



Fw: SC GWR Primacy
Janine Morris to: Dale Froneberger, Wayne Lee
Cc: Morris.Janine, Dan Olone

06/24/2010 02:29 PM

History: This message has been replied to.



Attached is SC's response to our comments on the GWR . Please review their comments so that we can get this package moving toward approval again .

Thanks!

Janine

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--- Forwarded by Janine Morris/R4/USEPA/US on 06/24/2010 02:26 PM ---

From: "Richard Welch" <welchra@dhec.sc.gov>
To: Janine Morris/R4/USEPA/US@EPA
Cc: "Doug Kinard" <KINARDDDB@dhec.sc.gov>
Date: 06/24/2010 02:21 PM
Subject: SC GWR Primacy

Janine,
Attached, please find our comments on the GWR primacy revision. I have included our response to your letter dated November 2009. Also, I have included the special primacy requirements crosswalk because some of the language was modified at EPA's suggestion.

Please contact me if you have questions.

Rich

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DHEC Response to EPA Comments-SC-06232010.doc GWR Special Primacy Requirements.doc

EPA Review Comments
 GWR Primacy Revision Package
 State of South Carolina
 June 23, 2010

Federal Citation (40 CFR)	State Citation (R61-58.)	(EPA Response to DHEC Comments)	DHEC Response
141.153(h)(6)(i)	12.C(11)(f)(i), pg. 349	<p>While the Department feels like our citation is no less stringent than the federal regulations and will not cause confusion, this citation will be reviewed and potentially changed during the next regulation revision.</p> <p>When may we expect the next rule revision to include this change? Which rule revision will this change accompany?</p> <p>There is an implicit inconsistency between the first and second sentences of provision R.61-58.12.C(11)(f)(i) that renders it less stringent than 40 CFR 141.153(h)(6)(i). EPA will need to evaluate the State's updated regulatory language once the regulatory revision is made. Therefore, the package cannot be approved until the regulatory revision is made.</p>	<p>Because of the extensive regulatory process required to change the State Primary Drinking Water Regulations, DHEC is not planning on revising the regulations to incorporate these minor changes. The next expected regulation revision will be the Revised Total Coliform Rule. At that time, our regulations will be changed to incorporate the changes EPA requests. Nevertheless, DHEC expects to hold systems to the missing language even though it was inadvertently left out.</p>
141.153(h)(6)(i)(C)	12.C(11)(f)(i)(C), pg. 349	<p>In an attempt to make a difficult run-on sentence easier to read and understand, the opening sentence was modified for our state regulations. The state provision does mention interim measures, but does not mention progress to date.</p> <p>Will the state provision be revised to include "progress to date"? If so, when?</p> <p>From EPA's perspective, "interim measures" and "corrective action" are distinct actions in that interim measures are something to be put in place <u>until</u> the corrective action is complete. Thus, EPA needs the state regulatory language to require systems to include in their CCR not only those interim measures that are completed, but also the full slate of interim measures</p>	<p>Please refer to the comment above. DHEC intends to require systems to include progress to date even though it is not spelled out in the State regulations. This will include all interim measures (completed and required) as well as progress to date.</p>

