

Texas Commission on Environmental Quality
Drinking Water Advisory Work Group
January 10, 2006, Building F, Room 2210, 9:00 am - 12:00 noon
Summary

Buck Henderson: Welcome/Introduction

Marlo Wanielista Berg: TCEQ Staff Updates:

Technical Review & Oversight - LT2

*Early implementation must take place before rule becomes effective

*Systems with Surface Water or Ground Water Under the Influence of Surface Water are effected by this rule.

The schedule for the early implementation activities is based on population. Not just the population of the PWS, but the population of the largest PWS in the combined distribution system. Systems will begin sampling on the dates below based on their Combined Distribution System size.

* > 100,000 population Oct. 1, 2006

*50,000 ~ 99,999 population April 2007

*10,000~ 49,999 population April 2008

*< 10,000 population October 2008

Alicia Diehl: Drinking Water Protection- Rad/DB2 Ars Implementation

Sample Cost Estimate Letter

Letter will be provided to each PWS in early January. Explains general sample requirement, cost estimate, monitoring frequency, estimated costs for year 2006. Will send another letter to primary contact of each PWS.

The rule was promulgated (published in Federal Register) January 4, 2006.

The rule is based on “combined distribution systems” (>100,000 population). Interconnected distribution systems will be scheduled based on the largest system in the group. In the state of Texas there are 38 systems serving >100,000 population, but as many as 450 will be included in Group 1 because of combined distribution systems.

IMPORTANT DATES

[See attached tables](#)

WAYS TO COMPLY WITH THE INITIAL DISTRIBUTION SYSTEM EVALUATION

- (1) <500 population, and sampled under DBP1
- (2) 40/30 waiver: Every DBP1 trihalomethane sample less than 40 micrograms per liter AND every haloacetic acid sample is less than 30 micrograms per liter.
- (3) Do initial distribution system evaluation (IDSE) sampling
- (4) System specific study (SSS) including hydraulic study

FIRST MAILOUT TO PUBLIC WATER SYSTEMS - GROUP 1 - EARLY 2006

- (1) <500: Gets letter stating <500 population and sample site is at maximum age. System signs and returns letter to TCEQ.
- (2) 40/30: Gets letter with sample results, sign and return to TCEQ
- (3) IDSE: (See document attached) TCEQ will provide instruction:
PWS returns map of distribution system with sample sites
PWS lists addresses of IDSE sample sites
- (4) SSS: Get engineer to help

Greg Rogers: Drinking Water Protection

- *Ground water rule may be implemented next year.
- *In preparation of this, ~700 letters sent to systems reminding them that they are required to collect raw water samples. A follow up letter is expected later this Spring, identifying PWS that are not submitting their required raw samples.
- *Work is underway to review our processes for tracking and analyzing ground water under influence (GUI) of surface water. This work is also done in anticipation of the Ground Water Rule.
- *Source Water Assessments are to be completed every 3 years and the Hydrogeologic Sensitivity Analysis (HSA) will be a significant part of the Ground Water Rule.
- *Source water protection projects are underway in Lake Tawakoni. The DWP team will be working on tracking “substantial” source water protection participation and reporting to EPA. Increased use and development of partners, such as river authorities and councils of governments will be a major focus this year. Also, data exchanges with some of the larger more active systems will be emphasized.

Doug Holcomb: Utilities & Districts Rule Update

TCEQ's water fee committee is looking into agency water related fees. Stakeholder meetings tentatively scheduled for April 2006

Districts Update

TCEQ staff is working with stakeholders to revise the Bond Application Request Form (BARF) Regulatory Guidance. Staff is also working on Chapter 293 rules revisions for legislative implementation and staff recommendations for BANs and road powers. The proposed rules go to the Commission for publication on March 29, 2006.

Utility Update

The fast track CCN Rules in Chapter 291 were approved on December 14, 2005 and are now effective. TCEQ will be doing stakeholders meeting to develop Regulatory Guidance to help implement the new CCN rules. There are also two other utility related rules packages to implement new legislation and one package includes criteria on unreasonable rate case expenses.

Utilities and Districts Section has 3 vacancies, team leader, receivership coordinator and customer assistance positions.

