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Watch for These Common Reporting Errors on Monthly Operating Reports

Some public water systems, depending on the type of treatment, are required to conduct operational analyses and submit monthly operating reports (MORs). The following common mistakes prevent timely submission of complete and accurate MORs.

Water Plant/Distribution System MOR (5002 Form)

The MOR 5002 form must be completed by all community water systems and those noncommunity systems that chlorinate or provide other treatment that requires operational analyses (for example, adjusts pH).

Chlorine readings are to be taken at two different locations. Chlorine readings taken from the treatment plant should be reported in the *Plant Tap/Entry Point* section of the form. Chlorine readings taken in the distribution system should be reported in the *Distribution* section of the form. Also, be careful to ensure *free* or *combined* chlorine residuals are reported in the appropriate columns.

Another common mistake is made in the section of the MOR 5002 form titled *Chlorine QOR Data*, which is located directly above the *Distribution* section on the form. Systems should use only *total* chlorine levels measured when total coliform bacteria samples are collected to complete the *Chlorine QOR Data* section. Some systems may be summing the daily distribution system chlorine levels and using those values to report an average in the *Chlorine QOR Data* section, which is incorrect.

Surface Water Treatment Plant MOR (5109 Form)

The MOR 5109 form must be completed by all public water systems treating surface water sources. Mistakes often occur when trying to find the correct, required contact time (CT) value for the day. Required CT values for systems using chlorine are found in OAC rule 3745-81-72, Tables

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2012 SPRING EXAM DEADLINES AND DATES	Exam	Location	Exam Date	Application deadline
In 2012, Class A Water and Wastewater Exams will be offered more often and in each Ohio EPA district office!	Class A water and wastewater	Ohio EPA District Offices	May 30	March 1
			July 25	April 27
			Sept. 25	June 27
For more information or to register to take the Class A exam, contact the Operator Certification hotline at 1-866-411-OPCT (6728) or visit	Water I, II and II	Ohio Expo Center, Columbus	May 10	Feb. 9
			Nov. 8	Aug. 10
<i>www.epa.ohio.gov/ddagw/opcert.aspx.</i>	Wastewater I, II and III	Ohio Expo Center, Columbus	May 9	Feb. 8
			Nov. 7	Aug. 9

SO YOU WANT TO BE A CLASS IV OPERATOR?

Obtaining a Class IV certification is often misunderstood and considered a mystical journey. In reality, with a little hard work and dedication any Class III operator who meets the eligibility requirements can become a Class IV operator.

Eligibility

To be eligible to take the Class IV examination, operators must document three years of experience in the field for which they are seeking a Class IV certificate. Two of those years must consist of management experience at a Class III or IV facility. Management experience is obtained while supervising, directing or controlling the affairs associated with a public water system or treatment works. Such experience includes, but is not limited to, being directly responsible for plant operations, supervising operating staff and being responsible for personnel issues. Experience gained in the position of shift supervisor at a Class III or IV facility is considered management experience.

When applying for the Class IV examination, an operator should pay particular attention to providing detailed information and documentation of duties relevant to the definition of management experience.

Examination

The Class IV examination is designed to demonstrate

an operator's ability to describe and discuss the operation of the facility where the operator obtained experience. The questions for the examination are contained in the exam guidance which can be found under the heading *Class IV Information* on the operator certification website www.epa.ohio.gov/ddagw/opcert.aspx.

The key to passing the examination is providing detailed information for each question. The information should be provided with the assumption the person reviewing the examination has no knowledge of the plant or the processes used in treatment.

Copies of the evaluation forms used by the Operator Certification Advisory Council to score the examination are posted on the operator certification website. Ohio EPA highly recommends operators taking the examination have other people read their examination and use the checklist to point out confusing or vague areas. It is especially helpful to have people with no knowledge of water treatment review the examination and ask questions.

Ohio EPA provides free, quarterly workshops to assist current and prospective applicants with the information necessary to be successful on the Class IV examination.

