

3745-81-22 **Initial distribution system evaluations.**

This rule establishes the requirements to identify sampling points for determining compliance with maximum contaminant levels for total trihalomethanes (TTHM) and haloacetic acids (five) (HAA5) in accordance with paragraph (D) of rule 3745-81-24 of the Administrative Code. An initial distribution system evaluation (IDSE) is used to determine locations with representative high TTHM and HAA5 concentrations throughout a distribution system. IDSEs are used in conjunction with, but separate from, paragraph (C) of rule 3745-81-24 of the Administrative Code compliance monitoring, to identify and select compliance sampling points for use to meet the monitoring requirements of paragraph (D) of rule 3754-81-24 of the Administrative Code. For the purposes of this rule, “director” means the primacy agency at the time of the requirement.

(A) The requirements of this rule apply to all community water systems that use a primary or residual disinfectant other than ultraviolet light or deliver water that has been treated with a primary or residual disinfectant other than ultraviolet light, and nontransient noncommunity water systems which serve at least ten thousand people and use a primary or residual disinfectant other than ultraviolet light or deliver water that has been treated with a primary or residual disinfectant other than ultraviolet light.

(1) Public water systems specified in paragraph (A) of this rule must comply with the requirements of this rule on the schedule indicated in the following table:

<u>If serving this size population</u>	<u>Date to submit the standard monitoring plan or system specific study plan¹ or 40/30 certification² by</u>	<u>Date to complete the standard monitoring or system specific study by</u>	<u>Date to submit the IDSE report to the director by³</u>
<u>(i) \geq 100,000...</u>	<u>October 1, 2006⁴</u>	<u>September 30, 2008⁴</u>	<u>January 1, 2009⁴</u>
<u>(ii) 50,000-99,999...</u>	<u>April 1, 2007⁴</u>	<u>March 31, 2009⁴</u>	<u>July 1, 2009⁴</u>
<u>(iii) 10,000-49,999...</u>	<u>October 1, 2007⁴</u>	<u>September 30, 2009⁴</u>	<u>January 1, 2010⁴</u>
<u>(iv) <10,000 (CWS Only)...</u>	<u>April 1, 2008⁴</u>	<u>March 31, 2010</u>	<u>July 1, 2010</u>
<u>Other systems that are part of a combined distribution system</u>			
<u>(v) Wholesale system or consecutive system</u>	<u>-at the same time as the system with the earliest compliance date in the combined distribution system</u>	<u>-at the same time as the system with the earliest compliance date in the combined distribution system.</u>	<u>-at the same time as the system with the earliest compliance date in the combined distribution system.</u>

¹ If, within 12 months after the date identified in this column, the director does not approve the plan or notify the public water system that it has not yet completed its review; the public water

system may consider the submitted plan as approved. The public water system must implement that plan and must complete standard monitoring or a system specific study no later than the date identified in the third column.

² Public water systems must submit the 40/30 certification under paragraph (D) of this rule by the date indicated.

³ If, within three months after the date identified in this column (nine months after the date identified in this column if the public water system must comply on the schedule in paragraph (A)(1)(iii) of this rule), the director does not approve the IDSE report or notify the public water system that it has not yet completed its review, the public water system may consider the submitted report as approved and must implement the recommended monitoring as required by paragraph (C) of rule 3745-81-24 of the Administrative Code.

⁴ U.S. EPA oversaw the implementation of the standard monitoring plan, system specific study, or 40/30 certification for the public water systems in paragraphs (A)(1)(i), (A)(1)(ii), (A)(1)(iii) and (A)(1)(iv) of this rule.

- (2) For the purposes of paragraph (A)(1) of this rule, combined distribution systems do not include consecutive systems which 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. Combined distribution systems do not include wholesale systems which 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.
- (3) If a public water system is not eligible for either the 40/30 waiver or the very small system waiver under paragraphs (D) or (E) of this rule, then the public water system is required to conduct standard monitoring according to paragraph (B) of this rule or a system specific study according to paragraph (C) of this rule.
- (4) Public water systems must conduct standard monitoring that meets the requirements in paragraph (B) of this rule, or a system specific study that meets the requirements in paragraph (C) of this rule, or certify to the director that the public water system meets the 40/30 certification criteria under paragraph (D) of this rule, or qualify for a very small system waiver under paragraph (E) of this rule.
- (5) Only the analytical methods specified in rule 3745-81-27 of the Administrative Code, or otherwise approved by the United States environmental protection agency for monitoring under this rule, must be used to demonstrate compliance with the requirements of this rule.
- (6) IDSE results will not be used for the purpose of determining compliance with MCLs in rule 3745-81-12 of the Administrative Code.