Dorothy Young: Drinking Water State Revolving Fund (DWSRF)

Rank application for loan based on protests by addressing

- *chemical exceedences
(**ex:** radionuclides, nitrates)
- *Sanitary Survey
- *Disadvantage components

Send suggestions on how to improve program to Dorothy Young

Disadvantaged Systems may get:

- *lower interest rate
- *30 year, rather than 20 year life or loan

Program is to improve existing systems, not build new systems

Buck Henderson: Homeland Security-Texas Hurricane Rita response:

HIGHLIGHTS

- Agencies involved in the assistance for Katrina victims
- Steps taken to prepare for Hurricane Rita
- Hurricane impacts including oil and gas production, loss of state drinking water lab (Louisiana), impacted PWS and loss of power (TX & LA).
- Limited problems encountered, e.g. evacuating large population, debris, communication and business
- Future plans and review (critique experiences)
- Lesson learned / rule-making TXWARN initiation

Mike Howe: TXWARN INTRODUCTION TO TxWARN (the Texas Water/Wastewater Agency Response Network)

- Introduction to TxWARN website
- Navigating the website
- Value of Mutual Aid Agreement (MAA)
- The next stage for TxWARN
- Committee structure
- Advantages of TxWARN

Q & A SESSION

- Q. Stakeholder 1: If utilities signed the MAA, does this preclude them from signing Other MAAs?
- A. Mike Howe: No, it doesn't.
- Q. Stakeholder 2: Is the MAA exclusive to hurricanes?
- A. Mike Howe: No. It covers all types of natural disasters, including tornadoes, etc.

Stakeholder Updates, Issues & Upcoming Training Events

Robert Stewart: Will be leaving TWUA and going to Washington, DC as National Rural Community Outreach Executive Director. Russell Hamilton will be taking his place.
TWUA's Annual short school will be March 6 - 8.

Charles Maddox: January 17th & 19th webcasts on LT2 and PBP2. Contact Debra Cerda for more information (239-6045).

Mark Zappa: IWSCOT meeting is February 10, 2006 at the Embassy Suites Hotel in Austin..

TRWA: Annual law conference is being held at end of January.
Annual convention will be at the end of March in Dallas.

AWWA: Conference call with EPA and TCEQ with 16 sites around the state. Topic will be the LT2 and DBP2 on February 17th.
February 19th - Basic Water System Management for Public Water Systems in Texas, week of April 4th - 7th.

AWBD: The February 3 - 4 meeting will be in San Antonio.

Buck Henderson: Other Issues of Immediate Concern

Self-paced security training is available for operators. Overview of the vulnerability assessments from the operator perspective.

Water Watchers - - Neighborhood watch inspired program to include drinking water infrastructure as part of citizen and police programs.

Upcoming training, conferences, meetings & public forums:

TCEQ: Trade Fair - - May 9 - 11

TCEQ Public Drinking Water Conference: Tentatively set for August 15 - 17.

Next Meeting: [April 11 Building F, Room 2210, 9:00 am - 12:00 noon](#)

Frequently Asked Questions About the Stage 2 Disinfection Byproducts Rule (DBP2)

What are disinfection byproducts (DBPs)?

Chlorine disinfection of drinking water is one of the major public health advances in the 20th century. One hundred years ago, typhoid and cholera epidemics were common through American cities; disinfection was a major factor in reducing these epidemics. Unfortunately, disinfectants can react with naturally-occurring materials in the water to form disinfection byproducts (DBPs), which may pose health risks. The specific DBP regulations that are discussed here are for two DBP families: trihalomethanes (THMs) and haloacetic acids (HAAs).

How will the DBP2 rule help protect public health?

This final rule strengthens public health protection for customers by tightening compliance monitoring requirements for two groups of DBPs, trihalomethanes (TTHM) and haloacetic acids (HAA5). The rule targets systems with the greatest risk and builds incrementally on existing rules. This regulation will reduce DBP exposure and related potential health risks and provide more equitable public health protection. The DBP2 rule is being promulgated simultaneously with the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) to address concerns about risk tradeoffs between pathogens and DBPs.

What is the history of DBP regulation?

