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INITIAL DISTRIBUTION SYSTEM EVALUATION GUIDANCE MANUAL

FOR THE FINAL STAGE 2 DISINFECTANTS AND DISINFECTION BYPRODUCTS RULE

APPENDIX D

<http://www.epa.gov/safewater/disinfection/stage2/compliance.html>

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Appendix D

Consecutive and Wholesale System Issues

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D.1 Introduction

If your system is part of a combined distribution system, your compliance schedule for the IDSE is based on the population served by the largest system in your combined distribution system. It is important that all systems in a combined distribution system conduct an IDSE at the same time so that all systems in that combined distribution system know their relative DBP concentrations and can make the necessary treatment and/or operational changes before Stage 2 compliance begins.

The following questions and answers are provided to help you determine if you are in a combined distribution system and what this means with respect to your IDSE schedule.

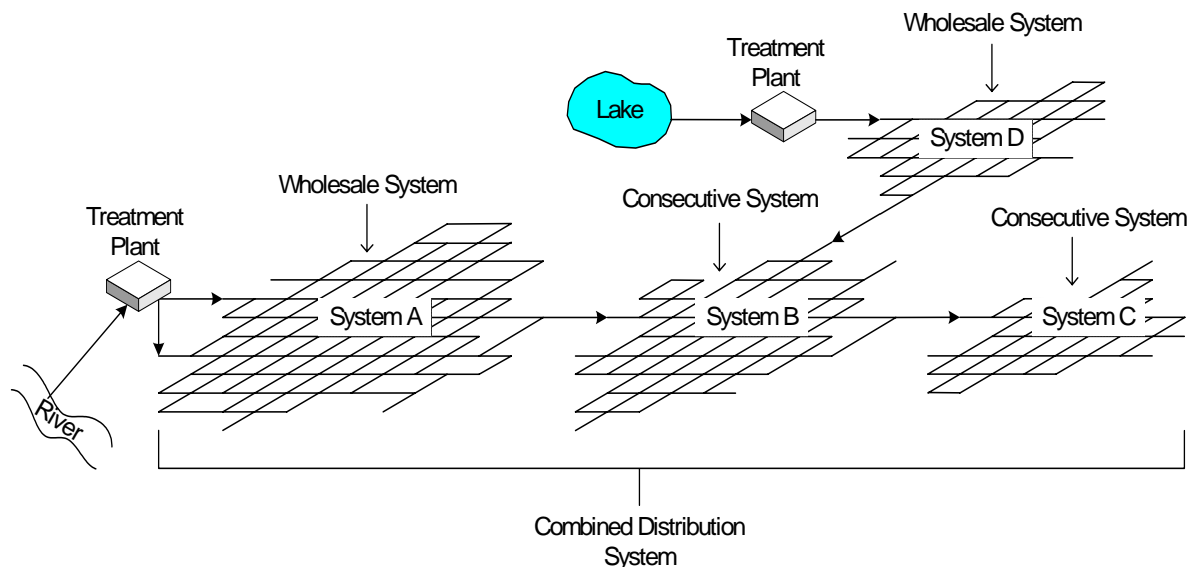
What is a combined distribution system?

The Stage 2 DBPR rule defines combined distribution system, wholesale system, and consecutive system as follows:

- *A 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.
- *A wholesale system* is a public water system that treats source water as necessary to produce finished water and then delivers some or all of that finished water to another public water system. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.
- *A consecutive system* is a public water system that receives some or all of its finished water from one or more wholesale systems. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.

In Example D.1, where system C buys water from system B who buys water from systems A and D, all four systems are considered to be in the same combined distribution system. Even if systems A and D never exchange water, they are still considered to be part of the same combined system.

Example D.1 Example of a Combined Distribution System



If you receive water from a wholesale system only on an emergency basis or receive only a small percentage and small volume of water from a wholesale system, your state may have excluded you from the combined distribution system. If you deliver water to a consecutive system only on an emergency basis or deliver only a small percentage and small volume of water to a consecutive system, your state may also have excluded you from the combined distribution system. You should receive a letter from EPA or your state that tells you the schedule that was determined for your system by your state. See Section 2.2 for more information.

How do I know if I am a subpart H or a ground water system?

If you treat or deliver surface water or ground water under the direct influence of surface water (GWUDI) as any part of your supply, you are considered a subpart H system. If you treat or deliver only ground water, you are considered a ground water system. If you treat or deliver a combination of the two, you are considered a subpart H system. If you do not treat your own water and you do not know whether you receive surface water, GWUDI, or ground water, you should consult with your state to determine what your IDSE and Stage 2 compliance monitoring requirements are.

If I'm in a combined distribution system, which of my IDSE requirements are based on the population of the largest system in my combined distribution system?

If you are part of a combined distribution system, only your compliance schedule is based on the population of the largest system in your combined distribution system. Other requirements are based on your retail population and source water type. The largest system may be a wholesale system or a consecutive system.