(B) Standard monitoring:

- (1) A standard monitoring plan must comply with paragraphs (B)(1)(a) to (B)(1)(d) of

this rule. A public water system must prepare and submit a standard monitoring plan to the director according to the schedule in paragraph (A)(1) of this rule.

- (a) A standard monitoring plan must include a distribution system schematic (including distribution system entry points and their sources and storage facilities), with notes indicating locations and dates of all projected standard monitoring, and all projected compliance monitoring required in paragraph (D) of rule 3745-81-24 of the Administrative Code.
- (b) Standard monitoring plans must include justification of standard monitoring location selection and a summary of data relied upon to justify standard monitoring location selection.
- (c) Standard monitoring plans must specify the population served and system type (surface water or ground water).
- (d) Public water systems must retain a complete copy of the standard monitoring plan submitted under paragraph (B) of this rule, including any modification by the director of the standard monitoring plan, for as long as required by paragraph (F) of rule 3745-81-33 of the Administrative Code.

(2) Standard monitoring.

- (a) Public water systems must monitor as indicated in the following table. Public water systems must collect dual sample sets at each monitoring location. One sample in the dual sample set must be analyzed for TTHM. The other sample in the dual sample set must be analyzed for HAA5. Public water systems must conduct one monitoring period during the peak historical month for TTHM levels or HAA5 levels or the month of warmest water temperature. Public water systems must review available compliance, study, or operational data to determine the peak historical month for TTHM or HAA5 levels or warmest water temperature.

<u>Source water type</u>	<u>Population size category</u>	<u>Monitoring periods and frequency of sampling</u>	<u>Distribution system monitoring locations¹</u>				
			<u>Total per monitoring period</u>	<u>Near entry points</u>	<u>Average residence time</u>	<u>High TTHM locations</u>	<u>High HAA5 locations</u>
<u>Surface Water</u>	<u><500 consecutive systems</u>	<u>one (during peak historical month)²</u>	<u>2</u>	<u>1</u>	<u>=</u>	<u>1</u>	<u>=</u>
	<u><500 non-</u>	<u>one (during peak</u>	<u>2</u>	<u>=</u>	<u>=</u>	<u>1</u>	<u>1</u>

	<u>consecutive systems</u>	<u>historical month</u> ²					
	<u>500-3,300 consecutive systems</u>	<u>Four (every 90 days)</u>	<u>2</u>	<u>1</u>	=	<u>1</u>	=
	<u>500-3,300 non-consecutive systems</u>	<u>Four (every 90 days)</u>	<u>2</u>	=	=	<u>1</u>	<u>1</u>
	<u>3,301-9,999</u>	<u>Four (every 90 days)</u>	<u>4</u>	=	<u>1</u>	<u>2</u>	<u>1</u>
	<u>10,000-49,999</u>	<u>Six (every 60 days)</u>	<u>8</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>2</u>
	<u>50,000-249,999</u>	<u>Six (every 60 days)</u>	<u>16</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>4</u>
	<u>250,000-999,999</u>	<u>Six (every 60 days)</u>	<u>24</u>	<u>4</u>	<u>6</u>	<u>8</u>	<u>6</u>
	<u>1,000,000-4,999,999</u>	<u>Six (every 60 days)</u>	<u>32</u>	<u>6</u>	<u>8</u>	<u>10</u>	<u>8</u>
	<u>≥5,000,000</u>	<u>Six (every 60 days)</u>	<u>40</u>	<u>8</u>	<u>10</u>	<u>12</u>	<u>10</u>
<u>Ground Water</u>	<u><500 consecutive systems</u>	<u>One (during peak historical month)</u> ²	<u>2</u>	<u>1</u>	=	<u>1</u>	=
	<u><500 non-consecutive systems</u>	<u>One (during peak historical month)</u> ²	<u>2</u>	=	=	<u>1</u>	<u>1</u>
	<u>500-9,999</u>	<u>four (every 90 days)</u>	<u>2</u>	=	=	<u>1</u>	<u>1</u>
	<u>10,000-99,999</u>	<u>four (every 90 days)</u>	<u>6</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>2</u>
	<u>100,000-499,999</u>	<u>four (every 90 days)</u>	<u>8</u>	<u>1</u>	<u>1</u>	<u>3</u>	<u>3</u>
	<u>≥500,000</u>	<u>four (every 90 days)</u>	<u>12</u>	<u>2</u>	<u>2</u>	<u>4</u>	<u>4</u>

		days)					
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¹ A dual sample set (i.e., a TTHM and an HAA5 sample) must be taken at each monitoring location during each monitoring period.

