SAFE DRINKING WATER ACT
REGULATORY UPDATE 2005

For Community, Community Purchase and Non-Transient Non-Community Water Systems

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This regulatory update highlights upcoming regulations of the Safe Drinking Water Act and helps to clarify some of the more complex regulations in North Carolina's *Rules Governing Public Water Systems*. As always, the Compliance Services Branch staff members are available to answer any questions you may have regarding the drinking water regulations. Thank you for your continued efforts to stay informed.

LEAD AND COPPER RULE UPDATE

The Environmental Protection Agency recently posted information on its Web site outlining future actions to be taken regarding the Lead and Copper Rule. The proposed actions are a direct result of the findings from a recent year-long review of selected state's implementation of the Lead and Copper Rule. EPA expects to complete the following targeted changes and guidance document revisions by late 2005 or early 2006:

- **Proposed Rule Changes**:
  - Language will be revised concerning the number of samples required and the number of sites from which they should be collected.
  - Definitions of a monitoring period and a compliance period will be modified to make it clear that all samples must be taken within the same calendar year.
  - Public water systems must notify the Public Water Supply Section of treatment changes 60 days prior to a treatment change instead of 60 days after a treatment change.
  - Utilities will be required to provide occupant notification of the results of monitoring.
  - States may allow utilities to modify tap flushing instructions to address local circumstances.
- **Guidance Document Revisions:**
  - The 1994 guidance on Lead in Drinking Water in Schools and Non-Residential Buildings will be revised to focus on schools and child care facilities.
  - The 1999 guidance on Simultaneous Compliance will be updated to support the Stage 2 Disinfection Byproducts Rule.

The EPA is still studying future revisions, which include revision of mandatory public education language, requirements for consecutive systems and broader revisions to monitoring and lead service line replacement requirements. Further information is available on EPA's Web site: **www.epa.gov/safewater/lcrmr/lead_review.html**. It is also recommended that you review the memo on EPA's Web site from Benjamin H. Grumbles, EPA's acting assistant administrator. This memo addresses several provisions of the Rule and clarifies which samples collected during a compliance monitoring period are used in calculating the 90th percentile value. For example, if a system is required to collect samples from 20 locations during the monitoring period, but the system decides to collect compliance samples from 30 different locations, all 30 samples would be considered in calculating the 90th percentile compliance value (See 40 CFR 141.80(c)(3)(i)). If additional customer-requested samples (i.e. special/non-compliance samples) are collected, those results will not be used in the compliance calculation but must still be reported to the state (See 40 CFR 141.90(g)). **Note:** Systems should submit a summary of their compliance sample results (include sample dates, locations and tier levels) and their 90th percent calculation to the Compliance Services Branch's Lead and Copper rule manager.

LEAD AND COPPER SAMPLING ISSUES:

Recently, the branch has had requests to invalidate lead and copper samples that were taken from outside spigots or hose connections after these samples resulted in exceedance of an action level. This practice is not in compliance with the requirements of the Lead and Copper Rule. These samples were not taken by the homeowners but were taken by employees of the water system.

- **Sample collection methods: [See 40 CFR 141.86(b)]**
  - Under normal circumstances, all samples taken shall be *first-draw* samples that have stood motionless in the plumbing system of each sampling site for at least six hours. First-draw samples from residential locations shall be collected from the cold water kitchen or bathroom sink tap. (**Note**: Water systems may allow residents to collect first-draw samples after instructing the residents of the specified sampling procedures. If a system allows residents to perform sampling, the system may not challenge – based on alleged errors in sample collection – the accuracy of the sampling results.)
  - A water system shall collect each first-draw tap sample from the same sampling site from which it collected a previous sample. If, for any reason, the water system cannot gain entry to a sampling site to collect a follow-up tap sample, the system may collect the follow-up tap sample from another sampling site in its sampling pool, as long as the new site meets the same targeting criteria and is within reasonable proximity of the original site.
- **Recommendations:**
  - Review proper sampling techniques with your employees and homeowners.
  - Revise your sample siting plan as populations change or shift in concentration. (Guidelines on developing sample siting plans are available on our Web site at **http://ncdrinkingwater.state.nc.us/**.) Upon request, sample siting plans and revised plans must be made available for PWSS review.

