

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 or distributing copies by hand or mail.

This notice is being sent to you by _____
system name

Public Water Supply ID# _____ *PWSID #* Date Distributed

Tier 2

Public Notice Instructions

You are required to provide the enclosed public notice within 24 hours upon learning of the violation. You must use one or more of the following methods to deliver the notice to consumers:

- Radio
- Television
- Hand or direct delivery
- **Posting in conspicuous locations**
- Publishing in newspaper within the area served

You may need to use additional methods since notice must be provided in a manner reasonably calculated to reach all persons served. You may modify the enclosed public notice to tailor it to your specific situation, **but you must still include all the required elements and the health effects language in italics must remain unchanged.** This language is mandatory.

After issuing the notice

Send a copy of each type of notice and the enclosed certification form within ten (10) days from the time you issue the notice to the following address:

Indiana Department of Environmental Management (IDEM)
OWQ Drinking Water – Mail Code 66-34
100 N. Senate Avenue
Indianapolis, IN 46204-2251
Fax 317/234-7436

CERTIFICATION FORM FOR PUBLIC NOTICE

PWS Name: _____ PWSID # _____
(public water system name) *(public water system number)*

For Violation: RTCR Treatment Technique & Reporting (VC 4C) Occurring in: _____
(describe violation or situation) *(insert date)*

The public water system indicated above hereby affirms that public notice has been provided to consumers in accordance with the delivery, content, and format requirements and deadlines in 327 IAC 8-2.1-7.

- Consultation with primacy agency (if required) on _____
(insert date)
- Notice distributed by _____ on _____
(insert method) *(insert date)*
- Notice distributed by *(if needed)* _____ on _____
(insert method) *(insert date)*
- Content – required elements.

Signature of owner or operator

Date

DRINKING WATER NOTICE

Failed to Conduct an Assessment of the Facility and Distribution System

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 distribution system. In one sample we collected on _____, and one sample collected on _____, we found coliforms, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct an assessment to identify problems and to correct any problems that are found. We were required to conduct a Level 1 assessment within 30 day of learning of the second total coliform-positive (TC+) sample. A level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system. As our customers, you have the right to know what happened and what we are doing to correct this situation. As required by the Revised Total Coliform Rule, *we failed to completely conduct the required Level 1 assessment* within 30 days, and have therefore, violated a requirement of the Revised Total Coliform Rule

What does this mean?

- This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.
- Failure to conduct an assessment to identify the sanitary defect that triggered the assessment has the potential to cause distribution system contamination. *Inadequately treated or inadequately protected water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.* Failure to perform the assessment prolonged the risk of fecal contamination of our distribution system water. While we have not detected any evidence of fecal contamination in our distribution system, we are committed to correcting the deficiency to eliminate the potential threat of contamination

What should I do?

- You do not need to boil your water or take other corrective actions. However, if you have specific health concerns, consult your doctor.
- If you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from their health care providers about drinking this water. General guidelines on ways to lessen the risk of infection by microbes are available from EPA's Safe Drinking Water Hotline at (800) 426-4791

What is being done?

For more information, please contact _____ at
_____ *name of contact*
_____ or _____
phone number *mailing address*

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 or distributing copies by hand or mail.

This notice is being sent to you by _____
system name
Date Distributed _____

**Tier 2
Public Notice Instructions**

You are required to provide the enclosed public notice within 24 hours upon learning of the violation. You must use one or more of the following methods to deliver the notice to consumers:

- Radio
- Television
- Hand or direct delivery
- **Posting in conspicuous locations**
- Publishing in newspaper within the area served

You may need to use additional methods since notice must be provided in a manner reasonably calculated to reach all persons served. You may modify the enclosed public notice to tailor it to your specific situation, **but you must still include all the required elements and the health effects language in italics must remain unchanged.** This language is mandatory.

After issuing the notice

Send a copy of each type of notice and the enclosed certification form within ten (10) days from the time you issue the notice to the following address:

Indiana Department of Environmental Management (IDEM)
OWQ Drinking Water – Mail Code 66-34
100 N. Senate Avenue
Indianapolis, IN 46204-2251
Fax 317/234-7436

CERTIFICATION FORM FOR PUBLIC NOTICE

PWS Name _____ PWSID # _____
(public water system name) *(public water system number)*

For Violation: RTCR Failure to Conduct Level 1 Assessment (VC2A) Occurring in: _____
(describe violation or situation) *(insert date)*

The public water system indicated above hereby affirms that public notice has been provided to consumers in accordance with the delivery, content, and format requirements and deadlines in 327 IAC 8-2.1-7.