² The peak historical month is the month with the highest TTHM or HAA5 levels or the warmest water temperature.

(b) Public water systems must take samples at locations other than the existing monitoring locations in paragraph (C) of rule 3745-81-24 of the Administrative Code. Monitoring locations must be distributed throughout the distribution system.

(c) If the number of entry points to the distribution system is fewer than the specified number of entry point monitoring locations, excess entry point samples must be replaced equally at high TTHM and HAA5 locations. If there is an odd extra location number, public water systems must take a sample at a high TTHM location. If the number of entry points to the distribution system is more than the specified number of entry point monitoring locations, public water systems must take samples at entry points to the distribution system having the highest annual water flows.

(d) Monitoring under paragraph (B)(2) of rule 3745-81-22 of the Administrative Code may not be reduced under the provisions of rule 3745-81-29 of the Administrative Code.

(3) IDSE report.

(a) The IDSE report must include the elements required in paragraphs (B)(3)(a)(i) to (B)(3)(a)(iv) of this rule. The IDSE report must be submitted to the director according to the schedule in paragraph (A)(1) of this rule.

(i) The IDSE report must include all TTHM and HAA5 analytical results collected during the period of the IDSE. Public water systems must include both compliance monitoring results taken in accordance with paragraph (C) of rule 3745-81-24 of the Administrative Code and all results from standard monitoring conducted as part of the IDSE. Results must be presented in a tabular or spreadsheet format acceptable to the director and must include individual analytical results and locational running annual averages. If the public water system has undergone changes in the distribution system, population, or system type (surface water or ground water) from the standard monitoring plan submitted under paragraph (B)(1) of this rule, the IDSE report must also include an updated distribution system

schematic.

- (ii) The IDSE report must include an explanation of any deviations from the approved standard monitoring plan.
- (iii) The public water system must recommend and justify compliance monitoring locations for paragraph (D) of rule 3745-81-24 of the Administrative Code and timing based on the protocol in paragraph (F) of this rule.
- (iv) The public water system must retain a complete copy of the IDSE report submitted under this rule for as long as required in paragraph (F) of rule 3745-81-33 of the Administrative Code. If the director modifies monitoring requirements that were recommended in the IDSE report required in paragraph (D) of rule 3745-81-24 of the Administrative Code, or if the director approves alternative monitoring locations, the public water system must keep a copy of the director's notification on file for ten years after the date of the director's notification. The public water system must make the IDSE report and any director notification available for review by the director or the public.

(C) System specific studies.

- (1) System specific study plan. System specific study plans must be based on either existing monitoring results as required under paragraph (C)(1)(a) of this rule or modeling as required under paragraph (C)(2) of this rule. The system specific study plan must be prepared and submitted to the director according to the schedule in paragraph (A)(1) of this rule.
 - (a) Existing monitoring results. A public water system may comply by submitting monitoring results collected before public water systems are required to begin monitoring under paragraph (A)(1) of this rule. The monitoring results and analysis must meet the criteria in paragraphs (C)(1)(b)(i) and (C)(1)(b)(ii) of this rule.
 - (b) Minimum requirements.
 - (i) TTHM and HAA5 results must be based on samples collected and analyzed in accordance with rule 3745-81-27 of the Administrative Code. Samples must be collected no earlier than five years prior to the study plan submission date.
 - (ii) The monitoring locations and frequency must meet the conditions

identified in this paragraph. Each location must be sampled once during the peak historical month for TTHM levels or HAA5 levels or the month of warmest water temperature for every twelve months of data submitted for that location. Monitoring results must include all compliance monitoring results required in paragraph (C) of rule 3745-81-24 of the Administrative Code, plus additional monitoring results as necessary to meet minimum sample requirements.

