SAFE DRINKING WATER ACT
REGULATORY UPDATE 2004

For Purchase Water Systems

Published July 2004 by the Compliance Services Branch, Public Water Supply Section, DEH, NC DENR

This Regulatory Update highlights numerous regulatory deadlines for the year 2004 and provides information to North Carolina's public water systems to help clarify some of the requirements of the Safe Drinking Water Act and North Carolina's *Rules Governing Public Water Systems*. The Compliance Services Branch staff members are available to answer any other questions you may have regarding compliance with the drinking water regulations. Thank you for your continued efforts to stay informed.

STAGE 1– DISINFECTANTS and DISINFECTION BYPRODUCTS (D/DBP) RULE

As of January 1, 2004, water systems that purchase groundwater and those systems that purchase surface water that also have a population of less than 10,000 must comply with the Stage 1-D/DBP Rule if using water that has had a disinfectant added.

Below is a summary of the general requirements:

- Development of a D/DBP Monitoring Plan.
- Collection of THAA5 samples with TTHM samples.
- New TTHM/THAA5 sampling schedules. *[See Monitoring Requirements Chart for purchase systems for your source type and population.]*
- Lowered and new maximum contaminant levels (MCLs) for DBPs:

Disinfection Byproducts	MCL (mg/L)
Total Trihalomethane (TTHM)	0.080
Total Haloacetic Acids (THAA5)	0.060

- New maximum residual disinfectant levels (MRDLs):

Disinfectant Residuals	MRDL (mg/L)
Chlorine (free)	4.0
Chloramine (combined)	4.0

Summary of the D/DBP Monitoring Plan:

- Applies to all systems affected by this rule.
- Due on site **by January 31, 2004**
- Submit to State **by February 10th, 2004** if surface water is purchased and system has a population of greater than 3,300**.**
- Failure to provide Plan or to monitor according to Plan results in violations.
- All plan revisions must be signed and dated by owner**.**
- *A D/DBP Monitoring Plan template is available on the web site in MS Word format.*

Summary of the THM /HAA5 requirements:

- Collect all annual samples between July 1st and September 30th.
- Collect THM and HAA5s at the same sites, at the same time.
- THM/HAA5s are collected in the **DISTRIBUTION** from sites that represent the **water's maximum residence time** (MRT).
- Minimum number of THM/HAA5 samples required each compliance period (whether quarterly or annually, depending on the system's type of source water and population) is based on number of sellers serving the system.
- All THM/HAA5 samples collected as quarterly/annual samples must be collected on the <u>same day</u>.
- Any resampling requires collection of both THM and HAA5s at all sites, on the same day.
- MCL compliance for each is based on 4 quarters of results.
- Annual samples exceeding either MCL require quarterly monitoring starting the 4th calendar quarter.
- Qualifications to reduce THM/HAA5 monitoring are more stringent.

Summary of the MRDL requirements:

- Measure disinfectant residual with collection of all compliance bacteria samples each compliance period.
- If only chlorine compounds were used, report free residuals. If ammonia was also used, report combined residuals. [*Total chlorine minus free chlorine = combined chlorine.]*
- Provide tested residual with sample to lab for State reporting purposes.
- Include bacteria sample collection date, location codes and residuals with monthly residual averaged in reports of operation. *[Follow instructions on back of revised forms for D/DBP Rule reporting.]*

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CONSUMER CONFIDENCE REPORTS (CCR)