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

All community and non-transient non-community public water systems using water that has had a disinfectant added must now comply with the Stage 1-Disinfectants/Disinfection Byproducts (D/DBP) Rule. Transient non-community water supply systems using chlorine dioxide are also required to comply with the requirements of this rule.

SUMMARY OF REQUIREMENTS UNDER THIS RULE:

- **Disinfectant Residuals - New maximum residual disinfectant levels (MRDLs):**

Disinfectant Residuals	MRDL (mg/L)
Chlorine (free)	4.0
Chloramine (combined)	4.0
Chlorine Dioxide	0.8

- **Disinfectant Residuals - Testing and Reporting:**
  - Residual testing used for MRDL compliance must be performed with the collection of each compliance bacteria sample (routine and repeat samples).
  - Test for **free** chlorine if you disinfect your water with chlorine. If ammonia has also been added, test for both **total** chlorine and **free** chlorine. Subtract the free chlorine reading from the total reading to get your **combined** chlorine residual.
  - Record disinfectant residual measurements on each individual bacteriological analysis report form as well as the collection date, sample type and location code. For systems using monthly summary forms, be sure to record the required measurements and calculate the monthly residual average as well. Do not record other chlorine residuals that were tested randomly and not with the collection of a compliance bacteria sample on your compliance bacteria forms; they will not be used to determine compliance with the MRDLs.

- **Disinfection Byproducts - Lowered MCLs for TTHM and HAA5; new monitoring requirements and MCLs for chlorite and bromate if using either chlorine dioxide or ozone, respectively:**

Disinfection Byproducts	MCL (mg/L)
Total Trihalomethane (TTHM)	0.080
Total Haloacetic Acids (THAA5)	0.060
Bromate	0.010
Chlorite	1.0

- **Disinfection Byproducts - Sampling Schedules and Procedures:**
  - Samples must now be collected for five haloacetic acids (HAA5) analyses in addition to total trihalomethanes (TTHM) analyses.
  - All TTHM/HAA5 compliance samples **must** be collected at the same site and same time. Any resampling of a site requires collection of both TTHM/HAA5 at all sites again, on the same day.
  - Collect **annual** TTHM/HAA5 samples **between July 1 and Sept. 30** – during the hottest months.
  - Collect TTHM/HAA5 samples at sites in the distribution system that represent the maximum residence time (MRT). The minimum number of MRT samples required for each compliance period (quarterly or annually) is based on the number of entry points, source water type and system size. Systems may collect more than the minimum number of TTHM/HAA5 samples required for each compliance period; however, 25 percent of all samples collected per entry point/seller must be from MRT sites.
  - In addition to sampling for TTHM/HAA5, systems using chlorine dioxide must sample for chlorite and systems using ozone must sample for bromate.

- **Disinfection Byproduct Precursors – Treatment Technique (Precursor Removal Performance):**
  - Collect a *paired* Total Organic Carbon (TOC)/alkalinity sample set monthly for each surface or groundwater under the direct influence of surface water (GWUDI) treatment plant using conventional filtration and have the samples analyzed by a North Carolina certified lab.
  - Report each plant's monthly precursor removal compliance summary to the state using the "Report of DBP Treatment Technique Compliance" form. *[Use DENR-DBP-3 if one paired TOC set collected per month or quarter, or DENR-DBP-3E if more than one TOC set is collected per month or quarter.]* Each monthly report must include 12 months of data to support the calculated quarterly and running annual averages.

- **D/DBP Reduced and Increased Monitoring**:
  - To request a reduction in monitoring frequency for either DBPs or TOCs, submit the applicable request form to the D/DBP Rule Manager. These forms are available on our Web site. The DBP Monitoring Reduction Request Form must be accompanied by an acceptable DBP Monitoring Plan. (**Note:** Reduced monitoring for disinfectant residuals and daily chlorite is not allowed.)
  - Increased monitoring will be necessary if monitoring results exceed MCLs, MRDLs or other specified conditions.
  - For more details, see "Stage 1-D/DBP Monitoring Requirements" charts online for your **source water type** (either surface, ground or purchased).