In **November 1979**, EPA set an interim maximum contaminant level (MCL) for total THMs of 0.10 milligrams per liter (mg/L) as an annual average for community public water systems (PWSs) serving 10,000 or more people. The Stage 1 Disinfectants and Disinfection Byproducts Rule (DBP1) was promulgated in **December 1998**, as the first phase in a rulemaking strategy required by Congress as part of the 1996 Amendments to the Safe Drinking Water Act. DBP1 lowered the MCL for THMs to 0.080 mg/L, and added an MCL for HAAs of 0.060 mg/L, both based on an annual average. The Stage 2 Disinfectants and Disinfection Byproducts Rule (DBP2) of **December 2005** builds upon the DBP1 to address higher risk public water systems for protection measures beyond those required for existing regulations.

What are the requirements of DBP2?

The DBP2 rule requires system to determine the highest risk sample sites for DBPs in their distribution system, then changes the compliance calculation to look at each sample site individually. The two main parts of the rule are the Initial Distribution System Evaluation (IDSE) for finding highest risk sites, and locational running annual average (LRAA) for calculating compliance at every sample site.

What are the benefits of the rule?

Quantified benefits estimates for DBP2 are based on reductions in fatal and non-fatal bladder cancer cases. EPA has projected that the rule will prevent approximately 280 bladder cancer cases per year in the United States. Of these cases, 26% are estimated to be fatal. Based on bladder cancer alone, the rule is estimated to provide annual monetized benefit of approximately \$763 million to \$1.5 billion savings.

What are the costs of the rule?

The Initial Distribution System Evaluation (IDSE) is a one-year period of sampling that will increase sample costs for systems that don't receive a waiver. The approximate cost of a paired DBP sample (TTHM and HAA5) is \$287. The approximate amount of additional sampling during the one-year IDSE period is three times current compliance sampling for DBP1. A PWS can determine the exact increased cost by figuring out how many IDSE samples they are required to take, using the rule language and tools provided by TCEQ's Public Drinking Water Section. Systems that exceed the MCLs may have to incur capital cost to fix the problem.

What systems must comply with DBP2?

All community public water systems (PWSs) must comply with the rule. Very small community PWSs (population less than 500) may be eligible for waivers to the Initial Distribution System Evaluation. Nontransient noncommunity (NTNC) public water systems have to comply with DBP2, but NTNC systems that serve fewer than 10,000 people do not have to do the Initial Distribution System Evaluation.

Will the MCLs be lowered?

The maximum contaminant levels (MCLs) for total THMs and HAAs will remain the same. The MCL for the sum of the

concentration of the four regulated THMs (TTHM) will stay 80 micrograms per liter (ug/L); the MCL for the sum of the five regulated HAAs (HAA5) will stay 60 ug/L. The LRAA will be used starting in about 2012.

What is an LRAA?

After the DBP2 sites are set through the IDSE process, compliance determination will change to use a locational running annual average (LRAA) instead of a running annual average (RAA) for all sites in the system. An LRAA is the yearly average of all the results at each specific sampling site in the distribution system.

What is the IDSE?

The Initial Distribution System Evaluation (IDSE) is a special sampling activity to find highest areas for DBP formation. The IDSE process will result in selection of new DBP2 compliance sample sites to replace the DBP1 compliance sample sites. There are four ways to comply with the IDSE:

- (1) Do standard IDSE sampling;
- (2) Serve fewer than 500 people (small system waiver);
- (3) Have less than 40 ug/L TTHM and less than 30 ug/L HAA5 in all DBP1 compliance samples (40/30 waiver); or
- (4) Do a System Specific Study as described in the rule.

TCEQ will send you more information on these options.

What are the specific requirements of the IDSE?

The first requirement is to figure out which of the four ways to comply is appropriate for a water system. TCEQ will send Texas PWSs a letter saying which method we believe is appropriate, and give you a chance to confirm or correct our data. If you serve more than 500 people, and have had sample results over 40 ug/L for TTHM or 30 ug/L for HAA5, you will either have to do IDSE sampling or a System Specific Study. If you have to do the IDSE sampling, you will need to complete the IDSE plan that TCEQ sends you. If you want to do the System Specific Study, you should review the DBP2 rule language with your engineer and submit a plan to TCEQ. The DBP2 rule has very specific requirements for System Specific Studies, including specifications for the required hydraulic modeling, and requirements for sampling.