BASIC REQUIREMENTS OF THE CCR

- All community systems, which includes purchase water systems, *must* produce and distribute an annual CCR that provides the most current analytical results. Only those contaminants that are detected above the Required Reporting Limit (RRL) are required to be reported. This will help to decrease your cost for printing and mailing of the reports.
- For newly activated systems, preparation and submittal of your first CCR is based on your first *calendar* year of operation determined by the "system begin date" (MM/YYYY) in the Public Water Supply Section's Inventory Database.
- **April 1st** – deadline for systems that sell water to another community water system to deliver analytical results for detected contaminants and source and violation information to the buying system.
- **July 1st** – deadline by which the CCR must be received by both the customers of the water system and the Public Water Supply Section (PWSS).
- **October 1st** – deadline by which the CCR Certification Form must be received by the PWSS. We strongly recommend that the Certification Form be submitted with the CCR by the July 1st deadline. A copy of the CCR Certification Form can be found at the PWSS website.
- CCRs can be used as a means to provide public notice for **Tier 3 violations**. If the CCR is used as the sole means of notification, the CCR must be delivered to each customer and be issued within 1 year of the violation.
- ***NEW*** The NC CCR Template is available on our website to assist you in preparation of your CCR.
- ***NEW*** Beginning with the CCR report for 2004, due July 1, 2005, systems are required to include their Source Water Assessment Plan (SWAP) vulnerability rating. Detailed guidelines for formatting this information into your 2004 CCR will be included in the upcoming revision to the NC CCR Template that will be available on the PWSS website prior to January 2005.

TIPS FOR PREPARATION & DELIVERY

1. Delivery requirements are based on your water system's population-**people served**, not the number of connections/billing units.
2. Water systems with a population of <500 may notify their customers of the availability of the CCR instead of distributing the entire CCR report. If you choose this option, *each* customer/billing unit must be notified by a direct means such as a door hanger, letter, postcard, or a bill stuffer (may be included in the same envelope as the bill), that a copy of the report is available upon request and where they can obtain a copy. You may not put your CCR notice on the water bill. A separate notice must be dedicated to the CCR notification. You may not charge your customers for a copy of the CCR.
3. Information on source of water - your CCR must inform your customers if they are drinking ground water, surface water, GWUDI (ground water under the direct influence of surface water), purchase ground water, purchase surface water, purchase GWUDI water or a combination of these waters. Also, your customers must be told where their source of water is located for your system--address, description or map.
4. Systems must inform their customers of all violations including MCL, monitoring, and reporting violations. Any enforcement actions such as Administrative Orders and Administrative Penalties must also be reported. Pertinent information such as the type of violation, contaminant groups identified, required actions, duration, corrective action, etc. must be provided.
5. Make sure ALL the analysis dates in your CCR are correct.
6. The NC CCR Template is available on the PWSS website at http://ncdrinkingwater.state.nc.us/.

If you have questions concerning the CCR, please contact Bethany Goodwin at 919-715-2729, or by email at Bethany.Goodwin@ncmail.net.

If your system exceeds a maximum contaminant level (MCL):

Submit Quarterly Written Status Reports to include the following:

1. PWSID# and System Name
2. Specific violation(s) including contaminant(s)
3. Reporting quarter begin/end dates
4. Corrective actions taken (including dates)
5. Future actions with projected completion dates (month & year)
6. Printed name & signature of person submitting the status report.

PUBLIC NOTIFICATIONS

Completion of the "Notice to the Public"

The "Notice to the Public" templates that are mailed with every violation letter from the State include most of the required information for the notice. **You must** complete the few other areas that have not been completed. For example, make sure all the following information is completed:

- Compliance period.
- For Monitoring Violations: Either circle or underline the applicable statement ("did not monitor" or "did not complete all monitoring"); also complete the table in the middle of the page.
- What happened? What is being done? When will the problem be corrected? (Describe corrective action.) Simply indicate the answers to all of these questions. A few sentences will normally be sufficient.
- Complete the contact information in the table provided (responsible person's name, phone number, address, PWSID #, etc.).
- You must write or type in the date that the notice was distributed and the method of distribution.
- Sign and date the certification at the bottom of the notice.

Forms to be Submitted to the State

- **Public Notification/Certification Form**

A copy of the completed Notice to the Public/Public Notification Certification Form must be sent to the Compliance Services Branch of the Public Water Supply Section within 10 days after completing the initial public notification to your customers. If you use a Notice to the Public that does not have the certification included within the notice, a separate certification form needs to be submitted along with the completed Notice to the Public.