- **Maintain a D/DBP Monitoring Plan:**
  - Use the "Guide for Developing a Disinfectant/Disinfection Byproducts (D/DBP) Monitoring Plan," located on the PWSS Web site to develop a D/DBP monitoring plan.
  - Keep distribution maps that show entry points, storage and sampling site locations updated.
  - All plan revisions must be initialed and dated by owner. **Note:** Surface water and GWUDI systems with populations over 3,300 must submit any changes to the PWSS for approval.
  - The monitoring plan will be reviewed by the state during the system's inspection.
  - Failing to monitor as stated in your plan or failing to have a monitoring plan may result in a violation.

PROPOSED RULE:
STAGE 2– DISINFECTANTS and DISINFECTION BYPRODUCTS (D/DBP) RULE

NOTE: *The EPA anticipates this rule will be finalized* ***by early 2006****. The information provided is based on the proposed rule and draft implementation guidance from EPA. The final version of the rule may differ from what is currently proposed. This information is preliminary and is intended to help you prepare for activities associated with the new rule. EPA plans to begin training the states and providing additional guidance on this new rule within the next few months. The section will provide any updated information to the state's public water supply systems.*

As with the Stage 1 - D/DBP Rule, those systems using water that has had a disinfectant added must comply with the new requirements for the Stage 2 - D/DBP Rule. Stage 2 - DBP requirements will be phased in based on system population.

NEW REQUIREMENTS UNDER THIS RULE:

- **Combined Distribution Systems -** Stage 2 introduces the concept of a combined distribution system, which refers to a network of wholesale and purchase water systems. All water systems that are part of a combined distribution system will have to develop an initial distribution system evaluation (IDSE) plan based on the schedule of the largest water system within that combined distribution network.
- **Locational Running Annual Averages -** Instead of averaging all DBP samples taken during a compliance period together, systems will develop running annual averages for individual sample locations: this is the locational running annual average (LRAA).
- **Develop an IDSE plan -** An IDSE plan must be proposed some months after promulgation of the Stage 2 - DBP rule. Although schedules for proposing an IDSE plan have not been finalized, they will be based on population. Failure to submit the required IDSE within the required time frame will result in a monitoring/reporting violation.

  Systems have three options for the IDSE:

  1. System-Specific Study (SSS) – consists of a hydraulic model **or** a water quality model and historic DBP sampling data. The model should be run in extended period simulation mode. Models should be well-calibrated by a tracer study or similar test;
  2. Standard Monitoring Plan – consists of one year of TTHM and HAA5 sampling conducted in addition to that required under the Stage 1 - DBP rule. The number of required samples will be determined based on system size. Samples must be collected every 60, 90 or 180 days, based on population; or
  3. Waivers
     - 40/30 Certification – If all TTHM samples collected two years before the IDSE were below 0.040 mg/L and all HAA5 samples collected during those years were below 0.030 mg/L and the system's sample locations were appropriate, no additional sampling is required for the IDSE.
     - Very Small System Waiver – For systems serving less than 500 people, if the Stage 1 site represents both high TTHM and HAA5 concentrations, the system has no monitoring violations and the Stage 1 samples were collected during the warmest month, the state may grant a waiver for the IDSE.
- **Maintain a D/DBP Monitoring Plan -** Keep the D/DBP monitoring plan that was developed for the Stage 1 - DBP Rule updated and submit it to the section upon request.
- **TTHM/HAA5 sampling schedules and procedures will be similar to those for Stage 1 with the following exceptions:**
  - Total number of required samples may change.
  - Samples may be required from high TTHM and HAA5 locations identified during the IDSE.
  - For systems sampling on a quarterly basis, samples must be collected every 90 days rather than at any time during the quarter.
  - For systems sampling on an annual basis, samples must be collected during the month historically associated with highest DBP concentrations. (For most systems, this will occur during the summer but for some it may occur other times of the year.)
- **Maximum contaminant levels for DBPs will be the same as those in the Stage 1 - DBP Rule;** however, compliance with these MCLs will be based on the LRAA and not the running annual average (RAA) used in the Stage 1 - DBP Rule.
- **Monitoring and MCL requirements for chlorite and bromate if using either chlorine dioxide or ozone will be the same as those for the Stage 1 - DBP rule with the following exception:** systems will be able to request reduced monitoring for bromate based on historical bromate results rather than on bromide testing.
- **Disinfectant Residual testing and reporting will be the same as that required for the Stage 1 - DBP Rule with the following exception:** EPA has proposed changes to the analytical method used to monitor bromate.
- **Maximum residual disinfectant levels will be the same as those for the Stage 1 - DBP Rule.**