- Consultation with primacy agency (if required) on _____
(insert date)
- Notice distributed by _____ on _____
(insert method) *(insert date)*
- Notice distributed by *(if needed)* _____ on _____
(insert method) *(insert date)*
- Content – required elements.

Signature of owner or operator

Date

**DRINKING WATER NOTICE
REVISED TOTAL COLIFORM RULE**

Failed to Conduct an Assessment of the Facility & Distribution System

Our water system detected E. coli in the distribution system. 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 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. We violated the standard for E. coli, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct a detailed assessment to identify problems and to correct any problems that are found. During _____, we were required to conduct a detailed Level 2 assessment and submit documentation to the state within 30 days of learning of the E. coli violation. We failed to conduct the required assessment within 30 days. As our customers, you have a right to know what happened and what we are doing to correct this situation. As required by the Revised Total Coliform Rule (RTCR), we failed to complete the Level 2 assessment on time and therefore have violated a requirement of the RTCR.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours. Failure to conduct a timely assessment to identify the sanitary defect that triggered the assessment has the potential to cause distribution system contamination. Inadequately treated or inadequately protected water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches. Failure to perform the assessment in a timely manner prolonged the risk of fecal contamination in our distribution system. While we have not detected any evidence of fecal contamination in our distribution system, we are committed to correcting the deficiency to eliminate the threat of contamination

What should I do?

- You do not need to boil the water your water or take other corrective actions. However, if you have specific health concerns, consult your doctor.
- If you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from their health care providers about drinking this water. General guidelines on ways to lessen the risk of infection by microbes are available from EPA's Safe Drinking Water Hotline at (800) 426-4791

What is being done? Explain below.

We anticipate resolving the problem within _____
estimated time frame

For more information, please contact _____ at
name of contact
_____ or _____
phone number *mailing address*

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 or distributing copies by hand or mail. This notice is being sent to you by: _____ Date distributed: _____

Tier 2

Public Notice Instructions

You are required to provide the enclosed public notice within 24 hours upon learning of the violation. You must use one or more of the following methods to deliver the notice to consumers:

- Radio
- Television
- Hand or direct delivery
- **Posting in conspicuous locations**
- Publishing in newspaper within the area served

You may need to use additional methods since notice must be provided in a manner reasonably calculated to reach all persons served. You may modify the enclosed public notice to tailor it to your specific situation, **but you must still include all the required elements and the health effects language in italics must remain unchanged.** This language is mandatory.

After issuing the notice

Send a copy of each type of notice and the enclosed certification form within ten (10) days from the time you issue the notice to the following address:

Indiana Department of Environmental Management (IDEM)
OWQ Drinking Water – Mail Code 66-34
100 N. Senate Avenue
Indianapolis, IN 46204-2251
Fax 317/234-7436

CERTIFICATION FORM FOR PUBLIC NOTICE

PWS Name: _____ PWSID # _____
(public water system name) (public water system number)

For Violation: RTCR Failure to Conduct Level 2 Assessment (VC2B) Occurring in: _____
(describe violation or situation) (insert date)

The public water system indicated above hereby affirms that public notice has been provided to consumers in accordance with the delivery, content, and format requirements and deadlines in 327 IAC 8-2.1-7.

- Consultation with primacy agency (if required) on _____.
(insert date)
- Notice distributed by _____ on _____.
(insert method) (insert date)
- Notice distributed by *(if needed)* _____ on _____.
(insert method) (insert date)
- Content – required elements.

Signature of owner or operator

Date

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

MONITORING REQUIREMENTS NOT MET FOR PWSID # _____

Our water system recently violated a drinking water standard. Although this is not an emergency, as our customers, you have a right to know what happened, what you should do, and what we are doing to correct this situation.

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 standards meet EPA's health standards. **During _____ we did not monitor for Nitrate and therefore cannot be sure of the quality of our drinking water at that time.**

What should I do?

There is nothing you need to do at this time.

What does this mean?

This is not an immediate risk. If it had been, you would have been notified immediately.