How will TCEQ help with the IDSE?

TCEQ will send you letters summarizing your system's data, and the IDSE compliance method that data indicates. The letters will guide you through the process. For any reports you need to generate, TCEQ will send you a report form to sign, certifying that our data is correct. If you find that TCEQ's data is incorrect, you will have the opportunity to submit changes. Most systems should not have to hire a consultant to complete the IDSE (except for those doing System Specific Studies) though some systems may find it helpful. TCEQ will collect IDSE samples using our normal contract samplers.

What letters will TCEQ send PWSs?

- (1) Confirmation of Interconnects
TCEQ will send you a letter reporting who your PWS provides water to or receives water from. These letters will be sent to PWS Responsible Parties in early 2007. If our information is correct, you will sign the report and return it, keeping a copy for your Monitoring Plan. If our information is incorrect, you will strike through canceled interconnects, or write in new ones, sign the report to certify that the data is good, and send that new data back for us to correct in our database.
- (2) IDSE Plan and Confirmation of DBP1 Sites (IDSE Sampling / Small System Waiver / 40/30 Waiver)
When your compliance time gets close, TCEQ will send a letter that says which method each system will use to comply with the IDSE: IDSE Sampling, Small System Waiver, or 40/30 Waiver. This letter will also list the sample sites that you are using now for compliance. If we send you a letter providing a waiver, you will need to sign that waiver certifying that the data is correct, send the original to TCEQ, and keep a copy for your Monitoring Plan. The waiver may require you to select additional sample sites for DBP2, in which case you will be given instructions, and asked to list those. If you must do IDSE Sampling, you will need to fill out the IDSE Sample Site Selection form (following the instructions that TCEQ provides), return it to TCEQ, and keep a copy for your Monitoring Plan.
- (3) IDSE Report
When the IDSE is over, TCEQ will send a letter summarizing the results. This will include the IDSE Report Form that lists the proposed DBP2 compliance sites and current DBP1 compliance sites. You will need to check to make sure you agree with the sites, sign and return the report, or propose different sites with justification.

After these sites have been certified by the PWS and TCEQ, the system can not change sample locations without TCEQ approval.

Will IDSE sampling results count for compliance?

No. Until the LRAA calculation becomes effective in about 2012, only samples collected at DBP1 routine compliance sample sites will be used to determine compliance. So, you can see how important it will be to verify those sites with TCEQ when you get our letter.

How many sample sites will my system need for IDSE?

The number of IDSE sample sites will be based on population and type of water. Larger systems will be required to set more sites than small systems; systems that treat or purchase surface water (or ground water under the direct influence of surface water) will set more sites than systems that just use ground water. Tables of sample sites will be available on our website.

When will my water system have to comply?

Compliance deadlines are based on the sizes of the public water systems. Large systems, and the systems connected with them, have to comply first. Wholesale and consecutive systems of any size must comply with the requirements of the DBP2 on the same schedule as required for the largest system in the “combined distribution system.” Smaller systems’ compliance dates will be phased in over the next few years. IDSE activities will happen in 2006 through 2008. The new LRAA calculations will start being used in 2012.

What is a “combined distribution system?”

The combined distribution system is defined as the interconnected distribution system consisting of all systems that provide water and the systems that receive finished water. The population of the largest system in the group sets the schedule for the whole group. The population cut-offs for scheduling are 100,000, 50,000, and 10,000. The four scheduling groups for DBP2 are:

DBP2 Group 1: Combined distribution systems that include a system that serves 100,000 or more people

DBP2 Group 2: Combined distribution systems whose largest PWS member serves 50,000 to 99,999 people

DBP2 Group 3: Combined distribution systems whose largest PWS member serves 10,000 to 49,999 people

DBP2 Group 4: Combined distribution systems in which all PWS members serve 9,999 or fewer people

Note that this is based on population, not connections. Also, if a PWS has no interconnects, that PWS just follows the population cutoffs as given, and does not have to worry about the combined distribution system concept.

What is a “combined distribution system?”

The combined distribution system is defined as the interconnected distribution system consisting of all public water systems (PWSs) that provide water and the systems that receive finished water. The population of the largest system in the group sets the schedule for the whole group.

Does the sum of the populations in the combined distribution system set the schedule?