REMINDER

All systems must be in compliance with the **arsenic** MCL of 0.010 mg/L by **Jan. 23, 2006**. If your system has exceeded this MCL before and since Jan. 1, 2002, you should have already submitted a compliance plan and schedule to the Public Water Supply Section indicating how your system was planning to meet the new MCL requirements.

LOOK HELPFUL HINTS LOOK

- Report changes in ownership, responsible person and any address changes ***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 inform them of changes to your system's information such as operator in responsible charge, sources, entry points, system configuration, population, connection, treatment or closing. The regional office must verify these changes and send the appropriate documentation to the central office before any changes can be made to our database.

- If an MCL is exceeded, public notice must be provided by direct delivery to each customer as soon as practical, but no later than **30 days** after you learn of the violation (within two days of the laboratory's completion of the analysis.) If you wait until you get the violation letter from the state, you may have already exceeded the required time limit for providing notice.

- Analyses for the various contaminants measured in drinking water must be started by the lab within certain time periods from the collection date. These restrictions are referred to as the "holding time" for the sample. Some analyses must be started within 30 hours of sample collection; others have 14 days or longer. Be sure to pay attention to these holding times, which should be provided with the sampling instructions, when you are collecting and delivering your samples to the lab.

- Do not wait until the end of the compliance period to collect your water samples! Once you have collected a compliance sample and prior to the end of the compliance period, contact your lab if you have not received any analysis results to make sure an error has not occurred with your sample. You may need to collect another sample either due to analysis interferences, exceeded holding times or other problems. Contacting the lab before the end of the compliance period may allow you time to get another sample kit from the lab, collect the sample within the compliance period and return it to the lab, thus avoiding a monitoring/reporting violation.

- Compliance samples for total coliform bacteria, TTHM, HAA5, lead, copper and asbestos (except for source water asbestos) must always be collected from sites in the **distribution system**. Pay attention to where in the distribution system the particular type of sample must be collected. If you collect samples from locations other than those required, be sure to mark the "sample type" on the analysis form as "special/non-compliance."

- Compliance samples for synthetic organic chemicals (SOC), volatile organic chemicals (VOC), inorganic chemicals (IOC), radiolonuclides (Rad), nitrate and nitrite must always be collected from the **entry point tap** (where the water enters the distribution system).

SUBMITTAL OF ANALYTICAL RESULTS

If fecal/*E.Coli* bacteria is present in your water sample, or the nitrate or nitrite MCL is exceeded, your laboratory must fax the analytical results to the section's Compliance Services Branch (CSB) 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 fax the results to the CSB within **48 hours** of completing the analysis. Laboratories should also mail hard copies to the section as soon as possible. Your laboratory must notify you of the analytical results within the same time frames!

For all other analyses, the results must be submitted by your laboratory and **received by the PWSS** within the first 10 days following the month in which the analyses are completed or the first 10 days following the end of the required monitoring period as stipulated by the state, whichever of these is shortest. For example, if a monthly bacteria sample is analyzed on Feb. 22, the results must be received by the PWSS by March 10. If a first quarter sample of the calendar year is collected near the end of the compliance period – for example, March 29 – and the analysis is completed on April 7, the analytical results must still be received by April 10 to avoid a reporting violation for your system.

