



Spigot News

A Newsletter for Ohio's Public Drinking Water Systems

Winter 2012
Volume 5, Issue 2

Prepare for Disasters

During the early morning of Friday June 29, 2012 a band of moist southwesterly winds intersected a front over eastern Iowa. The front extended east into central Ohio and southwestern Pennsylvania, and the storm continued on this path throughout the day.

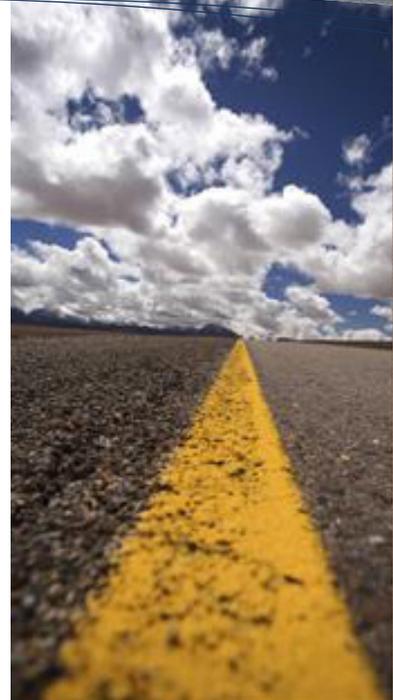
By early afternoon, the storm strengthened as it moved into northern Indiana producing wind gusts of 60-70 mph.

By 4 p.m., the storm front had grown into what is called a derecho as the intense storm arced from south of Toledo through the Dayton area to near Indianapolis. The derecho squall line accelerated east-southeast across central and southern Ohio through the remainder of the afternoon and early evening. Wind gusts in Ohio ranging from 59 mph to 87 mph caused widespread severe damage.

The word derecho is a Spanish word meaning "straight." In meteorology, the term is used to describe a long-lived, violent straight-line wind storm able to travel hundreds of miles. By definition, if the wind damage swath extends more than 240 miles and includes wind gusts of at least 58 mph or greater along most of its length, then the event may be classified as a derecho.

On June 30, Ohio EPA's Division of Drinking and Ground Waters (DDAGW) discovered multiple water systems were already facing troublesome scenarios: loss of power, depressurizations and boil alerts. DDAGW was prepared to coordinate assistance, but our own services were hindered— Ohio EPA's Southeast District Office was without power and unable to provide support. Ohio EPA immediately developed a plan to contact water system operators and/or owners in the area to ensure they were able to safely operate.

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2013 SPRING EXAM DEADLINES AND DATES

Wastewater: Application due Feb. 6, 2013 and Exam May 7, 2013

Water: Application due Feb. 7, 2013 and Exam May 8, 2013

Class A Water/
Wastewater: Application due Feb. 8, 2013 and Exam May 29, 2013

FOR MORE INFORMATION

Call the Operator Certification hotline at **1-866-411-OPCT (6728)** or visit epa.ohio.gov/ddagw/opcert.aspx

STAGE 2 D/DBP RULE — OPERATIONAL EVALUATION LEVEL (OEL)

Ohio Administrative Code requires all public water systems (PWSs) monitoring for Total Trihalomethanes (TTHM) and Haloacetic Acids, five (HAA5) under Stage 2 of the Disinfection Byproducts Rule to meet Operational Evaluation Levels (OELs).

OELs are determined at each monitoring location by summing the two previous quarters' results with twice the current quarters' results and dividing by four to determine an average. An OEL exceedance occurs when this average exceeds the maximum contaminant level (MCL) for either TTHM (0.080 mg/L) or HAA5 (0.060 mg/L).

A PWS exceeding an OEL at one or more locations in the distribution system is required to submit a completed report (Ohio EPA Form 5031) to the appropriate Ohio EPA district office within 90 days of notification of an OEL exceedance by Ohio EPA.

Guidance for evaluating your system and completing Form 5031 and a link to U.S. EPA guidance can be found at: www.epa.ohio.gov/portals/28/documents/pws/OELReportFinalVersion_August2012.doc.

NEW FACT SHEET ON PROVIDING WATER TO OIL & NATURAL GAS DRILLING COMPANIES

Ohio EPA has recently published a fact sheet for public water systems that are approached by oil and natural gas companies interested in using their water. The fact sheet, available at www.epa.ohio.gov/MarcellusandUticaShale.aspx#LiveTabsContent135400, covers PWS approved capacity, registration and permit requirements, engineering concerns, emergency preparedness and security.