		<p>required of the system AND the progress that the system has made toward completing its corrective action. EPA will need to evaluate the State's updated regulatory language once the regulatory revision is made. Therefore, the package cannot be approved until the regulatory revision is made.</p>	
141.401(b)	16.D(2), pg. 397	<p>State regulatory language will be updated during the next regulatory revision.</p> <p>When may we expect the next rule revision to include this change? Which rule revision will this change accompany?</p> <p>EPA will need to evaluate the updated language once the regulatory revision is made.</p>	See comment from number 1 above.
141.403(b)(3)(i)(A)	16F(2)(c)(i)(A), pg. 403	<p>State regulatory language will be updated during the next regulatory revision.</p> <p>When may we expect the next rule revision to include this change? Which rule revision will this change accompany?</p> <p>EPA will need to evaluate the updated language once the regulatory revision is made.</p>	See comment from number 1 above.
142.16(o)(2), 142.16(o)(2)(ii), 142.16(o)(2)(iii) & 142.16(o)(2)(v)		<p>Since South Carolina is modifying parts of its sanitary survey program and it appears that the new approach will be best represented by the revised sanitary survey manual, it will be important to include the revised manual with a revised primacy application. The adjustments made to Appendix B (Sanitary Survey Report Form) and Appendix C (Significant Deficiencies Discussion) adequately address previous EPA comments related to these documents.</p> <p>It is clear from South Carolina's responses to EPA comments that sanitary survey inspectors are trained every two years and training is scheduled for staff again beginning in October 2009. As a way to address EPA itemized Comment #1 (at left), it will be important to add this specific information about training to the crosswalk itself – under 40 CFR 142.16(o)(2)(i).</p>	The DHEC Sanitary Survey Manual has been sent to Region 4. The crosswalk (40 CFR 142) has been modified to incorporate all of the other EPA comments.

		<p>The Department has never had a problem conducting sanitary surveys at the EPA's recommended frequency. As a matter of fact, the Department's goal, that is rarely missed, is to perform a sanitary survey on all community systems annually. OK</p> <p>To more fully address EPA itemized Comment #2 (at left), it will also be important to add to the crosswalk itself (under 40 CFR 142.16(o)(2)(i)) information from the paragraph above indicating that the State has not experienced past problems in meeting required schedules for conducting sanitary surveys.</p> <p>Systems will be notified of significant deficiencies in writing. This will be done by certified mail, as is the current practice of our enforcement section. The written notice of significant deficiency will be a stand alone document. The owner or responsible party currently gets a completed copy of the sanitary survey along with a written description of any findings or recommendations. All inspectors make an effort to meet with the owner or responsible party during the survey to explain any findings and clear up confusion.</p> <p>OK</p> <p>To more fully address EPA's comment on the process for notifying systems of significant deficiencies, it will be important for DHEC to add information from the paragraph above into the crosswalk itself – under 40 CFR 142.16(o)(2)(v).</p>	
142.16(o)(4)(iii)		<p>The primacy revision crosswalk has been updated to incorporate this item. All proposed treatment is currently reviewed by engineers in both the facilities permitting section and compliance section. The Department's rigorous review standards will continue to be followed.</p>	<p>The crosswalk has been modified to incorporate the EPA comments.</p>

		<p>OK, sent via letter dated 06/05/09.</p> <p>In addition to the information already included for this item in the crosswalk, it is appropriate for the crosswalk to mention the permit review process and to reference the applicable design review standards document or regulations.</p>	
142.16(o)(4)(iv)		<p>Current Department regulations require daily visits by a certified operator. Daily visits include process control checks, process verification, chemical levels & dosages, etc. These requirements will not change under the new rule. Ground water systems that propose to add treatment will be required to submit a monthly operating report to the Department similar to the report required by surface water plants. The report would include critical daily operating data, chemical amounts and dosages, well flow information, as well as bacteriological distribution system monitoring.</p> <p>OK</p> <p>Language presented in the crosswalk to address this EPA comment indicates that DHEC will use “available guidance” to ensure minimum 4-log treatment is provided under the full range of expected operating conditions. The crosswalk needs to identify which specific guidance documents will be used. Additionally, it will be especially helpful if the mention of daily operator visit and process control check requirements are accompanied by references to applicable regulatory provisions of R.61-58.7 (?).</p>	<p>The crosswalk has been modified to incorporate the EPA comments.</p>