If I'm in a combined distribution system, which of my IDSE requirements are based on my individual system's population?

If you are in a combined distribution system, the number of samples that you must collect and the frequency at which you must monitor for both the IDSE and Stage 2 DBPR monitoring are based on your individual system's population.

If I'm in a combined distribution system, when do I submit my 40/30 Certification?

If you are part of combined distribution system and want to submit a 40/30 certification, submit your request based on the schedule of the largest system in your combined distribution system using the information in the table below.

Population Served by the Largest System in the Combined Distribution System	40/30 Certification Deadline
Systems serving \geq 100,000 people	October 1, 2006
Systems serving 50,000-99,999 people	April 1, 2007
Systems serving 10,000-49,999 people	October 1, 2007
Systems serving < 10,000 people	April 1, 2008

How does my standard monitoring or system specific study schedule change if I'm in a combined distribution system?

If you are part of a combined distribution system and plan to conduct standard monitoring or an SSS, your schedule for conducting activities associated with these IDSE options is based on the population of the largest system within your combined distribution system. You can use the table below to help identify the appropriate schedule for your system for submitting your monitoring plan, performing IDSE monitoring, and submitting your report.

Population Served by the Largest System in the Combined Distribution System	You Must Submit Your Standard Monitoring or SSS Plan to the State By ¹	You Should Complete Any Monitoring By	You Must Complete Your IDSE Report By ²
≥ 100,000 people	October 1, 2006	September 30, 2008	January 1, 2009
50,000-99,999 people	April 1, 2007	March 31, 2009	July 1, 2009
10,000-49,999 people	October 1, 2007	September 30, 2009	January 1, 2010
< 10,000 people	April 1, 2008	March 31, 2010	July 1, 2010

¹ If the state does not approve or modify your plan within 12 months after the date identified in this column, you may consider the plan that you submitted as approved and must implement that plan so that you complete standard monitoring no later than the date identified in the third column.

² If the state does not approve or modify your report within three months after the date identified in this column (six months after the date identified in this column if you must comply on the schedule of systems serving 10,000 to 49,999), you may consider the report that you submitted as approved and must implement the recommended Stage 2 compliance monitoring.

What else should I do if I'm in a combined distribution system?

It is very important that you start communicating with the other systems within your combined distribution system to share data and information. You should copy other systems within your combined distribution system on correspondence you submit to the EPA or your state as part of the IDSE process. If you are unsure of what other systems are within your combined distribution system and how to contact these systems, your state drinking water program may be able to provide contact information.

Can my combined distribution system be considered one system for the purposes of the IDSE?

No, each individual system must conduct its own IDSE. The schedule for your IDSE must be based on the population of the largest system in the combined distribution system. The rest of your IDSE requirements are based on your individual system's population. You cannot conduct one IDSE for the entire combined distribution system.

Can my combined distribution system be considered one system for the purposes of Stage 2 compliance monitoring?

If your state chooses to use its authority to treat your combined distribution system as one system for Stage 2 DBPR compliance monitoring, the minimum number of Stage 2 DBPR monitoring sites and monitoring frequency for the combined distribution system will be based on the total population and nature of the interconnection of the combined distribution system. Each consecutive or wholesale system must have at least one Stage 2 compliance monitoring location. Remember this will only happen if the state allows this option. Consequently, you should develop your IDSE report for the total number of required Stage 2 compliance locations for your system unless you hear otherwise from your state.

D.2 Communication Between Wholesale and Consecutive Systems

As discussed in Section D.1, the Stage 2 DBPR requires consecutive and wholesale systems to conduct an IDSE at the same time as the largest system in the combined distribution system. Note that in some cases, this may not be the wholesale provider. This section discusses recommended approaches for communication between consecutive and wholesale systems when completing an IDSE.

Consecutive systems are encouraged to contact their wholesale provider as soon as is reasonably possible after promulgation of the Stage 2 DBPR to determine what plans, if any, the wholesale system has already made regarding the IDSE. Keep in mind that, while it is recommended, it is not the responsibility of the wholesale system to contact the consecutive system regarding the IDSE. Consecutive systems are encouraged to reach out to the wholesale systems to make the initial contact regarding the IDSE. When a consecutive system receives water from another consecutive system, communication should involve all three parties, i.e., both consecutive systems and the wholesale system. At a minimum, you should discuss the following questions during this initial contact:

1. When are our (both the wholesale and consecutive system) IDSE plans due?
2. When are our IDSE reports due?
3. What type of IDSE does the wholesale system intend to complete (Standard Monitoring Program or System Specific Study)? Note: Systems are not required to choose the same IDSE option
4. At what stage in IDSE planning is the wholesale system?
5. During what month(s) does the wholesale system intend to conduct DBP monitoring?
6. Does the wholesale system have water quality data (e.g., temperature, DBP data, source water quality data, operational data, which wholesale sources serve which consecutive systems and when) that might help the consecutive system prepare their IDSE plan?
7. Would the wholesale system be willing to exchange copies of draft IDSE plans with the consecutive system?