Note that the standard analysis for certain contaminant groups such as radionuclides, VOCs and SOCs take several weeks for the laboratories to complete. We recommend that you consult with your laboratory to ensure you have the proper sampling equipment and determine when your samples should be collected to allow ample time for their completion of the analysis and submittal of the results to the PWSS by the reporting deadlines. If you have the proper sampling equipment but wait to collect your water sample at the end of the compliance period, your lab may not be able to complete the analysis and report the results to the state by the appropriate deadline. Therefore, your system will receive a reporting violation; your laboratory will not be held accountable for missing the reporting deadline due to your late submittal of your water sample to them.

When submitting your sample to the lab, be sure you have filled in all of the required information above the double line on the sample analysis report form provided with your sample kit. The correct PWS ID#, location code (must be only three characters), collection date and time (using military time) must be included. Also, be sure to review your returned analysis report from the lab for errors or missing information below the double line. Contact your lab immediately if any errors are noted, so they can resubmit your corrected report to the state in time! The branch is now faxing rejected analyses forms back to the laboratories in an effort to reduce turn-around time.

Note: Water systems with certified in-house laboratories that collect 10 or less total coliform samples per month should report their results on the individual bacteriological analysis forms rather than on a monthly summary form such as forms DENR 3762 or 3763.

CONSUMER CONFIDENCE REPORTS (CCR)

All community systems **must** produce and distribute an annual CCR that provides information on the system's water quality. 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* in the Public Water Supply Section's Inventory Database.

DEADLINES:

- **April 1** – Systems selling water to another community water system must deliver source and violation information and detection data to the buying system.
- **July 1** – CCR due to both the customers of the water system and the section.
- **Oct. 1** – CCR Certification Form due to the PWSS. A copy of the CCR Certification Form can be found on the PWSS Web site.

TIPS FOR CCR PREPARATION AND DELIVERY:

1. Delivery requirements are based on a water system's population – **people served** – not the number of connections/billing units.
2. Water systems with a population of less than 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 how to 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. Provide tables showing the most current analytical results and detections found above the required reporting limit. Systems must inform their customers of all violations, including MCL and monitoring violations. **Please note that public notification violations must also be reported in your CCR.** Pertinent information such as the violation type, contaminant groups identified, required actions, duration and corrective action must be provided. Enforcement actions such as administrative orders and administrative penalties must also be reported.

***** NEW*****

- The current N.C. CCR template is available on the PWS Web site. It includes a table and guidance for the reporting of disinfection byproduct precursors (total organic carbon/TOC).
- Beginning with the 2004 CCR report, which was 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 have been incorporated into the revised template available on the PWSS Web site.
- From our recent discussions with the EPA, it was determined that reporting violations do not have to be included in your CCR.

PUBLIC NOTIFICATION

The "Notice to the Public" templates that are mailed with every violation letter from the state include most of the required information. **You must** complete a few other areas such as the compliance period, corrective actions taken, contact information, date the notice was distributed and the method of distribution. You must also sign and date the certification at the bottom of the notice.

Within 10 days after completing the initial public notification to your customers, submit a copy of the completed "Notice to the Public" and the Public notification certification to the Compliance Services Branch.

Note – For Tier 3 public notification: The CCR may be used in lieu of a separate Tier 3 public notice to fulfill this requirement only if the CCR is distributed to your customers within 12 months of the Tier 3 letter date. If you choose to use this method, you must submit all of the following to the section within the public notification rule's required 12-month time frame (not the July 1 CCR deadline):

- Consumer Confidence Report
- CCR Certification Form
- Public Notification/Certification Form

All of the above **must** be sent to the Compliance Services Branch 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.

REVIEW: LONG TERM 1 ENHANCED SURFACE WATER TREATMENT RULE (LT1ESWTR)

LT1ESWTR, which became effective on Jan. 1, 2005, applies to all surface water or GWUDI systems that serve fewer than 10,000 people. This rule established *Cryptosporidium* removal requirements and turbidity standards for combined and individual filter monitoring.