Section IV – 40 CFR 142 Parts 14, 15, & 16

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	EXPLANATION OF STATE POLICIES AND PROCEDURES
PART 142 NATIONAL PRIMARY DRINKING WATER REGULATIONS IMPLEMENTATION		
SUBPART B PRIMARY ENFORCEMENT RESPONSIBILITY		
40 CFR 142.14 RECORDS KEPT BY STATES.		
Records of the currently applicable or most recent State determination, including all supporting information and an explanation of the technical basis of each decision, made under the following provisions of 40 CFR part 141, subpart S and 40 CFR part 142.	40 CFR 142.14 (d)(17)	Decisions pertaining to Subpart S, Ground Water Rule, and Primacy requirements will be kept according to the Department's Record Retention Schedule. (See Appendix A.)
40 CFR 142.16(o)(2)(v). Records of written notices of significant deficiencies.	40 CFR 142.14 (d)(17)(i)	Records of written notices of significant deficiencies will be kept according to the Department's record retention schedule.
40 CFR 141.403(a)(5)(ii) of this chapter. Records of corrective action plans, schedule approvals, and State-specified interim measures.	40 CFR 142.14 (d)(17)(ii)	Records of corrective action plans, plan schedules, plan approvals, and any additional information will be kept according to the Department's record retention schedule.
40 CFR 142.16(o)(4). Records of confirmations under 40 CFR 141.403(a) of this chapter that a significant deficiency has been corrected or the fecal contamination in the ground water source has been addressed.	40 CFR 142.14 (d)(17)(iii)	Records of significant deficiency correction and records of addressing fecal contamination in the ground water source will be kept according to the Department's record retention schedule.
40 CFR 141.402(a)(5) of this chapter. Records of State determinations and records of ground water system's documentation for not conducting triggered source water monitoring.	40 CFR 142.14 (d)(17)(iv)	Records of Department determinations and conditions for not conducting triggered source monitoring will be kept according to the Department's record retention schedule.

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	EXPLANATION OF STATE POLICIES AND PROCEDURES
40 CFR 141.402(d) of this chapter. Records of invalidations of fecal indicator-positive ground water source samples.	40 CFR 142.14 (d)(17)(v)	Records of invalidations of fecal indicator positive ground water source samples will be kept according to the Department's record retention schedule.
40 CFR 141.402(a)(2)(ii) of this chapter. Records of State approvals of source water monitoring plans.	40 CFR 142.14 (d)(17)(vi)	Records of Department approvals of source water monitoring plans will be kept according to the Department's record retention schedule.
40 CFR 142.16(o)(4)(ii). Records of notices of the minimum residual disinfection concentration (when using chemical disinfection) needed to achieve at least 4-log virus inactivation before or at the first customer.	40 CFR 142.14 (d)(17)(vii)	Records of Department required minimum residual disinfection along with all other parameters needed to determine 4-log virus inactivation will be kept according to the Department's record retention schedule.
40 CFR 142.16(o)(4)(iv) and 142.16(o)(4)(v) Records of notices of the State-specified monitoring and compliance requirements (when using membrane filtration or alternative treatment) needed to achieve at least 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of 4-log inactivation and removal) before or at the first customer.	40 CFR 142.14 (d)(17)(viii)	Records of Department specified monitoring and compliance requirements for membrane filtration or other technologies needed to achieve 4-log virus inactivation or removal will be kept according to the Department's record retention schedule.
40 CFR 141.403(b)(1) and 141.403(b)(2) of this chapter. Records of written notices from the ground water system that it provides at least 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of 4-log virus inactivation and removal) before or at the first customer for a ground water source.	40 CFR 142.14 (d)(17)(ix)	Records of written notices of ground water systems providing 4-log virus inactivation or treatment will be kept according to the Department's record retention schedule.
40 CFR 142.16(o)(4)(vi). Records of written determinations that the ground water system may discontinue 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of 4-log inactivation and removal).	40 CFR 142.14 (d)(17)(x)	Records of written determinations that a ground water system may discontinue 4-log virus inactivation or treatment will be kept according to the Department's record retention schedule.