No. The sum of the populations of the interconnected distribution system has no impact on schedule.

Does the combined distribution system determine the number of sample sites?

No. The number of sample sites for DBP2 is determined only by the population of the individual system.

How are schedules determined for combined distribution systems?

The four scheduling groups for DBP2 are:

DBP2 Group 1: Combined distribution systems that include a system that serves **100,000 or more** people

DBP2 Group 2: Combined distribution systems whose largest PWS member serves **50,000 to 99,999** people

DBP2 Group 3: Combined distribution systems whose largest PWS member serves **10,000 to 49,999** people

DBP2 Group 4: Combined distribution systems in which all PWS members serve **9,999 or fewer** people

Note that this is based on population, not connections. If a PWS has no interconnects, that PWS just follows the population cutoffs as given, and does not have to worry about the combined distribution system concept.

What schedule does a system with no interconnections follow?

A PWS with no interconnects follows the population cutoffs as given. For example, a system that serves 110,000 people and has no interconnects is in Group 1; a system that serves 900 people and has no interconnects is in Group 4.

What is a provider?

Usually a provider sells water to a receiver, based on a contractual agreement between the two PWSs. Sometimes the provider is a true wholesaler that does not operate a distribution system of its own. More often the provider is a community PWS that sells water to other PWSs. Sometimes, a PWS provides water for no cost, which is why TCEQ refers to “providers” instead of “sellers.”

What is a receiver?

A receiver is a PWS that gets potable water from a different PWS and distributes it. Most receivers in Texas are known as true purchased water systems because they don’t have any wells or surface water treatment plants of their own. However there are also many PWSs that buy some water, but also operate their own sources. Sometimes, a PWS does not have a contract for their potable water source (for example, a school that operates wells), so TCEQ calls these “receivers” instead of “purchasers.”

EPA guidance refers to consecutive systems and wholesalers, what does that mean?

If you read the EPA guidance material, they use slightly different terms. TCEQ wanted to use terms that Texas PWSs were familiar with. Generally, a consecutive system is the same as a “receiver,” and a wholesaler is just one type of “provider.”

What are the types of interconnect?

Interconnections are classified as Operational (**O**), Demand (**D**), or Emergency (**E**). Operational interconnects are generally used frequently, for example daily. Demand wells are routinely used for higher demand situations, such as annual summer usage peaks. Emergency interconnects are not normally used; usually it would require some maintenance – such as insertion of a spool piece – for an emergency interconnect to be used.

Do emergency interconnects count for the combined distribution system?

Your system may have a contractual agreement with a neighboring system to provide water under emergency conditions. A true emergency interconnect is not used annually; it is only used every few years at most. If you certify that an interconnection is for emergency use, TCEQ will not consider it an interconnect for the scheduling purposes of DBP2.

Do demand interconnects count for the combined distribution system?

Yes, demand interconnects usually count for the scheduling purposes of DBP2.

Will true wholesalers be required to comply with the DBP2?

Under DBP2, systems that just sell water but do not have any retail connections will be required to sample at the points where water is transferred to their purchasers or other receiving systems starting in 2012.

When will the Initial Distribution System Evaluation (IDSE) requirements apply to my system?

The first thing that will apply to your system is the IDSE. TCEQ will send letters to PWSs when their start time is near.

DBP2 Group 1: Fill out and return IDSE Sample Plan or Waiver by **October 1, 2006**

DBP2 Group 2: Fill out and return IDSE Sample Plan or Waiver by **April 1, 2007**

DBP2 Group 3: Fill out and return IDSE Sample Plan or Waiver by **October 1, 2007**

DBP2 Group 4: Fill out and return IDSE Sample Plan or Waiver by **April 1, 2008**

How will compliance be calculated under DBP2?

Compliance with the maximum contaminant levels for two groups of disinfection byproducts (TTHM and HAA5) will be calculated for each monitoring location in the distribution system. This approach, referred to as the locational running annual average (LRAA), differs from current requirements, which determine compliance by calculating the running annual average of samples from all monitoring locations across the system.

What is an “Operational Evaluation Level?”