*** For Tier 3 Public Notification - If you use your Consumer Confidence Report (CCR) in lieu of a separate Tier 3 public notice to fulfill this requirement, submit all of the following to the State:

- **Consumer Confidence Report (CCR),**
- **CCR Certification Form, and**
- **Public Notification/Certification Form.**

Be reminded that these documents must be submitted to the Compliance Services Branch first meeting the Public Notification Rule timeframe requirements, not the July 1st CCR deadline. All of these **must** be sent to us in order for you to receive credit for meeting both rules' requirements. Also, keep in mind that the **entire** Public Notice must be included in the CCR; a general statement concerning the monitoring violation **is not** acceptable if the CCR is the only means used for notification.

If you have questions concerning public notifications, please contact Bethany Goodwin at 919-715-2729, or by email at Bethany.Goodwin@ncmail.net.

SUBMITTAL OF ANALYTICAL RESULTS

Your laboratory must submit the original hard copy or electronic copy of analytical results on the proper laboratory forms or in the proper electronic format to the State within the first 10 days following the month in which the analyses is completed, or the first 10 days following the end of the required monitoring period as stipulated by the State, whichever of these is shortest. **Please note that analytical results must be received by the Public Water Supply Section (PWSS) by the 10th of the month.** For example, if a monthly bacteria sample is analyzed on February 22nd, the results must be received by the PWSS by March 10th. If a 1st quarter sample of the calendar year is collected near the end of the compliance period, for example, March 29th and the analysis is completed on April 7th, the analytical results must still be received by April 10th.

If fecal/*E.Coli* bacteria is present in your water sample, or the nitrate or nitrite MCL is exceeded, your laboratory must notify and fax the analytical results to the Compliance Services Branch, PWSS, on the **same day** the analysis is completed. If total coliform is present in your water sample or if any contaminant (other than nitrate and nitrite) exceeds an MCL, your laboratory must notify the State and fax the results to the Compliance Services Branch within **48 hours** of completing the analysis. Laboratories should also mail hard copies to our office as soon as possible. **Your laboratory must notify you of the analytical results within the same time frames!**

IN CASE OF DISASTER HOW TO REQUEST ASSISTANCE

- Cities should contact their county Emergency Management (EM) office to enter mission requests.
- The county may know of a resource that will fill the need without having to request outside responding resources. If the county does not have the resource, they will make the request on behalf of the city using the EM/2000 network.
- If a city experiences difficulty routing a request through the county emergency operations center (EOC), direct contact can be made with the State EOC. The State EOC will then coordinate with the affected county.

NC Emergency Management Offices

NC Emergency Operations Center......... (800) 858-0368
.... *(24 hrs – For emergency use only)*
NCEM Website: www.ncem.org
Mutual Aid: www.ncmutualaid.org
E-Mail: nceoc@ncem.org
Eastern Branch Office .... (252) 520-4923
Central Branch Office .... (919) 575-4122
Western Branch Office .... (828) 466-5555

LOOK!

FOR SYSTEMS ON REDUCED MONITORING FOR LEAD AND COPPER

Annual samples for lead and copper must be collected between June 1 and September 30. Samples collected outside the specified period will not be accepted and may result in a monitoring violation.

ASBESTOS RULE

Applicable Systems

Community and non-transient non-community water systems are affected. Even if your system previously had a 9-year waiver, you may need to re-apply for the next compliance cycle as indicated below.

Important Dates

The 9-year waiver period for most systems expired December 31, 2001. The 3-year period to monitor or obtain a waiver for the next 9-year compliance cycle will expire December 31, 2004. The following dates are applicable to those systems that have either not been approved for a waiver, or did not monitor according to the requirements for systems located in vulnerable or non-vulnerable counties as stated below, or that wish to re-apply for a 9-year waiver for the next compliance cycle (January 1, 2002 through December 31, 2010).

October 31, 2004 – Waiver Request Deadline
December 31, 2004 – Monitoring Deadline

Asbestos Piping in the Distribution

Systems that have asbestos-cement piping in the distribution are required to collect one sample at a tap served by asbestos-cement piping and under conditions where asbestos contamination is most likely to occur.