			<u>Number of samples</u>	
<u>System Type</u>	<u>Population size category</u>	<u>Number of monitoring locations</u>	<u>TTHM</u>	<u>HAA5</u>
<u>Surface Water</u>	<u><500</u>	<u>3</u>	<u>3</u>	<u>3</u>
	<u>500-3,300</u>	<u>3</u>	<u>9</u>	<u>9</u>
	<u>3,301-9,999</u>	<u>6</u>	<u>36</u>	<u>36</u>
	<u>10,000-49,999</u>	<u>12</u>	<u>72</u>	<u>72</u>
	<u>50,000-249,999</u>	<u>24</u>	<u>144</u>	<u>144</u>
	<u>250,000-999,999</u>	<u>36</u>	<u>216</u>	<u>216</u>
	<u>1,000,000-4,999,999</u>	<u>48</u>	<u>288</u>	<u>288</u>
	<u>≥5,000,000</u>	<u>60</u>	<u>360</u>	<u>360</u>
<u>Ground Water:</u>	<u><500</u>	<u>3</u>	<u>3</u>	<u>3</u>
	<u>500-9,999</u>	<u>3</u>	<u>9</u>	<u>9</u>
	<u>10,000-99,999</u>	<u>12</u>	<u>48</u>	<u>48</u>
	<u>100,000-499,999</u>	<u>18</u>	<u>72</u>	<u>72</u>
	<u>≥500,000</u>	<u>24</u>	<u>96</u>	<u>96</u>

(c) Reporting monitoring results. Public water systems must report the information in paragraphs (C)(1)(c)(i) to (C)(1)(c)(vi) of this rule.

(i) Public water systems must report previously collected monitoring

results and certify that the reported monitoring results include all compliance and non-compliance results generated during the time period beginning with the first reported result and ending with the most recent results required by paragraph (C) of rule 3745-81-24 of the Administrative Code.

- (ii) Public water systems must certify that the samples were representative of the entire distribution system and that treatment and the distribution system have not changed significantly since the samples were collected.
 - (iii) The monitoring plan must include a schematic of the distribution system (including distribution system entry points and their sources, and storage facilities), with notes indicating the locations and dates of all completed or planned system specific study monitoring.
 - (iv) The system specific study plan must specify the population served and system type (surface water or ground water).
 - (v) The public water system must retain a complete copy of the submitted system specific study plan, including any modification by the director of the system specific study plan, for as long as required by paragraph (F) of rule 3745-81-33 of the Administrative Code.
 - (vi) If a public water system submits previously collected data that fully meet the number of samples required under paragraph (C)(1)(b)(ii) of this rule, and the director rejects some of the data, the public water system must either conduct additional monitoring to replace rejected data on a schedule the director approves or conduct standard monitoring required by paragraph (B) of this rule.
- (2) Modeling. A public water system may comply through analysis of an extended period simulation hydraulic model. The extended period simulation hydraulic model and analysis must meet the criteria in paragraph (C)(2) of this rule.
- (a) Minimum requirements.

 - (i) The model must simulate twenty-four hour variation in demand and show a consistently repeating twenty-four hour pattern of residence time.
 - (ii) The model must represent the following criteria: seventy-five per cent of pipe volume; fifty per cent of pipe length; all pressure zones; all twelve inch diameter and larger pipes; all eight inch and larger pipes

that connect pressure zones, influence zones from different sources, storage facilities, major demand areas, pumps, and control valves, or are known or expected to be significant conveyors of water; all six inch and larger pipes that connect remote areas of a distribution system to the main portion of the system; all storage facilities with standard operations represented in the model; all active pump stations with controls represented in the model; and all active control valves.

(iii) The model must be calibrated, or have calibration plans, for the current configuration of the distribution system during the period of high TTHM formation potential. All storage facilities must be evaluated as part of the calibration process. All required calibration must be completed no later than twelve months after plan submission.

(b) Reporting modeling. The system specific study plan must include the information in this paragraph. Public water systems submitting system specific study plans must include tabular or spreadsheet data demonstrating that the model meets requirements in paragraphs (C)(2)(a) of this rule.

(i) A description of all calibration activities undertaken, and if calibration is complete, a graph of predicted tank levels versus measured tank levels for the storage facility with the highest residence time in each pressure zone and a time series graph of the residence time at the longest residence time storage facility in the distribution system showing the predictions for the entire simulation period (i.e., from time zero until the time it takes to for the model to reach a consistently repeating pattern of residence time).

(ii) Model output showing preliminary twenty-four hour average residence time predictions throughout the distribution system.