The Stage 2 DBPR also requires each system to determine if they have exceeded an operational evaluation level, which is identified using their compliance monitoring results. The operational evaluation level provides an early warning of possible future MCL violations, which allows the system to take proactive steps to remain in compliance. A system that exceeds an operational evaluation level is required to review their operational practices and submit a report to their state that identifies actions that may be taken to mitigate future high DBP levels, particularly those that may jeopardize their

compliance with the DBP MCLs.

Why is compliance based on a running annual average?

The amount of trihalomethanes and haloacetic acids in drinking water can change from day to day, depending on the season, water temperature, amount of disinfectant added, the amount of plant material in the water, and a variety of other factors. Since the identified health effects result from a long period of contact, it is appropriate to base compliance on a long-term calculation rather than single samples.

Timing of Samples that ALL need to be less than 40/30 in order to get 40/30 Waiver

<p>System Schedule</p>	<p>Then your eligibility for 40/30 certification is based on eight consecutive calendar quarters of subpart L compliance monitoring results collected: ¹</p>
<p>Group 1: 100,000 population or more and combined distribution systems <i>(TCEQ will send waiver in time for you to return it by October 1, 2006)</i></p>	<p align="center">Quarter 1 2004 thru Quarter 4 2005 (beginning no earlier than January 2004)</p>
<p>Group 2: 50,000 to 100,000 population and combined distribution systems <i>(TCEQ will send waiver in time for you to return it by April 1, 2007)</i></p>	
<p>Group 3: 10,000 to 50,000 population and combined distribution systems <i>(TCEQ will send waiver in time for you to return it by October 1, 2007)</i></p>	<p align="center">Quarter 1 2005 thru Quarter 4 2006 (beginning no earlier than January 2004)</p>
<p>Group 4: Less than 10,000 population and combined distribution systems <i>(TCEQ will send waiver in time for you to return it by April 1, 2008)</i></p>	

¹ Unless you are on reduced monitoring under the Stage 1 Disinfections Byproduct Rule and were not required to monitor during the specified period. If you did not monitor during the specified period, you must base your eligibility on compliance samples taken during the 12 months preceding the specified period.

**Stage 2 Disinfection Byproducts Rule (DBP2)
Action Item Compliance Deadlines**

PUBLIC WATER SYSTEMS (Size of largest PWS in Combined Distribution System sets compliance schedule)	ACTIONS			
	Submit IDSE monitoring plan, small system waiver certification, 40/30 waiver certification, or system specific study plan *	Complete Initial Distribution System Evaluation (IDSE) sampling (if required to do IDSE sampling)	Submit IDSE Report	Begin LRAA compliance monitoring, using DBP2 sites **
<i>Federal Action Date (late reports will be documented as reporting violations):</i>				
Group 1: Community (C) and Nontransient noncommunity (NTNC) PWSs serving at least 100,000 people	October 1, 2006	September 30, 2008	January 1, 2009	April 1, 2012 **
Group 2: C and NTNC PWSs serving 50,000 - 99,999 people	April 1, 2007	March 31, 2009	July 1, 2009	October 1, 2012 **
Group 3: C and NTNC PWSs serving 10,000 - 49,999 people	October 1, 2007	September 30, 2009	January 1, 2010	October 1, 2013 **
Group 4: C PWSs serving fewer than 10,000 people	April 1, 2008	March 31, 2010	July 1, 2010	October 1, 2013 **
Not required to do IDSE: NTNC PWSs serving fewer than 10,000 people	NA	NA	NA	October 1, 2013 **

* The TCEQ will provide work-book type forms to systems by mail. Systems should complete the forms, sign them, make a copy to keep with their monitoring plan, and mail the original to TCEQ.

Number and Location Type of Distribution System Sample Sites for Stage 2 LRAA Monitoring