Vulnerable Counties and Areas

Community and non-transient non-community water systems with water sources located in counties listed in the table are required to monitor for asbestos at the source/entry point. If a system located in a vulnerable county has asbestos cement piping in the distribution system, then that system may submit a completed "Asbestos Waiver Request & Construction Materials Report Form" to be considered for distribution monitoring in lieu of source/entry point monitoring.

* Wake County (north corridor) - The area encompassed by latitudes 355200.00 to 360500.00 and longitudes 783200.00 to 784900.00 is considered the "north corridor" of Wake County and is designated as an asbestos vulnerable area. Systems with sources located within this area should follow the requirements outlined above for systems in vulnerable counties. If you are uncertain as to whether your system lies within this area, please contact the Public Water Supply Section.

Non-Vulnerable Counties

Community and non-transient non-community water systems located in counties **NOT** listed in the table are required to monitor for asbestos at each entry point to the distribution system. If a system has no asbestos cement piping in the distribution system, then that system may submit a completed "Asbestos Waiver Request & Construction Materials Report Form" to be considered for a 9-year distribution monitoring waiver.

ASBESTOS VULNERABLE COUNTIES	
Alleghany	Halifax
Ashe	Haywood
Avery	Iredell
Buncombe	Jackson
Burke	Macon
Cabarrus	Madison
Caswell	Mecklenburg
Catawba	Mitchell
Clay	Rowan
Davidson	Transylvania
Davie	Union
Forsyth	Vance
Granville	Wake (north corridor)*
Guilford	Yadkin

REMEMBER TO:

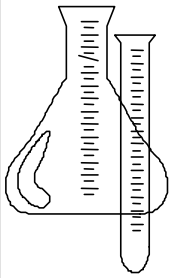
Read both the front and the back of all letters and public notices you receive!

Put your system name and PWSID# on all correspondence to this office!

LOOK HELPFUL HINTS LOOK

- ✓ Report address changes and/or changes in ownership or responsible person ***in writing*** to the central office of Public Water Supply Section (ATTN: Data Entry) **within 30 days of the change**. Be sure to also supply current phone numbers as well as e-mail addresses.
- ✓ Contact the appropriate regional office to update any other changes to your system's information that would include, but is not limited to, water system classification, population, service connections, and operator in responsible charge (ORC).
- ✓ Also contact your regional office prior to making changes that would involve available sources/entry points and treatment processes (if applicable), merging with another water system that would result in deactivation of your system, adding another interconnection with an existing wholesaler, connecting to an additional wholesaler, or making significant changes to the distribution system configuration.
- ✓ Check all sample analysis forms carefully before sending them and your water sample(s) to your lab. Make sure all the information above the double line is filled out completely and correctly. Incorrect analysis forms will be rejected by this office and sent back to the system. Remember: blank lines and misinformation can easily result in a monitoring and/or reporting violation.
- ✓ If you wait until you get a violation letter from the State to notify your customers about exceeding a maximum contaminant level (MCL), you may already be too late! Keep in mind that the public notification violation "clock" starts ticking on the date the laboratory analyses are completed!
- ✓ A written request is required if you feel that your system is eligible for a reduction in monitoring. Include all applicable sample results and collection dates in your request. Be sure to send it to the attention of the appropriate rule manager. A list of rule managers is on the last page of this publication.
- ✓ Don't wait until the end of the compliance period to collect your water samples. Your laboratory will have to run the analysis and get the results into our office by the 10th of the next month. If results are not received by that date, your system will get a reporting violation which must be reported in your CCR.
- ✓ Use a laboratory currently certified by the State of North Carolina to perform your analyses to get credit for your analyses. See the web addresses on page 8 for information on certified laboratories.
- ✓ Certified operators should notify the NC Water Treatment Facility Operators Certification Board, in writing, of any change in his/her current mailing address within 30 days of the change. Certified operators should also contact their Regional Office for water system responsibility changes. The Board staff can also assist with questions regarding Operators in Responsible Charge (ORCs) and certification applications. The staff can be reached at (919) 733-0379.