(iii) Timing and number of samples representative of the distribution system planned for at least one monitoring period of TTHM and HAA5 dual sample monitoring at a number of locations no less than would be required for the system under standard monitoring in paragraph (B) of this rule during the historical month of high TTHM. These samples must be taken at locations other than existing compliance monitoring locations required by paragraph (C) of rule 3745-81-24 of the Administrative Code.

(iv) Description of how all requirements will be completed no later than twelve months after submission of the system specific study plan.

(v) Schematic of the distribution system (including distribution system

entry points and their sources, and storage facilities), with notes indicating the locations and dates of all completed system specific study monitoring (if calibration is complete) and all compliance monitoring required by paragraph (C) of rule 3745-81-24 of the Administrative Code.

(vi) Population served and system type (surface water or ground water).

(vii) The public water system must retain a complete copy of the submitted system specific study plan, including any modification by the director of the system specific study plan, for as long as required by paragraph (F) of rule 3745-81-33 of the Administrative Code.

(c) If a public water system submits a model that does not fully meet the requirements in paragraph (C)(2) of this rule, the public water system must correct the deficiencies and respond to the director's inquiries concerning the model. If the public water system fails to correct deficiencies or respond to inquiries to the director's satisfaction, the public water system must conduct standard monitoring required by paragraph (B) of this rule.

(3) IDSE report. The IDSE report must include the elements required in paragraphs (C)(3)(a) to (C)(3)(g) of this rule. Public water systems must submit the IDSE report according to the schedule in paragraph (A)(1) of this rule.

(a) The IDSE report must include all TTHM and HAA5 analytical results from compliance monitoring required by paragraph (C) of rule 3745-81-24 of the Administrative Code, and all system specific study monitoring conducted during the period of the system specific study presented in a tabular or spreadsheet format acceptable to the director. If changed from the system specific study plan submitted under paragraph (C) of this rule, the IDSE report must also include a schematic of the distribution system, the population served, and system type (surface water or ground water).

(b) If a public water system used the modeling provision under paragraph (C)(2) of this rule, the public water system must include final information for the elements described in paragraph (C)(2)(b) of this rule, and a twenty-four hour time series graph of residence time for each compliance monitoring location selected for paragraph (D) of rule 3745-81-24 of the Administrative Code.

(c) A public water system must recommend and justify compliance monitoring locations required by paragraph (D) of rule 3745-81-24 of the Administrative Code, and timing based on the protocol in paragraph (F) of rule 3745-81-22 of the Administrative Code.

- (d) The IDSE report must include an explanation of any deviations from the approved system specific study plan.
- (e) The IDSE report must include the basis (analytical and modeling results) and justification used to select the recommended monitoring locations for paragraph (D) of rule 3745-81-24 of the Administrative Code.
- (f) Public water systems may submit the IDSE report in lieu of the system specific study plan on the schedule identified in paragraph (A)(1) of this rule for submission of the system specific study plan if the public water system believes that they have the necessary information by the time that the system specific study plan is due. If this approach is elected, the IDSE report must also include all information required in paragraph (C)(1) of this rule.
- (g) The public water system must retain a complete copy of the IDSE report submitted under this rule for as long as required by paragraph (F) of rule 3745-81-33 of the Administrative Code. If the director modifies the monitoring requirements recommended in the IDSE report in paragraph (D) of rule 3745-81-24 of the Administrative Code, or if the director approves alternative monitoring locations, the public water system must keep a copy of the director's notification on file for ten years after the date of the director's notification. The public water system must make the IDSE report and any director notification available for review by the director or the public.

(D) 40/30 certification.

- (1) Eligibility. A public water system is eligible for 40/30 certification if the system had no TTHM or HAA5 monitoring violations under paragraph (C) of rule 3745-81-24 of the Administrative Code, and no individual sample exceeded 0.040 mg/L for TTHM or 0.030 mg/L for HAA5 during an eight consecutive calendar quarter period beginning no earlier than the date specified in the following table.

<u>If the 40/30 certification is due</u>	<u>Then eligibility for 40/30 certification is based on eight consecutive calendar quarters of 3745-81-24(C) compliance monitoring results beginning no earlier than¹</u>
<u>(1) October 1, 2006</u>	<u>January 2004.</u>
<u>(2) April 1, 2007</u>	<u>January 2004.</u>
<u>(3) October 1, 2007</u>	<u>January 2005.</u>
<u>(4) April 1, 2008</u>	<u>January 2005.</u>

¹ Unless the public water system is on reduced monitoring under paragraph (C) of rule 3745-81-24 of the Administrative Code, and was not required to monitor during the specified period. If the public water system did not monitor during the specified period, eligibility must be based on compliance samples taken during the twelve months preceding the specified period.