If you have questions related to the Class IV examination, feel free to contact the operator certification unit at (614) 644-2752.

SAMPLE COLLECTION SERVICES

Ohio EPA has posted a list of companies that provide drinking water sample collection services at www.epa.ohio.gov/portals/28/documents/pws/DWsample.pdf. Contracting for collection of your samples can help keep you in compliance and simplify the operation of your water system, so you can focus on the rest of your business. Please contact Susan.Baughman@epa.ohio.gov if you have questions or would like to be added to the list.

COMMON DEFICIENCIES AT SMALL PUBLIC WATER SYSTEMS

Ohio EPA conducts sanitary surveys once every three years at community public water systems (PWSs) and once every five years at noncommunity PWSs. The purpose of a sanitary survey is to evaluate and document the capability of a water system's source, treatment, storage, distribution, operation and maintenance, and management; these all may adversely impact the ability of the system to reliably produce and distribute water that meets drinking water standards.

This article covers the sanitary survey or other investigatory site visits conducted at the water source and concentrates on the most common deficiencies found during the visit of small PWSs. Even though the article focuses on small systems, similar deficiencies can be found at larger public water systems. Future articles will cover treatment, distribution and other topics.

There are common deficiencies surveyors hope not to find when conducting a sanitary survey, or when following up on complaint investigations or responding to total coliform bacteria positive sample results. Figures 1 and 2 show poor water sources and figure 3 shows an acceptable water source.

Figure 1 shows a well equipped with a sanitary seal which is missing bolts. It also shows that the casing is flush or in line with the finished grade, and the electrical wire and raw water line are exposed and unprotected. Although the well is vented, it does not have a screened vent. The well is also not protected from surface water runoff, other contaminants or critters.

Figure 1. Unacceptable Water Source



Continued on next page

COMMON SOURCE WATER DEFICIENCIES

Continued from page 3

Figure 2 shows a public water system well located in a parking lot. The well cap is missing bolts and therefore is not properly secured to the top of the well casing. There is also a depression surrounding the casing. If rainwater pools near the well, it can seep down along the casing and negatively impact the ground water and its quality.

Located to the left of the well are bags of sodium chloride, which increases the potential for rust at the base of the well. Also, there is not enough protection around the well to prevent damage from motorized vehicles to the casing or electrical conduit.

Although you can't see this in the picture, the well has a 1988 approved "National Sanitation Foundation" (NSF) well cap but it is not a "Water System Council" PAS-97 (or Pitless Adapter Standard, 1997) approved cap as required. The PAS-97 cap provides a properly screened vent which is not present in this cap.

Figure 2. Unacceptable Water Source



Figure 3. Acceptable Water Source



Figure 3 shows an acceptable water source. The well casing extends approximately 24 inches above finished grade, which is beyond what is required (at least 12 inches above finished grade). The finished grade is sloped to drain surface water away from the well. The approved well cap fits flush over the top of the casing and electrical conduit; it provides a tight seal against the casing and prevents the entrance of water, dirt, animals, insects or other foreign matter. The well is also properly protected with concrete filled posts to protect it from motorized vehicles and mowers.

For more information on sanitary surveys for small water systems, read the small booklet *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.

LEARN FROM EACH OTHER WHAT HAPPENED TO THOSE SAMPLE RESULTS?

The ButITookIt public water system (PWS) collected its required total coliform samples, submitted them to the certified lab of its choice, and was happy to be done for the quarter. When the PWS received a notice of violation (NOV) for failure to monitor, they were angry and confused.

So, what happened? It turned out the lab had analyzed the samples but did not report the results to Ohio EPA.

The PWS received the violation because ultimately, it is responsible for ensuring the required testing is completed and submitted to the Agency.

What can you do to help prevent this from happening?

- Provide complete and accurate information to the lab when submitting samples.
- Call the lab if you don't get a copy of the sample results. If you do not have results from

them, Ohio EPA may have never received them.