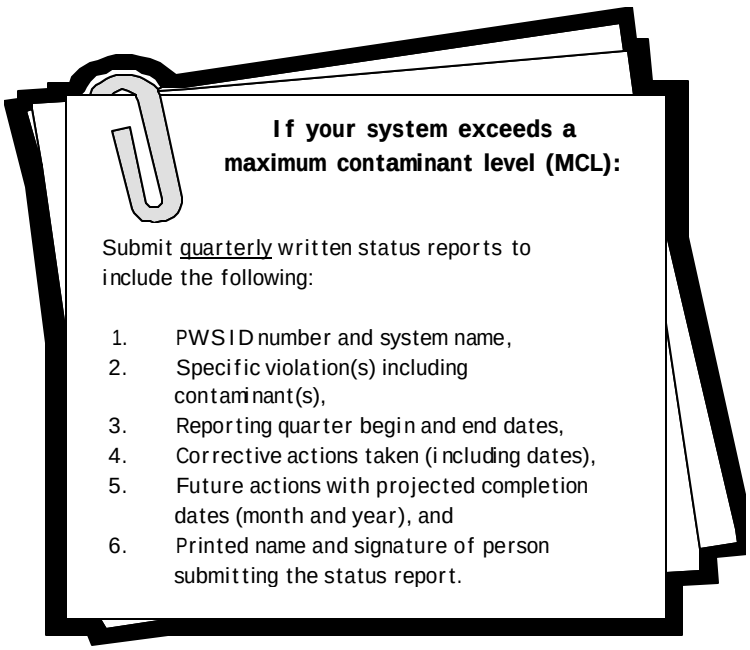
Below is a summary of the requirements for systems using conventional and direct filtration:

- ***Cryptosporidium* removal requirements**: Filtered systems must physically remove 99 percent (2-log) of *Cryptosporidium*.
- **Combined Filter Effluent (CFE) turbidity monitoring** must be performed at least every four hours to ensure the following performance standards:
  - 0.3 nephelometric turbidity units (NTU) in at least 95 percent of measurements taken each month.
  - Maximum level of turbidity: 1 NTU
- **Individual Filter Effluent (IFE) turbidity monitoring** must be performed continuously and recorded at least every 15 minutes. (**Note:** Systems with two or fewer filters may conduct continuous monitoring of CFE turbidity in place of individual filter effluent turbidity monitoring.) Since the CFE may meet regulatory requirements even though one filter is producing high turbidity water, the IFE is measured to assist treatment plant operators in understanding and assessing individual filter performance. **Turbidity levels must be reported to the state by the tenth of the following month using the appropriate forms.** For IFE turbidity levels, use the Individual Filter Monitoring Report form (DENR 1940, Part V). If there were no turbidity exceedances for the month, check "No" to the question on the form "Did any Individual Filter Turbidity Exceedance(s) trigger the EPA-required reporting during this month?" If the turbidity exceeded 1.0 NTU in two consecutive 15 minute readings or more, record the filter number, the turbidity value that exceeded 1.0 NTU, the date(s) exceeded, the cause/reason for the exceedance and the corrective action taken to solve and/or prevent exceedances in the future. Each form must be signed by the operator in responsible charge and be submitted to the state with your other monthly operating reports.
- **Required follow-up actions**, based on continuous turbidity monitoring of IFE (or CFE for systems with two filters that monitor CFE instead of IFE):
  - If the turbidity exceeded 1.0 NTU in two consecutive 15 minute readings for three months in a row, you must **perform a filter self-assessment** within 14 days of the last exceedance. Filter self-assessment includes assessment of a filter performance, development of a filter profile, identification and prioritization of factors limiting filter performance, assessment of the applicability of corrections and preparation of a self-assessment report.
  - If turbidity exceeded 2.0 NTU in two consecutive 15 minute readings for two months in a row, a **comprehensive performance evaluation must be performed** by a third party approved by the state within 60 days of the last >2.0 NTU exceedance; it must be completed and submitted to the state within 120 days of that exceedance.
- **Disinfection profiling and benchmarking**: Community and non-transient non-community public water systems must evaluate impacts on microbial risk before changing disinfection practices to ensure adequate microbial protection is maintained.