40 CFR 142.15 REPORTS BY STATES.		
<i>Ground water rule. Sanitary surveys.</i> The month and year in which the most recent sanitary survey was completed or, for a State that uses a phased review process, the date the last element of the applicable eight elements was evaluated under 40 CFR 142.16(o)(2) for each ground water system.	40 CFR 142.15 (c)(7)(i)	This information will continue to be provided to EPA through the Department's quarterly SDWIS updates. Written documentation can also be provided upon request.
<i>Corrective action requirements.</i> For any corrective action under 40 CFR 141.403(a) of this chapter, the date the ground water system completed corrective action.	40 CFR 142.15 (c)(7)(ii)	This information will be provided to EPA through the Department's quarterly SDWIS updates. Written documentation can also be provided upon request.
<i>Compliance monitoring.</i> All ground water systems providing at least 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of 4-log virus inactivation and removal) before or at the first customer for any ground water source(s).	40 CFR 142.15 (c)(7)(iii)	This information will be provided to EPA through the Department's quarterly SDWIS updates. In addition, compliance monitoring information submitted to the Department by systems providing 4-log treatment will be kept for 12 years in accordance with the record retention schedule submitted as Appendix A. Written documentation can also be provided upon request.

40 CFR 142.16 SPECIAL PRIMACY REQUIREMENTS.		
<i>Table 1 of 40 CFR 141.202(a) (Items (5), (6), and (9))</i> —To require public water systems to give a Tier 1 public notice (rather than a Tier 2 or Tier 3 notice) for violations or situations listed in Appendix A of Subpart Q of Part 141 of this chapter;	40 CFR 142.16 (a)(2)(iii)	The State Primary Drinking Water Regulations, R.61-58, are included with this primacy application. The public notice requirements are found in R.61-58 Appendix A.
<i>Requirements for States to adopt 40 CFR part 141, subpart S.</i> In addition to the general primacy requirements specified elsewhere in this part, including the requirement that State regulations are no less stringent than the Federal requirements, an application for approval of a State program revision that adopts 40 CFR part 141, subpart S, must contain the information specified in this paragraph (o).	40 CFR 142.16 (o)	The information included within this package constitutes the primacy application and includes all appropriate documentation.
<i>Legal authority.</i> The application for primacy must demonstrate the State has:	40 CFR 142.16 (o)(1)	Included with this primacy application is a letter from the Department's General Counsel outlining the Department's legal authority to implement and enforce the Ground Water Rule.
The authority contained in statute or regulation to ensure that ground water systems conduct source water monitoring under 40 CFR 141.402(a)(2), 40 CFR 141.402(a)(3) and 40 CFR 141.402(a)(4)(ii)(A) of this chapter.	40 CFR 142.16 (o)(1)(i)	The authority to ensure that ground water systems conduct source water monitoring can be found in the State Safe Drinking Water Act 44-55-30, 44-55-80, and the State Primary Drinking Water Regulation R.61-58.16.
The authority contained in statute or regulation to ensure that ground water systems take the appropriate corrective actions including interim measures, if necessary, needed to address significant deficiencies.	40 CFR 142.16 (o)(1)(ii)	The authority to ensure that ground water systems take appropriate corrective actions to address significant deficiencies can be found in the State Safe Drinking Water Act 44-55-30, 44-55-80, and the State Primary Drinking Water Regulation R.61-58.16.

<p>The authority contained in statute or regulation to ensure that ground water systems take the appropriate corrective actions, including interim measures if necessary, to address any source water fecal contamination identified during source water monitoring under 40 CFR 141.402 of this chapter.</p>	<p>40 CFR 142.16 (o)(1)(iii)</p>	<p>The authority to ensure that ground water systems take appropriate corrective actions to address source water fecal contamination can be found in the State Safe Drinking Water Act 44-55-30, 44-55-80, and the State Primary Drinking Water Regulation R.61-58.16.</p>
<p>The authority contained in statute or regulation to ensure that ground water systems consult with the State regarding corrective action(s).</p>	<p>40 CFR 142.16 (o)(1)(iv)</p>	<p>The authority to ensure that ground water systems consult with the Department can be found in the State Safe Drinking Water Act 44-55-30, 44-55-80, and the State Primary Drinking Water Regulation R.61-58.16.</p>
<p><i>State practices or procedures for sanitary surveys.</i> In addition to the general requirements for sanitary surveys contained in 40 CFR 142.10(b)(2), a primacy application must describe how the State will implement a sanitary survey program that meets the requirements of paragraph (o)(2)(i) of this section. A “sanitary survey,” as conducted by the State, includes but is not limited to, an onsite review of the water source(s) (identifying sources of contamination by using results of source water assessments or other relevant information where available), facilities, equipment, operation, maintenance, and monitoring compliance of a public water system to evaluate the adequacy of the system, its sources and operations and the distribution of safe drinking water.</p>	<p>40 CFR 142.16 (o)(2)</p>	<p>The Department sanitary survey program currently evaluates all eight of the required elements. The evaluation form is attached to this primacy application as Appendix B.</p> <p>The Department revised our sanitary survey guidance manual to more closely reflect the eight elements and how to determine and document significant deficiencies. A copy of this guidance has been forwarded to EPA Region 4.</p>