UPCOMING eDWR COMPLIANCE DEADLINES

As of April 19, 2012, all public water system owners or operators are required to submit their monthly operational report (MOR) to Ohio EPA using eDWR by the following dates:

Population Served	Latest Date to Begin Electronic Reporting
3, 301 or more	July 1, 2012
501 - 3, 300	July 1, 2013
500 or fewer	July 1, 2014

Electronic list serve messages will be sent to inform systems of training available on the website, live question and answer sessions, and reminders of the upcoming deadline. Contact Brian Tarver with questions (614) 644-2753.

COMMON DEFICIENCIES AT SMALL PUBLIC WATER SYSTEMS

This article is a continuation of the series on common deficiencies, covering source, treatment and distribution deficiencies. This article covers different aspects of the distribution system, including cross-connection, backflow, depressurization events, water age and infrastructure deterioration.

Cross-connection

A “cross-connection” occurs in areas of the plumbing system where non-potable water comes in contact with potable water. There are two types of cross-connections: direct and indirect cross-connections.

Direct cross-connections – the potable system is permanently connected to a non-potable system (for example a submerged inlet pipe for a chemical feed system).

Indirect cross-connections – there is a potential for a connection of the potable system to a non-potable system (for example, a garden hose connected to an outside hose bid without a vacuum breaker or a bidet with a douche sprayer or jet that fills the bowl below the rim).

Establish cross-connection control ordinances for municipalities with diligent inspections of new and existing plumbing to prevent possible cross-connection issues. These issues may be identified during a sanitary survey or when real estate is bought and/or sold within the municipality.

Backflow and Backsiphonage

A “backflow event” is when non-potable water is forced by pressure into the potable water supply due to a direct cross-connection. All distribution systems must maintain a minimum pressure of 20 psig and a 35 psig working pressure during all water demands including fires. Distribution systems that fall below these minimum pressures may experience a backflow event if an overpowering pressure differential is experienced by a competing cross-connection within the system.

A “backsiphonage event” is when water flows backward in the water distribution system from a vessel or other contamination source because the distribution system has lost, created or reduced pressure.

Backflow devices (backflow preventers, double check valves, testable reduced pressure zone device, etc.) are required on certain businesses that pose the most threat to a potable water system, but municipalities can require all businesses and homes within their jurisdictions to install and inspect backflow devices every 12 months. Another preventative measure may be to conduct a hydraulic assessment of the distribution system to identify those areas at most risk of a backflow event. Once identified, these areas can be targeted for improvement.



Example of Backsiphonage

Continued on next page

COMMON DEFICIENCIES

Depressurization Events

System-wide depressurization events are rare but can occur when mains break or electrical power is lost. When an event occurs, it is strongly recommended to issue a boil alert to those affected. Public water systems can issue a boil alert without consulting Ohio EPA, but boil alerts that affect a major portion of the distribution system must be reported within 24 hours. Reported boil alerts are uploaded into the statewide tracking tool at <http://wwwapp.epa.ohio.gov/ddagw/Advisories/advisories.html>. The municipality may lift voluntary boil alerts after the system is pressurized and the designated operator clears the system for providing drinking water. For more information, please refer to the depressurization policy at www.epa.ohio.gov/portals/28/documents/pws/OPR-06-001.pdf.

The best way to avoid a depressurization is to keep the water and power flowing. When all power is lost through the electrical grid an alternate source of energy that will run the treatment plant and the distribution system critical components, such as a generator, is an excellent choice.

Water main breaks are resolved by isolating the break quickly while maintaining water pressure to the rest of the system. This approach works well when all valves are accurately identified and working properly. A valve exercising program identifies the valves and keeps them working correctly in case they are needed.



Checking Valves

Water Age

The issues related to water age are directly attributable to water quantity and quality needs. These vital needs are always in conflict because quantity objectives dictate excessive storage issues while quality strives to minimize storage time while maintaining appropriate disinfectant residuals. Public water systems must strike a balance to minimize water age, effectively limit the formation of disinfection by products (DBPs) such as HAA5s and TTHMs, and keep disinfectant residuals within regulatory limits.

A Distribution System Optimization Plan (DSOP) offers a mix of options for public water systems to meet quantity and quality standards by optimizing treatment and storage capabilities. OAC Rule 8745-81-78 details the DSOP requirements and options. A copy of this rule is available at www.epa.ohio.gov/portals/28/documents/rules/Final/3745-81-78_effective_1-1-10.pdf.