TOTAL COLIFORM SAMPLING



Purchased groundwater systems having populations over 4,900 and all purchased surface water systems must collect compliance bacteria samples at regular intervals **throughout** the month or quarter, with each collected from different sites. **Only** those purchased groundwater systems having populations of 4,900 or less (where 5 or less Routine samples are required per month or quarter) may collect all 5 of the monthly or quarterly bacteria samples on the same day, with each collected from different sites.

When any Routine sample shows bacteria present, Repeat samples must be collected within 24 hours of lab notification. (If 1 Routine sample is required per month or quarter, 4 Repeats are required. If more than 1 Routine is required per month or quarter, 3 Repeats are required). Repeat samples should be collected within the same calendar month as the positive routine sample.

For systems required to normally collect less than 5 Routine samples per month or quarter, 5 Routine samples must be collected the next month following a positive Routine sample. **To avoid future monitoring violations, Routine compliance samples should be collected early enough within month to allow for the collection of Repeat or replacement samples, if needed.**

Michael F. Easley, Governor
William G. Ross, Jr., Secretary
Terry L. Pierce, Director
Jessica G. Miles, Section Chief
Linda F. Raynor, Branch Head

REGIONAL OFFICES

NEW!

Asheville Regional Office
2090 U.S. Highway 70
Swannanoa, NC 28778
(828) 296-4500

Mooresville Regional Office
919 North Main Street
Mooresville, NC 28115
(704) 663-1699

Winston-Salem Regional Office
585 Waughtown Street
Winston-Salem, NC 27107-2241
(336) 771-4600

Raleigh Regional Office
1628 Mail Service Center
Raleigh, NC 27699-1628
(919) 571-4700

Fayetteville Regional Office
225 Green Street, Suite 714
Fayetteville, NC 28301
(910) 486-1541

Washington Regional Office
943 Washington Square Mall
Washington, NC 27889
(252) 946-6481

Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405-3845
(910) 395-3900

HAVE YOU CHECKED THE PWSS WEBSITE LATELY? YOU CAN FIND…

Plan Review & Water System Approval Status
Monitoring Schedule, Sampling Schedule & Entry Point Data
"Rules Governing Public Water Systems"
NC CCR Guidance & Template
D/DBP Monitoring Charts & Plan Template
On-Line Forms (MORs, Plan Review, SRF, etc.)
Financial Assistance Information
Hot Button to Source Water Assessment & Protection Web Program
Links to Other Water Related Agencies
Public Notices
AND MORE!!!

COMING SOON:
Info for New Public Water Systems

RULES & RULE MANAGERS

Rule	Rule Manager
Arsenic	Hornlean Chen (acting)
Asbestos	
Bacteriological – Total Coliform	Jim Coor Derek Lewis
Consumer Confidence Reports	Beth Goodwin
Disinfection By-Products (DBP) Rules [includes Trihalomethanes (THMs), Haloacidic Acids (HAA5), MRDLs, Treatment Techniques]	Lorna Withrow
Filter Backwash Rule	Brad Cole
Inorganic Chemicals	Hornlean Chen (acting)
Lead and Copper	Boris Hrebeniuk
Nitrate/Nitrite	Hornlean Chen (acting)
Pesticides/Synthetic Organic Chemicals (SOCs) /PCBs & Dioxin	Brad Cole
Public Notification Rule	Beth Goodwin
Radionuclides & Radon	Lorna Withrow (acting)
Surface Water Treatment Rules (SWTR, IESWTR, LT1ESWTR, LT2ESWTR)	Brad Cole
Turbidity	
Volatile Organic Chemicals (VOC)	

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WEB ADDRESSES

EPA Office of Water: http://www.epa.gov/OW/
NC State Government: http://www.ncgov.com/
PWS Section: http://ncdrinkingwater.state.nc.us/
Monitoring Schedules:
http://www.deh.enr.state.nc.us/AnnualStmt/index.htm
Rules Governing Public Water Systems:
http://www.deh.enr.state.nc.us/pws/rules/contents.htm
Certified Laboratories:
http://204.211.171.13/EnvironmentalSciences/Certification/CertifiedLaboratory.asp