  Disinfection Profile (graphical compilation of weekly inactivation of *Giardia lamblia):*
  - Develop a 52-week disinfection profile as follows: measure pH, residual disinfectant, temperature and detention time during peak hourly flow once per week (same day of the week) during all the months the system is operational.
  - Calculate *Giardia lamblia* inactivations for each week and plot.
  - Keep on file at plant indefinitely.

  Disinfection benchmark (the calculation of the lowest monthly average of inactivation based on the disinfection profile): Systems required to develop a profile must calculate a disinfection benchmark and obtain approval from the section prior to making a significant change to their disinfection practices. The following information should be provided during consultation:
  - Description of the proposed change,
  - Disinfection profile (and data used to develop profile), and
  - Analysis of how the proposed change will affect the current levels of disinfection.

  Results of the disinfection benchmark (including the raw data and analysis) must be kept indefinitely with a copy mailed to your regional water treatment plant consultant.



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

Submit quarterly written status reports to include the following:

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

PROPOSED RULE:
LONG TERM 2 ENHANCED SURFACE WATER TREATMENT RULE (LT2ESTWR)

***NOTE:** The EPA anticipates this rule will be finalized **by early 2006**. The information provided is based on the proposed rule and draft implementation guidance from EPA. The final version of the rule may differ from what is currently proposed. This information is preliminary and is intended to help you prepare for activities associated with the new rule. EPA plans to begin training the states and providing additional guidance on this new rule within the next few months. The section will provide any updated information to the state's public water supply systems.*

LT2ESWTR applies to all surface water systems or GWUDI systems. LT2ESWTR focuses on reducing disease incidences associated with *Cryptosporidium* and other pathogenic organisms by supplementing past regulations and targeting additional treatment for *Cryptosporidium* removal. Implementation of this rule will occur in stages based on population groups.

REQUIREMENTS UNDER THIS RULE:

- **Source Water Monitoring** – To be collected at a location prior to treatment and not subject to surface runoff.

  Sampling Schedule and Frequency
  - **Large systems** serving at least 10,000 people must conduct monitoring for *Cryptosporidium, E. coli* and turbidity. Monitoring must commence within six months of rule promulgation, and samples must be collected at least monthly for 24 months.
  - **Small systems** serving fewer than 10,000 people must first monitor for *E. coli* or a state-approved alternative indicator. These systems must begin *E. coli* monitoring no later than 30 months after rule promulgation and must monitor once every two weeks for one year.

    Note: If the annual average exceeds the *E. coli* trigger level (>10 *E. coli*/100mL for lake/reservoir sources and > 50 *E. coli*/100 mL for flowing river/stream sources), small systems must then monitor for *Cryptosporidium* at least twice each month for one year.
  - All systems will be required to conduct a second round of monitoring beginning six years after their initial bin classification requirements (see table below).

    See also "Draft Source Water Monitoring Guidance Manual for Public Water Systems" at EPA's Web site: **www.epa.gov/safewater/lt2/pwsguide.html**.

  Grandfathered Data
  - Systems can begin collecting *Cryptosporidium* data before LT2ESTWR is finalized.
  - Guidance on collecting data to be grandfathered can be found in EPA's "Guidance on Generation and Submission of Grandfathered *Cryptosporidium* Data for Bin Classification Under LT2ESTWR" (April 2003).

  Additional *Cryptosporidium* Treatment Requirements
  - Based on monitoring results, systems will be classified in one of four risk bins and may be subject to additional treatment.
  - Systems will have 72 months (or approximately 36 months following initial bin classification) after promulgation of the rule to meet additional *Cryptosporidium* treatment requirements.
  - The state may grant an additional two years to comply when capital investments are necessary.
  - Treatment options and credits for meeting additional *Cryptosporidium* treatment are provided in EPA's Microbial Toolbox.

