

Required IDSE: compliance getting even more complicated

This article is an overview of only the IDSE of the Stage 2 Rule and does not address many of the details that may or may not apply to a particular system. Resources for additional information are given in a nearby sidebar. This article discusses some of the basic requirements and is meant to give the reader beginning information to better understand these IDSE requirements.

IDSE is not a misspelled word in this article's title. It is a (new, to many readers) federal abbreviation used in EPA's new Stage 2 Disinfectants and Disinfection Byproducts Rule (herein referred to as the Stage 2 Rule) that was promulgated on January 4, 2006. IDSE stands for Initial Distribution System Evaluation. IDSE is a new

requirement that applies to all community water systems in Kansas.

IDSE is the first part of the complicated Stage 2 Rule that requires written "standard monitoring plans" for DBPs or "system specific studies", analyses of distribution

system water samples for DBPs, and submittal of these to the regulatory authority by specific dates. This will result in water systems spending much more time and monies on regulatory compliance and probably less on other matters. It will probably lead to more frustration for many.

The Stage 2 Rule and the Long Term 2 Enhanced Surface Water Treatment Rule (LT 2) that were

promulgated on January 5, 2006, are stated by EPA to strengthen protection against microbial contaminants, especially *Cryptosporidium*, and at the same time, reduce potential health risks of disinfection byproducts (DBPs). With that said the Stage 2 rule then does not require the **compliance monitoring** until the years of 2012 – 2014. But between now and then there are a lot of new regulatory requirements under these new rules.

Both these new rules were promulgated as a second phase of rules required by Congress in the 1996 Safe Drinking Water Act Amendments. The first phase of these rules was promulgated in December 1998. The Long Term 2 Rule applies only to those systems that are supplied by a surface water

analyzed for the standard monitoring under the Stage 2 Rule and the source monitoring under the LT 2 Rule. This is a result of KDHE declining to implement these regulations at this time. KDHE does intend to adopt and implement the Stage 2 Rule within the next two years.

So, for the near future water systems in Kansas will have to deal directly with two different agencies on different drinking water requirements, different sampling, and different reporting. Not only are the requirements becoming more complicated, but the method of dealing with the regulatory agency, excuse me, I mean agencies, will be more complicated for the next few years.

The Stage 2 Rule is very complicated with many



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source and to those systems supplied by a ground water source under the direct influence of surface water. The Long Term 2 Rule does not apply to those systems that use groundwater not under the direct influence of surface water and to those consecutive systems that purchase their water from another system.

One particular, major difficulty for water systems in Kansas is that KDHE will not be the regulatory agency initially administrating the Stage 2 Rule. Also, KDHE will not be the laboratory with which systems can have water samples

requirements and new difficulties with which water system managers and operators may not be familiar. These include first-time monitoring for disinfection byproducts (DBPs) for consecutive systems, preparation and submittal of written plans for monitoring or written system specific studies, evaluating and sampling distribution systems for high DBPs dealing with a private, non-KDHE laboratory, and dealing directly with a second regulatory agency, EPA, or its contractor.

Under the Stage 2 Rule and the IDSE requirements, public water systems must comply with

certain requirements by certain dates depending on the population of the **combined distribution system**. The EPA's 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 as other requirements that have been based on the population served by the particular water system.

The table at right taken from EPA literature lists the population grouping of the combined distribution system and compliance dates. For instance, if a small RWD serving 200 persons purchases water from Topeka, then the first compliance date in the table is October 1, 2006. However, if a city serves only its 200 residents, then its first compliance date in the table is April 1, 2008. Also, if a city serving 8,000 of its residents also sold water to two RWDs that have a combined population of 2,700, then

the first compliance date for city and both RWDs in the table is October 1, 2007.

There will be cases where there are many interconnected water systems purchasing and selling

emergency connection only to a city that has a population of 75,000, then the RWD's first compliance date would be April 1, 2008. However, if that RWD purchases 30% of its water from

IDSE Schedule			
If you serve this population	You must submit your standard monitoring plan or system specific study plan ^{1\1} or 40/30 certification ^{1\2} 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 ^{1\3}
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 (CWWS 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
^{1\1} 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. ^{1\2} You must submit your 40/30 certification under 141.603 by the date indicated. ^{1\3} 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.			

water to others in different amounts, and may be connected only for emergency or special, low volume purchases. In these special cases, EPA will have to determine in what category in the table that the systems individually or collectively are. For instance, if a RWD serving 2,200 persons has an

the city, then the first compliance for both would be April 1, 2007.