PURCHASED *GROUNDWATER* SYSTEMS - MONITORING REQUIREMENTS (2004)

(For Community and Non-transient Non-community Systems That Purchase Their Water)

Contaminant Group	Initial & Routine Monitoring [1]	May Reduce Monitoring from Routine Frequency if: [2]	Increased Monitoring Required: [3]
Asbestos (AS)	collect one initial sample; thereafter, every 9 years, unless > maximum contaminant level (MCL)	can apply for a waiver if not in source vulnerable county and/or do not have asbestos piping	if result > MCL, begin quarterly monitoring
Bacteriological (BA)	All community systems: sample monthly; Non-transient non-community (NTNC) systems serving population greater than 1,000: sample monthly; NTNC systems serving populations 1,000 or less: sample quarterly (see 15A NCAC 18C Section .1534 for number of samples)	Not Applicable	if positive coliform result, collect repeat samples within 24 hours of notification; then, for systems with pop. < 4,101, collect 5 routine samples the next month following the month in which the positive routine sample occurred. Other systems return to routine monitoring. (See 15A NCAC 18C Section .1534 for specific number of repeat and routine samples required for your water system following a coliform positive routine sample)
Lead and Copper (LC) (lead action level = 0.015 mg/L; copper action level = 1.3 mg/L)	every 6 months for first year, thereafter, collect annual samples during June-September for 2 more consecutive years (see 15A NCAC 18C .1507 for number of samples)	after two 6-month samples and 2 annuals where the 90th percentile < action levels, then may be reduced to every 3 years [4]	if 90th percentile > action level for lead or copper, perform Corrosion Control Treatment Study, test for Water Quality Parameters, conduct public education (for lead only); then need two 6-month samples where 90th percentile < action levels
Stage 1- Disinfectants & Disinfection Byproducts (D/DBP)	*Applies to any system purchasing water that has a disinfectant added or that adds a disinfectant to drinking water. Using the system's population served, refer to the chart below to determine applicable requirements. (Note: The requirements for surface systems apply **if** a purchasing system uses both surface and groundwater).*		
DISINFECTANTS : MAXIMUM RESIDUAL DISINFECTANT LEVELS (MRDLs) (Effective January 1, 2004)			
Chlorine Residuals (as free chlorine) MRDL = 4.0 mg/L **Chloramine Residuals** (as combined chlorine) MRDL = 4.0 mg/L	Based upon bacteriological sampling frequency, sample monthly or quarterly at distribution sites with the collection of each compliance bacteriological sample	Not Applicable	Not Applicable
DISINFECTION BYPRODUCTS (DBPs) : TTHM / THAA5	➔ **TTHM / THAA5 samples must be collected together, at the same sites, at the same time. All TTHM and THAA5 samples collected during a specific monitoring period (quarterly or annually) and used to calculate compliance with the MCLs must be collected on the same day.**		
Total Trihalomethanes (TTHM) (MCL=0.080 mg/L) **Total Haloacetic Acids** (THAA5) (MCL=0.060 mg/L)	**Purchases Only Groundwater - 10,000 or greater population: (Effective January 1, 2004)**		
	collect one (1) THM/HAA5 sample from the distribution system per seller each quarter for a minimum of 4 consecutive quarters [collect sample from water's maximum residence time (MRT) sites]	from initial monitoring if: THM RAA ≤ 0.040 mg/L **and** HAA5 RAA ≤ 0.030 mg/L, then may reduce to one THM/HAA5 distribution sample per seller per year (collect sample from MRT site) during July-September. from increased monitoring if: THM RAA = 0.060 mg/L **and** HAA5 RAA = 0.045 mg/L, then reduce to one THM/HAA5 distribution sample per seller per year (collect sample from MRT site) during July-September	from reduced monitoring if: THM RAA exceeds 0.060 mg/L **or** HAA5 RAA exceeds 0.045 mg/L, then increase to one THM/HAA5 distribution sample site per seller per quarter (collect sample from MRT site)
	Purchases Only Groundwater - Less than 10,000 population: (Effective January 1, 2004)		
	collect one (1) THM/HAA5 sample from the distribution system per seller per year [collect sample from water's maximum residence time (MRT) sites] during July-September	from initial monitoring if: THM RAA ≤ 0.040 mg/L **and** HAA5 RAA ≤ 0.030 mg/L for 2 consecutive years **or** THM RAA ≤ 0.020 mg/L **and** HAA5 RAA ≤ 0.015 mg/L for one year, then may reduce to one THM/HAA5 distribution sample per seller every 3 years (collect sample from MRT site) during July-September. from increased monitoring if: THM RAA ≤ 0.060 mg/L **and** HAA5 RAA ≤ 0.045 mg/L, then reduce to one THM/HAA5 distribution sample per seller per year (collect sample from MRT site) during July-September	from initial **or** reduced monitoring if: THM RAA exceeds 0.080 mg/L **or** HAA5 RAA exceeds 0.060 mg/L, then increase to one THM/HAA5 distribution sample per seller per quarter (collect sample from MRT site)