<p>The State must conduct sanitary surveys that address the eight sanitary survey components listed in this section no less frequently than every three years for community water systems, except as provided in paragraph (o)(2)(iii) of this section, and every five years for non-community water systems. The State may conduct more frequent sanitary surveys for any system. The initial sanitary survey for each community water system must be conducted by December 31, 2012, unless the system meets the requirements of paragraph (o)(2)(iii) of this section. The initial sanitary survey for each community water system that meets the requirements of paragraph (o)(2)(iii) of this section and for each non-community water system must be conducted by December 31, 2014. The sanitary survey must include an evaluation of each of the following elements as applicable:</p>	<p>40 CFR 142.16 (o)(2)(i)</p>	<p>The Department conducts sanitary surveys that address the eight identified elements. For community water systems the frequency will be not less than every three years. For non-community water systems, the frequency will be not less than every five years. In addition, the Department implements a statewide goal of conducting surveys annually for all community water systems.</p> <p>In December 1997, Department drinking water staff compiled and printed a comprehensive sanitary survey guidance manual for ground water systems. The information presented in the manual was an accumulation of many years of experience and information on how to conduct a sanitary survey. The manual goes through each of the required elements for the state survey (51 items). Field staff are trained every two (2) years. The Department revised the manual in October 2009. The inspection forms were modified to include significant deficiencies and facilitate EPA compliance reviews. A training program for all field staff was conducted in October 2009.</p>
<p>Source,</p>	<p>40 CFR 142.16 (o)(2)(i)(A)</p>	<p>The Department's sanitary survey program includes an evaluation of the source.</p>
<p>Treatment,</p>	<p>40 CFR 142.16 (o)(2)(i)(B)</p>	<p>The Department's sanitary survey program includes an evaluation of the treatment.</p>
<p>Distribution system,</p>	<p>40 CFR 142.16 (o)(2)(i)(C)</p>	<p>The Department's sanitary survey program includes an evaluation of the distribution system.</p>
<p>Finished water storage,</p>	<p>40 CFR 142.16 (o)(2)(i)(D)</p>	<p>The Department's sanitary survey program includes an evaluation of the finished water storage.</p>