Source Water Type	Population Size Category	Monitoring Frequency ¹	Distribution System Monitoring Location			
			Total per monitoring period ²	Highest TTHM Locations	Highest HAA5 Locations	Existing DBP1 Locations
Treated OR Purchased Surface Water (or ground water under the direct influence of surface water: GUI) ⁴	less than 500 (without waiver) ³	annual	2	1	1	-
	500 to 3,300	quarterly	2	1	1	-
	3,301 to 9,999	quarterly	2	1	1	-
	10,000 to 49,999	quarterly	4	2	1	1
	50,000 to 249,999	quarterly	8	3	3	2
	250,000 to 999,999	quarterly	12	5	4	3
	1,000,000 to 4,999,999	quarterly	16	6	6	4
	over 5,000,000	quarterly	20	8	7	5
Ground Water (GW ONLY: no surface water or GUI)	less than 500 (without waiver) ³	annual	2	1	1	-
	500 to 9,999	annual	2	1	1	-
	10,000 to 99,999	quarterly	4	2	1	1
	100,000 to 499,999	quarterly	6	3	2	1
	over 500,000	quarterly	8	3	3	2

1 All systems must monitor during month of highest DBP concentrations.

2 Systems on quarterly monitoring must take dual sample sets every 90 days at each monitoring location, except for subpart H *[surface water and GUI]* systems serving 500-3,300. Systems on annual monitoring and subpart H *[surface water and GUI]* systems serving 500-3,300 are required to take individual TTHM and HAA5 samples (instead of a dual sample set) at the locations with the highest TTHM and HAA5 concentrations, respectively. Only one location with a dual sample set per monitoring period is needed if highest TTHM and HAA5 concentrations occur at the same location, and month, if monitored annually).

3 Most systems with 500 folks or less will get a waiver to IDSE monitoring. Only if the system never has gotten sampled before will this apply.

4 If there is any surface water (or GUI) in the system, it will be considered a surface water system for the purposes of this rule.

Number and Type of IDSE Sample Sites, and Frequency of IDSE Monitoring

Source Water Type	Retail Population (Based on most recent TCEQ investigation)	Monitoring Periods and Frequency of Sampling	Distribution System Monitoring Locations ¹				
			Total Number of Sites	Near Entry Points	Average Residence Time	High TTHM Locations	High HAA5 Locations
SURFACE³	< 500 (systems purchasing water) ²	1 (during summer)	2	1	-	1	-
	< 500 (systems treating water) ²		2	-	-	1	1
	500 to 3,300 consecutive systems	4 (quarterly)	2	1	-	1	-
	500 to 3,300 nonconsecutive systems		2	-	-	1	1
	3,301 to 9,999		4	-	1	2	1
	10,000 to 49,999	6 (every two months)	8	1	2	3	2
	50,000 to 249,999		16	3	4	5	4
	250,000 to 999,999		24	4	6	8	6
	1,000,000 to 4,999,999		32	6	8	10	8
	5,000,000 or more		40	8	10	12	10
GROUND⁴	< 500 (systems purchasing water) ²	1 (during summer)	2	1	-	1	-
	< 500 (systems treating water) ²		2	-	-	1	1
	500 to 9,999	4 (quarterly)	2	-	-	1	1
	10,000 to 99,999		6	1	1	2	2
	100,000 to 499,999		8	1	1	3	3
	5,000,000 or more		12	2	2	4	4

1 A dual sample set (both a THM and an HAA sample) must be taken at each monitoring location at the same time during each monitoring period.

2 Most systems with 500 folks or less will get a waiver to IDSE monitoring. Only if the system never has gotten sampled before will this apply.

3 If there is any surface water (or ground water under the direct influence of surface water – GUI) in the system, it will be considered a surface water system for the purposes of this rule.

4 Ground water only, no surface water or GUI

Stage 2 Disinfection Byproducts Rule (DBP2) Sampling Periods for IDSE

PUBLIC WATER SYSTEMS (largest PWS in Combined Distribution System)	Two-year IDSE sampling compliance period		IDSE sampling will be scheduled to start in *
	Begins	Ends	
Group 1: C and NTNC PWSs serving at least 100,000 people	October 1, 2006	September 30, 2008	2007
Group 2: C and NTNC PWSs serving 50,000 - 99,999 people	April 1, 2007	March 31, 2009	2007
Group 3: C and NTNC PWSs serving 10,000 - 49,999 people	October 1, 2007	September 30, 2009	2008
Group 4: C PWSs serving fewer than 10,000 people	April 1, 2008	March 31, 2010	2009

* TCEQ will arrange for collection of these samples through the Sample Collection Contract. PWSs must pay for analysis of the samples at either the Department of State Health Services (DSHS) lab or at Lower Colorado River Authority (LCRA) lab.