(1) Compliance monitoring for all contaminant groups should be performed the same quarter as system start-up except for bacteriological (which must be performed within 30 days of system start-up) and annual TTHM/HAA5 (which must be performed during the third quarter of the year).

(2) A request must be submitted to the State, in writing, in order to get approval for reduced monitoring.

(3) If a system is required to increase to monthly or quarterly monitoring, the follow-up samples **must** be collected the next month or quarter.

(4) For lead & copper, if the 90th percentile of lead result is ≤ 0.005 mg/L and copper result is ≤ 0.65 mg/L, after 2 consecutive 6-month periods, the system can apply for reduced monitoring to every 3 years.

PURCHASED WATER SYSTEMS *(SURFACE WATER & GWUDI)* - MONITORING REQUIREMENTS (2004)

(For Community and Non-transient Non-community Systems That Purchase Their Water)

Contaminant Group	Initial & Routine Monitoring (1)	May Reduce Monitoring from Routine Frequency if: (2)	Increased Monitoring Required: (3)
Asbestos (AS)	collect one initial sample; thereafter, every 9 years, unless > maximum contaminant level (MCL)	can apply for a waiver if not in source vulnerable county and/or do not have asbestos piping	if result > MCL, begin quarterly monitoring
Bacteriological (BA)	monthly, from distribution (see 15A NCAC 18C Section .1534 for number of samples)	Not Applicable	if positive coliform result, collect repeat samples within 24 hours of notification; then, for systems with pop. < 4,101, collect 5 routine samples the next month following the month in which the positive routine sample occurred. Other systems return to routine monitoring. (See 15A NCAC 18C Section .1534 for specific number of repeat and routine samples required for your water system following a coliform positive routine sample)
Lead and Copper (LC) (lead action level = 0.015 mg/L; copper action level = 1.3 mg/L)	every 6 months for first year, thereafter, collect annual samples during June-September for 2 more consecutive years (see 15A NCAC 18C .1507 for number of samples)	after two 6-month samples and 2 annuals where the 90th percentile < action levels, then may be reduced to every 3 years (4)	if 90th percentile > action level for lead or copper, perform Corrosion Control Treatment Study, test for Water Quality Parameters, conduct public education (for lead only); then need two 6-month samples where 90th percentile < action levels
Stage 1 - Disinfectants & Disinfection Byproducts (D/DBP)	*Applies to any system purchasing water that has a disinfectant added or that adds a disinfectant to drinking water. Using the system's population served, refer to the chart below to determine applicable requirements. (Note: The requirements for surface systems apply **if** a purchasing system uses both surface and groundwater).*		
DISINFECTANTS: MAXIMUM RESIDUAL DISINFECTANT LEVELS (MRDLs)	**(Effective date based on population as for TTHM/THAA5s. See TTHM/THAA5 chart below).**		
Chlorine Residuals (as free chlorine) MRDL = 4.0 mg/L **Chloramine Residuals** (as combined chlorine) MRDL = 4.0 mg/L	monthly testing at distribution sites with the collection of each compliance bacteriological sample	Not Applicable	Not Applicable
DISINFECTION BYPRODUCTS (DBPs) : TTHM / THAA5	➔ **TTHM / THAA5 samples must be collected together, at the same sites, at the same time. All TTHM and THAA5 samples collected during a specific monitoring period (quarterly or annually) and used to calculate compliance with the MCLs must be collected on the same day.**		