Consecutive systems can consider but are not required to select the same peak historical month as the wholesale system. The peak historical month for a consecutive system that has another source(s) may actually be in a different month than the month selected by the wholesale system. If a consecutive system that has no other sources and that has limited data from which to make a decision, they could reasonably assume that its peak historical month is the same as the month selected by the wholesale system.

Consecutive systems that may have limited data can take advantage of water quality data that may be more readily available to wholesale systems, such as water temperature, source water quality, disinfectant residual, TTHM, and HAA5 data. This will provide them some of the data needed to work through the recommended steps presented in Chapter 7 for selecting standard monitoring sites, thus improving the IDSE plan they are able to develop and leading to better selection of Stage 2 compliance monitoring sites.

Consecutive systems should attempt to coordinate their IDSE monitoring with that of the wholesale system. Coordinating IDSE monitoring schedules will allow the two (or more) systems to better utilize data from the IDSE monitoring period to formulate a Stage 2 DBPR compliance strategy, if necessary. Additionally, there may be some benefit in trying to better understand how DBP formation occurs throughout the combined distribution system, especially if DBP levels are relatively high.

Where it is not possible to coordinate IDSE monitoring, consecutive systems are still encouraged to work with their wholesale system to coordinate their proposed Stage 2 DBPR compliance monitoring schedules that must be included in the final IDSE report. Draft and final copies of the IDSE plans for the consecutive system and the wholesale system should be shared between the systems. Where a consecutive system receives water through another consecutive system, all three (or more) systems should share their IDSE plans. This information can be used to verify that water quality and water age throughout the combined distribution system is represented through the monitoring plans. For example, if you have multiple entry points from the same wholesaler, they may have a storage tank prior to one entry point to your system but no storage tank prior to another entry point. In this case, you would want to select the site after the tank that is more likely to have high water age as a monitoring location for your standard monitoring plan.

As IDSE monitoring progresses, consecutive and wholesale systems are encouraged to share monitoring results. When such an approach is utilized, results can be compared for consistency and to help identify potential compliance issues related to the Stage 2 DBPR.

A copy of each system's IDSE report should be shared with the other system(s). It is not necessary for multiple consecutive systems within a combined distribution system to share their reports, unless one of those systems provides water to another consecutive system, but it is recommended that the wholesaler provide a copy of its report to each consecutive system, and each consecutive system provide a copy of its report to the wholesale system. This will help consecutive systems to determine which compliance strategies, if necessary, are feasible for them. It will also help the wholesale system to understand DBP formation in the finished water.

Upon completion of the IDSE, it is recommended that consecutive and wholesale systems work together to discuss their Stage 2 DBPR compliance monitoring schedules for the IDSE report. As with IDSE monitoring, there may be some benefit in coordinating Stage 2 monitoring. Consecutive systems may want to contract with their wholesale system, or contract together with the same laboratory to coordinate Stage 2 compliance monitoring. If consecutive and wholesale systems have the same peak historical month, they may wish to take their samples at approximately the same time during the peak month. Observing DBP formation throughout the combined distribution system using Stage 2 compliance monitoring data can help to identify possible solutions to compliance-related issues.

More information on communication between consecutive and wholesale systems can be found in EPA's *Stage 2 DBPR Consecutive Systems Guidance Manual*.

D.3 Understanding DBP Formation in Combined Distribution Systems

The IDSE will help consecutive and wholesale systems to better understand DBP formation in their systems. Since the Stage 1 DBPR did not explicitly address consecutive systems, the IDSE may provide the first opportunity for some consecutive systems to acquire comprehensive information about DBP levels in their distribution system. As discussed above, consecutive and wholesale systems should consider coordinating their IDSE sampling schedules to facilitate a better understanding of DBP formation across the combined distribution system. Wholesale and consecutive systems should also consider exchanging any existing monitoring data, particularly any DBP data collected by the wholesale system in the consecutive system. This data may be helpful to both systems in understanding DBP formation in the combined distribution system and may help the consecutive system in choosing monitoring locations for the IDSE.

DBP formation typically increases with water age. Wholesale and consecutive systems can make a relative estimate of water age by looking at the extent of their wholesale and consecutive distribution systems, and the distribution of customers. DBP sampling at the entry point as part of the IDSE can help consecutive systems understand whether DBP formation is occurring primarily in the wholesale system or the consecutive system. This can help systems to focus control strategies on the wholesale system, the consecutive system, or a combination of the two. Information on reducing DBP levels in consecutive systems and discussing compliance strategies with wholesale systems can be found in EPA's *Stage 2 DBPR Consecutive Systems Guidance Manual*.

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