What Happened? What is being done? *Explain below.*

We anticipate resolving the problem within _____
estimated time frame

For more information, please contact _____ at _____
name of contact
_____ or _____
phone number *mailing address*

Please share this information with all other people who drinking 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.

This notice is being sent to you by _____ Date Distributed _____
owner or operator

**TIER 3
PUBLIC NOTICE INSTRUCTIONS**

You are required to provide the enclosed public notice within 30 days upon learning of the violation. You must use one or more of the following methods to deliver the notice to consumers:

- Hand or direct delivery
- Mail, as a separate notice or included with the bill
- Publishing in newspaper within the area served

You may need to use additional methods since notice must be provided in a manner reasonably calculated to reach all persons served. You may modify the enclosed public notice to tailor it to your specific situation, but you must still include all the required elements and the health effects language (if required) in italics must remain unchanged. This language is mandatory.

After issuing the notice

Send a copy of each type of notice and the enclosed certification form within ten (10) days from the time you issue the notice to the following address:

IDEM-Drinking Water Branch
2525 North Shadeland Avenue
Indianapolis, IN 46219-1794
Fax 317/308-3340

CERTIFICATION FORM FOR PUBLIC NOTICE

PWS Name: _____ PWSID # _____
(public water system name) *(public water system number)*

For Violation: _____ Occurring on: _____
(describe violation or situation) *(insert date)*

The public water system indicated above hereby affirms that public notice has been provided to consumers in accordance with the delivery, content, and format requirements and deadlines in 327 IAC 8-2.1-7.

- Consultation with primacy agency (if required) on _____
(insert date)
- Notice distributed by _____ on _____
(insert method) *(insert date)*
- Notice distributed by *(if needed)* _____ on _____
(insert method) *(insert date)*
- Content – required elements.

Signature of owner or operator _____
Date

Tier 1

Public Notice Instructions

You are required to provide the enclosed public notice within 24 hours upon learning of the violation. You must use one or more of the following methods to deliver the notice to consumers:

- Radio
- Television
- Hand or direct delivery
- Posting in conspicuous locations
- Publishing in newspaper within the area served

You may need to use additional methods since notice must be provided in a manner reasonably calculated to reach all persons served. You may modify the enclosed public notice to tailor it to your specific situation, but you must still include all the required elements and the health effects language in italics must remain unchanged. This language is mandatory.

After issuing the notice

Send a copy of each type of notice and the enclosed certification form within ten (10) days from the time you issue the notice to the following address:

Indiana Department of Environmental Management (IDEM)
OWQ Drinking Water – Mail Code 66-34
100 N. Senate Avenue
Indianapolis, IN 46204
Or Fax to (317) 234-7436

CERTIFICATION FORM FOR PUBLIC NOTICE

PWS Name: _____ PWSID # _____

For Violation: Nitrate MCL Occurring on: _____

The public water system indicated above hereby affirms that public notice has been provided to consumers in accordance with the delivery, content, and format requirements and deadlines in 327 IAC 8-2.1-7.

- Consultation with primacy agency (if required) on _____
(insert date)
- Notice distributed by _____ on _____
(insert method) *(insert date)*
- Notice distributed by *(if needed)* _____ on _____
(insert method) *(insert date)*
- Content – required elements.

Signature of owner or operator

Date

System Name

PWSID

Date (month, day, year)



Seasonal System Start-up Requirements

State Form 55927 (10-15)

This checklist must be completed as you start up your system. It will aid in preventing contamination from entering your water system and will help you identify problems with your system. You must complete the following tasks (if applicable), check completion of each task, and mail, fax, or e-mail a signed copy with a copy of the special purpose sample result to the IDEM Drinking Water Branch. Make and keep a copy for your records.

Review Sampling Requirements

Done?

- | | |
|---|------------------------------|
| Review sampling schedule available at myweb.in.gov/IDEM/DWW/ or you can call 1(800) 451-6027 ext. 47430 | <input type="checkbox"/> Yes |
| Make arrangements for sample collection analysis with a certified lab (including SSLAP) | <input type="checkbox"/> Yes |
| Review your site sampling plan and make sure it is up to date | <input type="checkbox"/> Yes |

Well(s)

Done?