(2) 40/30 certification.

- (a) A public water system must certify to the director that every individual compliance sample taken under paragraph (C) of rule 3745-81-24 of the Administrative Code during the periods specified in paragraph (D)(1) of this rule were less than or equal to 0.040 mg/L for TTHM and less than or equal to 0.030 mg/L for HAA5, and that the public water system has not had any TTHM or HAA5 monitoring violations during the period specified in paragraph (D)(1) of this rule.
- (b) The director may require a public water system to submit compliance monitoring results, distribution system schematics, and/or recommended compliance monitoring locations required by paragraph (D) of rule 3745-81-24 of the Administrative Code, in addition to the certification. If a public water system fails to submit the requested information, the director may require standard monitoring under paragraph (B) of this rule or a system specific study under paragraph (C) of this rule.
- (c) The director may still require standard monitoring under paragraph (B) of this rule or a system specific study under paragraph (C) of this rule even if the public water system meets the criteria in paragraph (D)(1) of this rule.
- (d) The public water system must retain a complete copy of the certification submitted under this paragraph for ten years after the date that the public water system submitted the certification. The public water system must make the certification, all data upon which the certification is based, and any notification from the director available for review by the director or the public.

(E) Very small system waivers.

- (1) If a public water system serves fewer than five hundred people and has taken TTHM and HAA5 samples under paragraph (C) of rule 3745-81-24 of the Administrative Code, the public water system is not required to comply with this rule unless the director notifies the public water system that standard monitoring must be conducted under paragraph (B) of this rule or a system specific study under paragraph (C) of this rule.

(2) If a public water system has not taken TTHM and HAA5 samples under paragraph (C) of rule 3745-81-24 of the Administrative Code, or if the director notifies the public water system that it must comply with this rule, the public water system must conduct standard monitoring under paragraph (B) of this rule or a system specific study under paragraph (C) of this rule.

(F) Compliance monitoring location recommendations for paragraph (D) of rule 3745-81-24 of the Administrative Code.

(1) The IDSE report must include recommendations and justification for where and during what month(s) TTHM and HAA5 monitoring for paragraph (D) of rule 3745-81-24 of the Administrative Code should be conducted. The public water system must base the recommendations on the criteria in paragraphs (F)(2) to (F)(5) of this rule.

(2) Public water systems must select the number of monitoring locations specified in the table in this paragraph. The public water system will use these recommended locations as routine compliance monitoring locations required by paragraph (D) of rule 3745-81-24 of the Administrative Code, unless the director requires different or additional locations. The public water system should distribute locations throughout the distribution system to the extent possible.

<u>Source water type</u>	<u>Population size category</u>	<u>Monitoring frequency¹</u>	<u>Sample Type²</u>	<u>Distribution system monitoring location</u>			
				<u>Total per monitoring period²</u>	<u>Highest TTHM locations</u>	<u>Highest HAA5 locations</u>	<u>Existing 3745-81-24(C) compliance locations</u>
<u>Surface Water</u>	<u><500</u>	<u>per year</u>	<u>Individual samples</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>=</u>
	<u>500-3,300</u>	<u>Every 90 days</u>	<u>Individual samples</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>=</u>
	<u>3,301-9,999</u>	<u>Every 90 days</u>	<u>Dual sample set</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>=</u>
	<u>10,000-49,999</u>	<u>Every 90 days</u>	<u>Dual sample set</u>	<u>4</u>	<u>2</u>	<u>1</u>	<u>1</u>
	<u>50,000-</u>	<u>Every 90</u>	<u>Dual sample set</u>	<u>8</u>	<u>3</u>	<u>3</u>	<u>2</u>

