

2007 Conference to address IDSE requirements and chlorine residuals

The first compliance date of IDSE requirements is coming up soon for most water suppliers in Kansas. Also, chlorine residual loss is continuing to present challenges to water supply systems. The KRWA Conference and the following will provide information that will benefit systems in addressing these subjects.

IDSE Requirements

IDSE stands for Initial Distribution System Evaluation. IDSE is a requirement in the new Stage 2 Disinfectants and Disinfection Byproducts Rule (herein referred to as the Stage 2 Rule) that was promulgated on January 4, 2006, by the Environmental Protection Agency. The Stage 2 rule applies to all

community water systems and that includes all city and rural water district water supply systems.

The Stage 2 Rule will be administered by EPA and not by KDHE. Also, the KDHE laboratory will not analyze any water samples for the initial

standard monitoring under the Stage 2 rule; thus, systems will have to contract with a private laboratory for sample analyses.

Under the Stage 2 Rule, water systems must comply with certain requirements by certain dates depending on the population of the combined distribution system. The EPA definition is "The combined distribution system is the

interconnected distribution system consisting of the distribution systems of wholesale systems and of the consecutive systems that receive finished water." This is different than in the past for other

plan or system specific study plan or 40/30 Certification or small system waiver. The next compliance date for that system is the completion of the standard monitoring for DBPs according to

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requirements that are based on the population served by the particular water system.

The EPA table on the next page lists the population grouping of the

the standard monitoring plan. The third date is the beginning of compliance monitoring.

For example, if a RWD serving 600 persons purchases water from a

city with a population of 30,000, then the first compliance date for the RWD would be October 1, 2007. However, if a city had its own wells and served its 600 residents only, then its first compliance date in the table is April 1, 2008. Another example is if a city with its own wells that served its 8,000 residents

combined distribution system and compliance dates. The first compliance date in the table for a particular size of system is the submittal of a standard monitoring

and also sold water to two RWDs that have a combined population of 2,700, then the first compliance date for city and both RWDs is October 1, 2007.



*Pat McCool
Consultant*

Additional Info Sources

For general information on Stage 2 check the Web site:

<http://www.epa.gov/safewater/disinfection>

This Web site includes:

- Final Stage 2 Rule and Preamble
- Guidances, Manuals, and Fact Sheets
- Searchable Q&A
- Webcast Training Schedule and Registration
- Or EPA in the Kansas City office:

e-mail R7mdbp@epa.gov

For future training and on-site assistance call KRWA at:

785/336-3760 or e-mail krwa@krwa.net

The most pressing issue time wise for the many systems in the smaller three population categories is the first compliance date. These systems must decide whether to submit a standard monitoring plan or system specific study or a 40/30 Certification or a small system waiver. The systems that do not qualify for either the 40/30 Certification or the small system waiver will have a much bigger task in submitting a standard monitoring plan or expensive system specific study.

Please see the sidebar on the previous page. It explains where to obtain detailed information about the Stage 2 Rule, the standard monitoring plan, and forms for the standard monitoring plan, and example letters for 40/30 Certification or small system waiver.

Monica Wurtz of the Environmental Protection Agency will be giving a presentation at the KRWA Conference Wednesday

morning March 28. It will cover the Stage 2 Rule and submittals for the first compliance date. Please don't miss this presentation if you want good information on how to meet the requirements of the first compliance date.

Chlorine Residuals

The KDHE required minimum chlorine residual in distribution systems is either 0.2 mg/l free chlorine or 1.0 m/l combined chlorine, whichever applies. Systems that have combined chlorine residual are finding it

difficult to maintain these required residuals especially in the warm water temperature months. Also, many systems do not know that they too cannot maintain required minimum residuals because they do not monitor extensively to know such.

Some systems that purchase water address the residual problem by rechlorination. But rechlorination is difficult when the water has combined chlorine and rechlorination can make the residual loss greater if done incorrectly.

IDSE Schedule			
If you serve this population	You must submit your standard monitoring plan or system specific study plan 11 or 40/30 certification 12 to the EPA by or receive very small system waiver from EPA	You must complete your standard monitoring or system specific by	You must submit your ISDE report to the EPA by 13
Systems that are not part of a combined distribution system and systems that serve the largest population in the combined distribution system			
(i) >= 100,000	October 1, 2006	September 30, 2008	January 1, 2009
(ii) 50,000 - 99,000	April 1, 2007	March 31, 2009	July 1, 2009
(iii) 10,000 - 49,000	October 1, 2007	September 30, 2009	January 1, 2010
(iv) <10,000 (CWS only)	April 1, 2008	March 31, 2010	July 1, 2010
Other systems that are part of a combined distribution system			
(v) Wholesale system or consecutive system	at the same time as the system with the earliest compliance date in the combined distribution system	at the same time as the system with the earliest compliance date in the combined distribution system	at the same time as the system with the earliest compliance date in the combined distribution system
<p>11 If, within 12 months after the date identified in this column, the EPA does not approve your plan or notify you that it has not yet completed its review, you may consider the plan that you submitted as approved. You must implement that plan and you must complete standard monitoring or a system specific study no later than the date identified in the third column.</p> <p>12 You must submit your 40/30 certification under 141.603 by the date indicated.</p> <p>13 If, within 3 months after the date identified in this column (nine months after the date identified in this column if you must comply on the schedule in paragraph c (1) (iii) of this section), the EPA does not approve your IDSE report or notify you that it has not yet completed its review, you may consider the report that you submitted as approved and you must implement the recommendation subpart V monitoring as required.</p>			

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Also, rechlorination can cause increase in disinfection byproducts if done incorrectly.

One major factor that causes loss of combined residual in storage tanks and distribution lines is nitrification. Nitrification is the process where nitrifying bacteria use ammonia as a food/energy source. The chlorine then reacts with this bacterial growth and the residuals drop. Nitrification occurs during the warmer water temperature months and usually starts in storage tanks.

Whether your system produces its own water or purchases water from another system, the upcoming KRWA Conference has three presentations on the issue of monitoring and maintaining chlorine residuals. The presentations will give helpful information in determining the extent of the problem and possible ways of increasing residuals in systems.

First, on Wednesday morning Greg Dekat, Bryan Ford, and Allan Soelter will give a presentation on

water storage tanks and chlorine residuals. This presentation will cover the loss of chlorine that occurs in storage tanks and solutions to address this loss. The problem of chlorine residual

presentation on bacteriological sampling and chlorine residual testing. This presentation includes testing procedures, sampling plans, and interpretation of the results. This presentation is great for new

One major factor that causes loss of combined residual in storage tanks and distribution lines is nitrification. Nitrification is the process where nitrifying bacteria use ammonia as a food/energy source.

loss in storage tanks occurs in many systems and can then cause loss in the distribution lines.

Secondly, on Thursday morning I will give a presentation on disinfection. This presentation will include the chlorination process, ammonia addition, and problems in maintaining chlorine residuals in treatment plants, rechlorination stations, and distribution systems.

Thirdly, on Thursday morning Greg Taylor of KDHE will give a

presentation on bacteriological sampling and chlorine residual testing. This presentation includes testing procedures, sampling plans, and interpretation of the results. This presentation is great for new operators, knowledgeable operators, elected officials, and administrative staff.

KRWA assistance

So bring your questions on these issues to the Conference and get the answers that will get you started in addressing these challenges. Also, KRWA staff is available to assist or give guidance on how to address these matters; just contact the KRWA office and let us know.

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