- | | |
|--|---|
| Well cap is tight and secure | <input type="checkbox"/> Yes |
| Pump house is locked and secure | <input type="checkbox"/> Yes <input type="checkbox"/> n/a |
| Well casing is structurally sound and there is no visible damage | <input type="checkbox"/> Yes |
| Vent screen is in place and downturned | <input type="checkbox"/> Yes <input type="checkbox"/> n/a |
| Rodents and insects are kept out of any enclosure around the well (e.g. keep area mowed) | <input type="checkbox"/> Yes |
| The source or well sample tap* does not leak and flows freely when opened
*This is typically a spigot, hose bib, or sample tap located after the well but before the storage tank or any water treatment device | <input type="checkbox"/> Yes |
| Contaminant sources such as chemicals, livestock, and fuel are kept at least 100 feet from the well | <input type="checkbox"/> Yes |
| Check for evidence of flooding or standing water near the well | <input type="checkbox"/> Yes |

Treatment Equipment

Done?

- | | |
|---|---|
| All components are operating properly and free of corrosion or damage | <input type="checkbox"/> Yes <input type="checkbox"/> n/a |
| ANSI- or NSF-approved water treatment chemicals are on hand | <input type="checkbox"/> Yes <input type="checkbox"/> n/a |

Storage Tank(s)

Done?

- | | |
|---|---|
| All valves, gauges, and controls are working properly | <input type="checkbox"/> Yes <input type="checkbox"/> n/a |
|---|---|

System Name

PWSID

Date (month, day, year)

Storage Tank(s) CONTINUED	Done?
Pressure is being maintained and the pump is cycling normally (once the system is pressurized)	<input type="checkbox"/> Yes
Tanks are sealed, not leaking, and in working order	<input type="checkbox"/> Yes
For a non-pressurized tank, the vent screen is in place and downturned	<input type="checkbox"/> Yes <input type="checkbox"/> n/a

Distribution System	Done?
All accessible lines and equipment are free of corrosion, damage, or leaks	<input type="checkbox"/> Yes
All valves open and close freely	<input type="checkbox"/> Yes <input type="checkbox"/> n/a
Outdoor spigots or yard hydrants have vacuum breakers or backflow preventers	<input type="checkbox"/> Yes <input type="checkbox"/> n/a
All testable backflow preventers have been tested by a certified backflow tester in the last twelve (12) months.	<input type="checkbox"/> Yes <input type="checkbox"/> n/a

Activate and Pressurize	Done?
Well and pump are operating correctly	<input type="checkbox"/> Yes
System is fully pressurized (at least 20 psi) and not leaking	<input type="checkbox"/> Yes
Water treatment equipment is operating correctly	<input type="checkbox"/> Yes <input type="checkbox"/> n/a

Disinfect and Flush System	Done?
System was disinfected	<input type="checkbox"/> Yes <input type="checkbox"/> No
System was flushed	<input type="checkbox"/> Yes
Collected a satisfactory special purpose total coliform sample from farthest point in the distribution system. Submit results of sample to IDEM.	<input type="checkbox"/> Yes
Keep a copy of this checklist and submit the original to IDEM.	<input type="checkbox"/> Yes

Comments (Attach an additional sheet if more space is needed.)

I certify, *under penalty of law*, that this document was prepared by me, and that any deficiencies found during this seasonal start-up inspection have, to the best of my knowledge and belief, been corrected.

Name

Signature

Date (month, day, year)

Mail, fax, or e-mail checklist and sample result to
 Indiana Department of
 Environmental Management
 100 N. Senate Ave IGCN 1255
 Indianapolis, IN 46204
 Fax: 317-234-7462
 Email: dwpermits@idem.in.gov



**LEVEL 1 ASSESSMENT –
TRANSIENT PUBLIC WATER SYSTEM (PWS)**

State Form 52999 (1-16)
Indiana Department of Environmental Management
Office of Water Quality – Drinking Water Branch



PWSID Number: _____ **SYSTEM NAME:** _____

Section A - Review and evaluate: Check for any potential causes of contamination identified or check "N/A" if the section is not applicable to your system. **Each section requires a response.**

1. SAMPLING SITES **Issue identified:** YES NO

- | | |
|--|---|
| <input type="checkbox"/> unclean or unsuitable tap | <input type="checkbox"/> unapproved sampling location |
| <input type="checkbox"/> change or damage to sampling location | <input type="checkbox"/> other: _____ |