As can be seen in the table, the compliance dates for the larger combined distribution systems occur sooner. For example, the earliest compliance date of October 1, 2006, includes both large cities and those smaller cities and RWDs

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Required IDSE: compliance . . .

that purchase from those large cities.

The first compliance date in the table for a particular system is the submittal of the IDSE standard monitoring 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 the IDSE standard monitoring plan. The third date is the beginning of compliance monitoring.

The article does not address the system specific study because KRWA suggests this option may only be attractive to very large systems due to the high costs of such studies. These studies are usually performed by consultants and involve much computer



When surface waters or groundwaters that contain natural organic compounds are chlorinated, unintended disinfection byproducts (DBPs) are formed in very low concentrations of less than 100-200 ug/l (micrograms per liter or parts per billion). The regulated byproducts addressed in the Stage 2 Rule are the four trihalomethanes (THMs) and five haloacetic acids (HAAs) compounds. The regulated maximum contaminant levels (MCLs) for the THMs and HAAs are 80 ug/l and 60 ug/l, respectively. A chemist in the photo above tests for trihalomethanes from a tap water sample.

programming and interpretation. KRWA believes that the costs for the standard monitoring plan will be much less for most systems in Kansas.

This IDSE standard monitoring plan must be submitted by the compliance date to EPA's contractor who reviews the information for EPA. This plan is prepared by the water system or a consultant.

The standard monitoring plan must include a schematic of the distribution system including entry points, water sources, and storage locations. This plan must include notes indicating locations and dates of all projected standard monitoring under this Stage 2 Rule.

The standard monitoring plan must also include locations and dates of all monitoring for DBPs that is required and has been

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previously completed under the Stage 1 Rule. Consecutive systems that purchase all their water and do not rechlorinate probably may have not sampled for DBPs under the Stage 1 Rule, as they were not required to do.

Standard monitoring is sampling of the distribution system to determine locations where the highest concentrations of THMs and HAAs are. These samples must be taken at locations other than the existing monitoring locations used for sampling DBPs under the Stage 1 Rule.

The standard monitoring plan must specify the population served and whether the system has a surface water source, groundwater-under-the-direct-influence-of-surface-water source, groundwater source, or combination of these water sources. The system must retain a copy of the standard monitoring plan and any changes for at least 10 years.

The standard monitoring plan “must include justification of the standard monitoring locations selection and a summary of data you relied on to justify standard monitoring location selection.” That quote is from the Stage 2 Rule and the significant words are “justification” and “data”. KRWA thinks that prior DBP analyses, treatment processes, distribution system storage and line locations, and chlorine residual records are data that can be used in the “justification” (federal word), or “best guess” (our words) as we see it now.

Systems that have previous DBP monitoring that show levels consistently below 40 ppb of THMs and 30 ppb of HAAs may be eligible for a “40/30 Certification.” This certification may allow the

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

system out of the requirements for the standard monitoring plan or the system specific study plan. This option should be considered for well water systems that have low DBPs and have previously monitored. Likewise, if a small system serves less than 500 persons and has conducted previous DBP sampling, it may be eligible for a waiver of the standard monitoring plan.

the standard monitoring plan.

Both the 40/30 Certification and the small system waiver advantages should be considered by the water systems if they are eligible. However, the future compliance monitoring and compliance-monitoring plan under the Stage 2 Rule are still required of the system even though the system has a 40/30 Certification or small system waiver.

This article has only described the standard monitoring plan that is a major requirement with the first compliance date that applies to many water systems in Kansas. There is much more required under the Stage 2 Rule and in the LT 2 Rule. See the chart above for additional information sources that address these rules and their requirements.

KDHE monitored many well water systems and consecutive systems in the last two years in order to, hopefully, make them eligible for the 40/30 Certification or the small systems waiver. The KDHE decision to monitor these systems in 2004 and 2005 may prove to be a significant cost savings to many systems that now can choose not to conduct the standard monitoring plan.

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If this all sounds complicated, it is. Unfortunately, it is more complicated than it sounds. This is only the very beginning of what is required under these two major, recently passed Rules regulating Kansas water systems.