Total Trihalomethanes (TTHM) MCL = 0.080 mg/L **Total Haloacetic Acids** (THAA5) MCL = 0.060 mg/L	**Purchases Surface Water - 10,000 or greater population (Effective January 1, 2002)**		
	collect four (4) THM/HAA5 samples from the distribution system per seller each quarter for a minimum of 4 consecutive quarters [25% of samples must be collected from the water's maximum residence time (MRT) sites]	from initial monitoring if: THM RAA ≤ 0.040 mg/L **and** HAA5 RAA ≤ 0.030 mg/L, then reduce to one THM/HAA5 distribution sample site per seller per quarter (collect sample from MRT site). from increased monitoring if: THM RAA = 0.060 mg/L **and** HAA5 RAA = 0.045 mg/L, then reduce to one THM/HAA5 distribution sample per seller per quarter (collect sample from MRT site)	from reduced monitoring if: THM RAA exceeds 0.060 mg/L **or** HAA5 RAA exceeds 0.045 mg/L, then increase to four THM/HAA5 distribution samples per seller per quarter [25% of samples must be collected from the water's maximum residence time (MRT) sites]
	Purchases Surface Water - 500 through 9,999 population (Effective January 1, 2004)		
	collect one (1) THM/HAA5 sample from the distribution system per seller each quarter for a minimum of 4 consecutive quarters [collect sample from the water's maximum residence time (MRT) sites]	from initial monitoring if: THM RAA ≤ 0.040 mg/L **and** HAA5 RAA ≤ 0.030 mg/L, then reduce to one THM/HAA5 distribution sample per seller per year (collect sample from MRT site) during July-September from increased monitoring if: THM RAA = 0.060 mg/L **and** HAA5 RAA = 0.045 mg/L, then reduce to one THM/HAA5 sample per seller per year (collect sample from MRT site) during July-September	from reduced monitoring if: THM RAA exceeds 0.060 mg/L **or** HAA5 RAA exceeds 0.045 mg/L, then increase to one THM/HAA5 distribution sample per seller per quarter (collect sample from MRT site)
	Purchases Surface Water - Less than 500 population (Effective January 1, 2004)		
	collect one (1) THM/HAA5 sample from the distribution system per seller per year [collect sample from the water's maximum residence time (MRT) sites] during July-September	NO reduction from initial/routine monitoring allowed. from increased monitoring if: THM RAA ≤ 0.060 mg/L **and** HAA5 RAA ≤ 0.045 mg/L, then reduce to one THM/HAA5 distribution sample per seller per year (collect sample from MRT site) during July-September	from initial or reduced monitoring if: THM RAA exceeds 0.080 mg/L **or** HAA5 RAA exceeds 0.060 mg/L, then increase to one THM/HAA5 sample per seller per quarter (collect sample from MRT site)

(1) Compliance monitoring for all contaminant groups should be performed the same quarter as system start-up except for bacteriological (which must be performed within 30 days of system start-up) and annual TTHM/HAA5 (which must be performed during the third quarter of the year).

(2) A request must be submitted to the State, in writing, in order to get approval for reduced monitoring.

(3) If a system is required to increase to monthly or quarterly monitoring, the follow-up samples **must** be collected the next month or quarter.

(4) For lead & copper, if the 90th percentile of lead result is ≤ 0.005 mg/L and copper result is ≤ 0.65 mg/L, after 2 consecutive 6-month periods, the system can apply for reduced monitoring to every three years.