For more on sanitary surveys for small water systems, read *Preparing for a Sanitary Survey for Small Public Water Systems* at www.epa.ohio.gov/portals/28/documents/pws/PrepSurvey.pdf or contact your local Ohio EPA district office representative.

LEARN FROM EACH OTHER

Anticipate, Adapt and Act

Public water systems (PWS) contingency planning can and does work. Earlier this year, a PWS received notification from their water supplier that the water source would be taken offline because of contamination issues. The PWS quickly had to switch to another water source at a nearby reservoir.

Switching to another source could have resulted in many issues, including high turbidity and aesthetic problems. Fortunately, the PWS was able to thwart not only consumer concerns of taste and odor problems, but also maintain turbidity and disinfection standards.

The PWS notified the Ohio EPA of the situation and maintained contact throughout the water source switch. The system flushed several times, they adjusted their lime and coagulant treatment, as well as pH levels.

While PWSs cannot anticipate every potential man-made or natural scenario and how each might affect their system, planning ahead increases your ability to handle situations that may arise.

If you would like assistance with contingency planning, please consult with your district office inspector or contact the Operations Unit at (614) 644-2752.

Have a hard-learned lesson to share? Submit it to Susan Baughman at susan.baughman@epa.ohio.gov.

RULE-MAKING ACTIVITIES

Below is a brief summary of recent and upcoming rule changes. For more details, including notice of opportunities to comment on draft rules, sign up for our electronic mailing list, or visit us at www.epa.ohio.gov/ddagw.

Proposed

- Miscellaneous rules filed as ‘No Change’: rules in OAC Chapters 3745-81, 3745-95 and 3745-34.

Interested Party Review

- PWS Definition and water source designation: clarify definition of a PWS and who is under Ohio EPA’s jurisdiction; allow Ohio EPA to designate the majority of water sources by rule (propose winter 2012).

In the Works

- Surface Water Treatment Rules: minor revisions, including updating references.
- Misc. Amendments: reference backflow prevention manual in rule, revise self-certification provisions, revise investigation of water use practices.
- Laboratory Certification: update rule-by-references, revise interim authorization requirements.



Answer Place

Have questions?
Need help?
Click here to visit
the Answer Place.

DEAR ANSWER PLACE:

I received my annual monitoring schedule from Ohio EPA. It looks different this year and I don’t understand why I have to collect 2 nitrate samples for my small public water system?

- Confused

DEAR CONFUSED:

The annual monitoring schedule is determined by the population size, water source and type of water treatment your system provides. It is possible that your monitoring schedule is incorrect. In order to verify the accuracy and have questions answered, feel free to contact your local district office inspector.

- Answer Place

HAVE A QUESTION?
ohioepa.custhelp.com

OHIO EPA'S SPIGOT NEWS

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24-HOUR EMERGENCY HOTLINE

For emergencies occurring after
5 p.m. or on a weekend or
holiday, please call Ohio EPA's
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(800) 282-9378

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www.epa.ohio.gov/ddagw

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PREPARE FOR DISASTERS

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DDAGW discovered most public water systems were prepared for such emergencies, including having a back-up generator for loss of power.

Some systems contacted their local Emergency Management Agency (EMA) office; others used their mutual-aid assistance plan; and some were prepared for depressurizations. However, while some public water systems were prepared, others were not. Now is the time to evaluate problems your water system experienced and prepare for the next emergency.

- **Get to know your local EMA** — Contact them to see what services they offer. The EMA office may be able to provide assistance to your system such as helping obtain a generator or bottled water.
- **Obtain a back-up generator** — A back-up generator can keep your system operational and reduce consumer concerns; prevent the need for boil advisories; protect your system from depressurizing; and decrease the need to collect additional water quality samples. Consider both treatment and distribution in your generator provisions. Make sure you know how to operate a generator prior to an emergency. If you do not obtain a generator, consider making provisions at your system to switch over to a generator.
- **Update your contingency plan** — Do you have a plan for power failures? Have you practiced it? Make sure you are prepared to address issues such as depressurizations and reduced staffing.
- **Become part of OhWARN** — The Ohio Water/Wastewater Agency Response Network is a tool for obtaining resources during an emergency (www.ohwarn.org).

At this time, Ohio does not directly require back-up power for treatment plants, pumping stations, and other components necessary to provide safe and reliable water to the public in times of power loss. Ohio EPA has surveyed other states and, out of the 34 that responded, 35% require some method of back-up power. DDAGW is currently considering ways to provide incentives to systems for adding switch over provisions and obtaining generators, and are reviewing our rules for provisions that may require systems to provide back-up power in the event of power loss.

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