- **Disinfection Profiling and Benchmarking**
  - *Giardia* and virus disinfection profiles are required for all systems monitoring for *Cryptosporidium.* For those smaller systems whose one-year *E. coli* monitoring did not trigger *Cryptosporidium* monitoring but whose TTHM and HAA5 locational running annual average exceeded 80 percent of MCLs must also develop these profiles.
  - Systems can use grandfathered data (i.e. disinfection profiles prepared for IESWTR or LT1ESWTR) only if significant changes have not been made to disinfection practices.
  - Disinfection profiling must be completed when *Cryptosporidium* bin classifications are made and must be kept on file at the facility for review during sanitary surveys.

*For additional information & guidance on LT2ESWTR, see EPA's Web site: **http://www.epa.gov/safewater/lt2/redirect.html**.*

If source water *Cryptosporidium* concentration for filtered systems is in oocysts/L…	**And the system uses the following filtration treatment, then additional treatment requirements are…**				
	Bin classification is…	**Conventional Filtration Treatment**	**Direct Filtration**	**Slow sand or diatomaceous earth**	**Alternative filtration technologies**
<0.075	1	No additional treatment	No additional treatment	No additional treatment	No additional treatment
≥ 0.075 and < 1.0	2	1.0 log treatment	1.5 log treatment	1.0 log treatment	At least 4.0 log
≥ 1.0 and < 3.0	3	2.0 log treatment	2.5 log treatment	2.0 log treatment	At least 5.0 log
≥ 3.0	4	2.5 log treatment	3.0 log treatment	2.5 log treatment	At least 5.5 log

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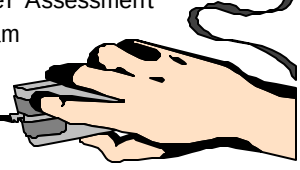
943 Washington Square Mall
Washington, NC 27889
(252) 946-6481

Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405-3845
(910) 796-7215

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

WHAT YOU CAN FIND ON THE PWSS WEB SITE:

- Link for N.C. Certified Labs
- Monitoring Requirement Charts for all Rules
- "Rules Governing Public Water Systems"
- Monitoring Schedule, Sampling Schedule and Entry Point Data
- N.C. CCR Guidance & Template
- Public Notice Templates
- Stage 1-D/DBP Monitoring Plan Guide/Template and Monitoring Requirements Charts
- Online Forms (Report of Operation forms, Plan Review, SRF)
- Plan Review and Water System Approval Status
- Financial Assistance Information
- Hot Button to Source Water Assessment and Protection Web Program



RULES & RULE MANAGERS

Rule	Rule Manager
Arsenic	Scott Smart
Asbestos	
Bacteriological – Total Coliform CWS and NTNC systems Transient Systems	 Jerome Gilberry Derek Lewis
Consumer Confidence Reports	Beth Goodwin
Disinfectants and Disinfection By-Products (DBP) Rules [includes Trihalomethanes (TTHMs), Haloacetic Acids (HAA5), MRDLs, Treatment Techniques]	Julia Cavalier
Filter Backwash Rule	Bonani Langan
Inorganic Chemicals (IC)	Scott Smart
Lead and Copper	Jim Coor
Nitrate/Nitrite	Derek Lewis
Public Notification Rule	Beth Goodwin
Radionuclides	Scott Smart
Surface Water Treatment Rules (SWTR, IESWTR, LT1ESWTR, LT2ESWTR), Synthetic Organic Chemicals (SOCs) /Pesticides, PCBs & Dioxin	Bonani Langan
Turbidity	
Volatile Organic Chemicals (VOC)	

COMPLIANCE SERVICES BRANCH RULE MANAGERS
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(919) 715-3225 Linda.Raynor@ncmail.net

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Jerome Gilberry ..... (919) 715-0576
Jerome.Gilberry@ncmail.net
Derek Lewis..... (919) 715-2581
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WEB ADDRESSES

EPA Office of Water: http://www.epa.gov/OW/

State of North Carolina: 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://slph.state.nc.us/EnvironmentalSciences/Certification/default.asp

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