	<u>249,999</u>	<u>days</u>					
	<u>250,000-999,999</u>	<u>Every 90 days</u>	<u>Dual sample set</u>	<u>12</u>	<u>5</u>	<u>4</u>	<u>3</u>
	<u>1,000,000-4,999,999</u>	<u>Every 90 days</u>	<u>Dual sample set</u>	<u>16</u>	<u>6</u>	<u>6</u>	<u>4</u>
	<u>≥5,000,000</u>	<u>Every 90 days</u>	<u>Dual sample set</u>	<u>20</u>	<u>8</u>	<u>7</u>	<u>5</u>
<u>Ground Water</u>	<u><500</u>	<u>per year</u>	<u>Individual samples</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>-</u>
	<u>500-9,999</u>	<u>per year</u>	<u>Dual sample set</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>-</u>
	<u>10,000-99,999</u>	<u>Every 90 days</u>	<u>Dual sample set</u>	<u>4</u>	<u>2</u>	<u>1</u>	<u>1</u>
	<u>100,000-499,999</u>	<u>Every 90 days</u>	<u>Dual sample set</u>	<u>6</u>	<u>3</u>	<u>2</u>	<u>1</u>
	<u>≥500,000</u>	<u>Every 90 days</u>	<u>Dual sample set</u>	<u>8</u>	<u>3</u>	<u>3</u>	<u>2</u>

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

² Public water systems on quarterly monitoring must take dual sample sets every 90 days at each monitoring location, except for surface water systems serving 500-3,300. Ground water systems serving 500-9,999 on annual monitoring must take dual sample sets at each monitoring location. All other systems on annual monitoring and surface water 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. For systems serving fewer than 500 people, 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.

- (3) The public water system must recommend compliance monitoring locations required in paragraph (D) of rule 3745-81-24 of the Administrative Code based on standard monitoring results, system specific study results, and compliance monitoring results in paragraph (C) of rule 3745-81-24 of the Administrative Code. Public water systems must follow the protocol in paragraphs (F)(3)(a) to (F)(3)(h) of this rule. If required to monitor at more than eight locations, the public water system must repeat the protocol as necessary. If the public water system does not have existing compliance monitoring results required in paragraph (C) of rule 3745-81-24 of the Administrative Code, or if the public water system does not have enough existing compliance monitoring results required by paragraph (C) of rule 3745-81-24 of the Administrative Code, the protocol must be repeated, skipping the provisions of

paragraphs (F)(3)(c) and (F)(3)(g) of this rule as necessary, until the public water system has identified the required total number of monitoring locations.

- (a) Location with the highest TTHM LRAA not previously selected as a monitoring location in paragraph (D) of rule 3745-81-24 of the Administrative Code.
 - (b) Location with the highest HAA5 LRAA not previously selected as a monitoring location in paragraph (D) of rule 3745-81-24 of the Administrative Code.
 - (c) Existing average residence time compliance monitoring location required in paragraph (C) of rule 3745-81-24 of the Administrative Code (maximum residence time compliance monitoring location for ground water systems) with the highest HAA5 LRAA not previously selected as a monitoring location in paragraph (D) of rule 3745-81-24 of the Administrative Code.
 - (d) Location with the highest TTHM LRAA not previously selected as a monitoring location in paragraph (D) of rule 3745-81-24 of the Administrative Code.
 - (e) Location with the highest TTHM LRAA not previously selected as a monitoring location in paragraph (D) of rule 3745-81-24 of the Administrative Code.
 - (f) Location with the highest HAA5 LRAA not previously selected as a monitoring location in paragraph (D) of rule 3745-81-24 of the Administrative Code.
 - (g) Existing average residence time compliance monitoring location required in paragraph (C) of rule 3745-81-24 of the Administrative Code (maximum residence time compliance monitoring location for ground water systems) with the highest TTHM LRAA not previously selected as a monitoring location in paragraph (D) of rule 3745-81-24 of the Administrative Code.
 - (h) Location with the highest HAA5 LRAA not previously selected as a monitoring location in paragraph (D) of rule 3745-81-24 of the Administrative Code.
- (4) A public water system may recommend locations other than those specified in paragraph (F)(3) of this rule if a rationale for selecting other locations is included. If the director approves the alternate locations, the public water system must monitor at these locations to determine compliance under paragraph (D) of rule 3745-81-24 of the Administrative Code.

- (5) The recommended schedule must include monitoring during the peak historical month for TTHM and HAA5 concentration as required by paragraph (D) of rule 3745-81-24 of the Administrative Code, unless the director approves another month. Once the peak historical month is identified, and if the public water system is required to conduct routine monitoring at least quarterly, the public water system must schedule compliance monitoring required by paragraph (D) of rule 3745-81-24 of the Administrative Code at a regular frequency of every ninety days or fewer.

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Certification

12/04/2009

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