2. SAMPLING PROTOCOL **Issue identified:** YES NO

- | | |
|---|---|
| <input type="checkbox"/> tap wasn't flushed (prior to sampling) | <input type="checkbox"/> old sample bottle/bottle seal broken |
| <input type="checkbox"/> tap wasn't disinfected (prior to sampling) | <input type="checkbox"/> new person collected water sample |
| <input type="checkbox"/> aerator or screen damaged or corroded | <input type="checkbox"/> sample error (e.g. touched inside of cap/bottle) |
| <input type="checkbox"/> improper hold time/storage temperature | <input type="checkbox"/> other: _____ |

3. OPERATIONAL CHANGES **Issue identified:** YES NO

- | | |
|---|--|
| <input type="checkbox"/> new faucet or spigot installed | <input type="checkbox"/> new well/pump installed or old well abandoned |
| <input type="checkbox"/> new treatment device added (e.g. softener) | <input type="checkbox"/> recent repairs to plumbing |

4. DISTRIBUTION SYSTEM **Issue identified:** YES NO

- | | |
|---|--|
| <input type="checkbox"/> loss of power recently | <input type="checkbox"/> visible problems (e.g. leaks; cross connections*) |
| <input type="checkbox"/> loss of water pressure or low pressure | <input type="checkbox"/> signs of vandalism or unauthorized access |

5. TREATMENT (if applicable) **Issue identified:** YES NO N/A

- | | |
|---|---|
| <input type="checkbox"/> treatment device malfunctioning | <input type="checkbox"/> other cross connection* issue(s) |
| <input type="checkbox"/> softener waste line plumbed directly to sewer (no air gap) | <input type="checkbox"/> filter needs to be replaced |
| | <input type="checkbox"/> softener is out of salt |

6. STORAGE / BLADDER TANK(S) **Issue identified:** YES NO

- | | |
|--|--|
| <input type="checkbox"/> tank(s) is damaged, rusty, or has holes | <input type="checkbox"/> evidence of contamination |
| <input type="checkbox"/> tank bladder(s) is water logged | <input type="checkbox"/> standing water/debris around tank |

7. SOURCE – WELL(S) (include hand-pump wells) **Issue identified:** YES NO

- | | |
|---|---|
| <input type="checkbox"/> cracked, broken, or missing well cap | <input type="checkbox"/> evidence of contamination |
| <input type="checkbox"/> cracked or broken well casing | <input type="checkbox"/> flooding or standing water near well |
| <input type="checkbox"/> well vent screen missing or damaged | <input type="checkbox"/> ground slopes toward well casing |
| <input type="checkbox"/> well pump not cycling properly | <input type="checkbox"/> well head is buried or has space around casing |

* A cross connection is any actual or potential connection between a potable water supply and a non-potable source (e.g. water softener waste line plumbed directly to floor drain with no air gap).

Section B - Issue Description: Use this space to provide additional information on potential causes of contamination identified during the assessment. If possible, include corresponding dates with your findings. Attach additional pages as necessary.

Check if you did **not** find any causes for the contamination.

Section C - Corrective Action Taken or to be Taken: Use this space to describe corrective actions completed, a proposed timetable for any corrective actions not already completed, and any interim measures that you plan to implement. Attach additional pages as necessary.

Check if you did **not** find any causes for the contamination.

Certification: I certify, under penalty of law, that this document was prepared by me and the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am also aware that there are significant penalties for submitting false information.

Print Name: _____ Title: _____

Signature: _____ Date (month, day, year): _____

Email: _____ Telephone: _____

Please save a copy and return this form to the Indiana Department of Environmental Management.

IDEM Use Only: IDEM Reviewer: _____

IDEM Consultation Date (if needed) (month, day, year): _____

Level 1 Assessment Accepted: YES NO

PWS has corrected the problem: YES NO

Corrective Action Plan approved: YES NO

Approved with changes: YES NO

Comments: _____

Mail, email, or fax this form and any supporting documents to the Drinking Water Branch of:

Indiana Department of Environmental Management

100 N Senate Ave IGCN 1201

Indianapolis, IN 46204

E-mail: dwbmqr@idem.in.gov

Fax: 317-234-7462



Indiana Department of Environmental Management

Office of Water Quality
Drinking Water Branch

www.idem.IN.gov