- Sign up to get e-mails containing lists of water systems with missing samples that are about to get a monitoring violation (called the "Apparent Violations List"). Information about subscribing to this e-mail is available at www.epa.ohio.gov/ddagw/listserv.aspx, under 'Drinking Water Monitoring and Compliance' notifications. If your PWS is on this list and you did collect samples, please contact your lab to make sure the results are reported to Ohio EPA.

If your lab is not meeting your needs, you have the option of choosing a different certified lab.

Have a hard-learned lesson you would like to share with others? Submit it to Holly Kaloz at holly.kaloz@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 on the web at www.epa.ohio.gov/ddagw.

In the works

- Miscellaneous rules: operational requirements; backflow prevention; plan approval; updates to references of more recent versions of ANSI/NSF Standards 60 and 61 (will be re-filed Winter 2011)
- Operator Certification: minor revisions (proposed November 2011)
- PWS Definition: clarify definition of a PWS and who is under Ohio EPA's jurisdiction (draft Winter 2011)



Answer Place

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

DEAR ANSWER PLACE:

My system is only open for six months out of the year. Do you have information on what maintenance to perform when I shut it down?

- Seasonal Sammy

DEAR SAMMY:

It sounds like your PWS is what Ohio EPA calls a "Seasonal System." Your type of system has some unique risks that can be addressed by following Ohio EPA's *Seasonal PWS Start-up and Shut-down Checklist*, which is available at on the web at www.epa.ohio.gov/portals/28/documents/pws/seasonal_checklist.pdf

- Answer Place

HAVE A QUESTION FOR ANSWER PLACE?

Ask a question at <http://ohioepa.custhelp.com>.

OHIO EPA'S SPIGOT NEWS

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MOR REPORTING ERRORS

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B1 through B6. To find the correct required CT value each day, the following parameters (recorded at peak hour flow) must be known: maximum pH, minimum chlorine residual, minimum temperature, and required log inactivation that your plant is required to provide. Once you have this information, review tables B1 through B6.

Find the table with the temperature at *or just below* the **lowest temperature** (recorded at peak hour flow) for the day. (Note: even though this table may not contain the exact required number, it is more conservative and is acceptable to use for reporting. Interpolation should be used if the CT values for the exact temperature recorded are desired.)

Once you are looking at the correct table according to temperature, find the correct table according to pH and look for the **highest pH value** (recorded at peak hour flow) for the day. If there is a table available for the specific pH that was recorded, use that table; otherwise, choose the table that is the *next higher* value than what was recorded. For example, if the pH recorded for the day was 7.5, use the 7.5 table. If the pH recorded was 7.6, use the pH of 8 table. (Note: even though this may not be the exact required number, it is more conservative and is acceptable to use for reporting. Interpolation should be used if the CT values for the exact pH recorded are desired.)

Table B-5
Required CT For Inactivation
Of Giardia Cysts By Free Chlorine
At 20° Celsius

pH=9.0 or pH>9.0

Chlorine Concentration (mg/L)	Log Inactivations					
	0.5	1.0	1.5	2.0	2.5	3.0
≤0.4	18	35	53	70	88	105
0.6	18	36	55	73	91	109
0.8	19	38	57	75	94	113
1	20	39	59	78	98	117
1.2	20	40	60	80	100	120
1.4	21	41	62	82	103	123
1.6	21	42	63	84	105	126
1.8	22	43	65	86	108	129
2	22	44	66	88	110	132
2.2	23	45	68	90	113	135
2.4	23	46	69	92	115	138
2.6	24	47	71	94	118	141
2.8	24	48	72	95	119	143
3	24	49	73	97	122	146

Once you are looking at the correct table for pH, look at the **lowest disinfectant concentration** (under the clearwell information section on the MOR) at peak hour flow recorded for the day. If that specific value is available on the table, use it; otherwise, use the *next highest* disinfectant concentration and read off the corresponding required CT for achieving 0.5 log (for conventional and alternative plants) or 1.0 log (for slow sand plants.) Record this value on the MOR in the column entitled "**Required CT.**"

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