Pumps, pump facilities, and controls,	40 CFR 142.16 (o)(2)(i)(E)	The Department's sanitary survey program includes an evaluation of the pumps, pump facilities, and controls.
Monitoring, reporting, and data verification,	40 CFR 142.16 (o)(2)(i)(F)	The Department's sanitary survey program includes an evaluation of the monitoring, reporting, and data verification records.
System management and operation, and	40 CFR 142.16 (o)(2)(i)(G)	The Department's sanitary survey program includes an evaluation of the system management and operation.
Operator compliance with State requirements.	40 CFR 142.16 (o)(2)(i)(H)	The Department's sanitary survey program includes an evaluation of the operator compliance with state requirements.
The State may use a phased review process to meet the requirements of (o)(2)(i) of this section if all the applicable elements of paragraphs (o)(2)(i)(A) through (o)(2)(i)(H) of this section are evaluated within the required interval.	40 CFR 142.16 (o)(2)(ii)	The Department is not planning on implementing a phased approach. All eight of the elements are evaluated and documented during the sanitary survey.
The State may conduct sanitary surveys once every five years for community water systems if the system either provides at least 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of 4-log inactivation and removal) before or at the first customer for all its ground water sources, or if it has an outstanding performance record, as determined by the State and documented in previous sanitary surveys and has no history of total coliform MCL or monitoring violations under 40 CFR 141.21 of this chapter since the last sanitary survey. In its primacy application, the State must describe how it will determine whether a community water system has an outstanding performance record.	40 CFR 142.16 (o)(2)(iii)	The Department does not plan on reducing the frequency of sanitary surveys to less than three years for community water systems. The Department has never had a problem conducting sanitary surveys at the EPA's recommended frequency. The Department's goal is to perform a sanitary survey on all community systems annually.
The State must define and describe in its primacy application at least one specific significant deficiency in each of the eight sanitary survey elements in paragraphs (o)(2)(i)(A) through (o)(2)(i)(H) of this section. Significant deficiencies include, but are not limited to, defects in design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system that the State determines to be causing, or have potential for causing, the introduction of contamination into the water delivered to consumers.	40 CFR 142.16 (o)(2)(iv)	The Department has identified at least one significant deficiency for each of the eight required elements. This list is attached as Appendix C.

<p>As a condition of primacy, the State must provide ground water systems with written notice describing any significant deficiencies no later than 30 days after the State identifies the significant deficiency. The notice may specify corrective actions and deadlines for completion of corrective actions. The State may provide the written notice at the time of the sanitary survey.</p>	<p>40 CFR 142.16 (o)(2)(v)</p>	<p>Systems will be notified of significant deficiencies in writing. This will be done by certified mail, as is the current practice of our enforcement section. The written notice of significant deficiency will be a stand-alone document. The owner or responsible party currently gets a completed copy of the sanitary survey along with a written description of any findings or recommendations. All inspectors make an effort to meet with the owner or responsible party during the survey to explain any findings and clear up confusion.</p>
<p><i>State practices or procedures for source water microbial monitoring.</i> The State's primacy application must include a description of the following:</p>	<p>40 CFR 142.16 (o)(3)</p>	<p>This primacy application includes the required information as described below.</p>
<p>The criteria the State will use under 40 CFR 40 CFR 141.402(a)(2)(i) and 141.402(d)(2) of this chapter for extending the 24-hour time limit for a system to collect a ground water source sample to comply with the source water monitoring requirements.</p>	<p>40 CFR 142.16 (o)(3)(i)</p>	<p>These extensions will be evaluated on a case-by-case basis with consideration given to the following: lab availability & closures (weekends), mail service, extreme danger to the sample collector, or unavoidable delays.</p>
<p>The criteria the State will use under 40 CFR 40 CFR 141.402(a)(5)(i) and 141.402(a)(5)(ii) of this chapter to determine whether the cause of the total coliform-positive sample taken under 40 CFR 141.21(a) of this chapter is directly related to the distribution system.</p>	<p>40 CFR 142.16 (o)(3)(ii)</p>	<p>The Department will use several criteria, including, but not limited to: low disinfectant residual in an area being sampled (for systems that add disinfection), a recent line break and repair in proximity to the sample, a documented backflow event in the distribution system, or a documented leak in the distribution system.</p>

<p>The criteria the State will use for determining whether to invalidate a fecal indicator-positive ground water source sample under 40 CFR 141.402(d)(1)(ii) of this chapter.</p>	<p>40 CFR 142.16 (o)(3)(iii)</p>	<p>Each request will be evaluated on a case-by-case basis and will only be invalidated where compelling evidence exists that indicates that the sample was contaminated during collection or transport. Several reasons that the Department may invalidate a fecal indicator positive include samples that are past the holding time, laboratory equipment failures, or samples sent in by a non-certified lab. Evidence can be either written or verbal.</p>
<p>The criteria the State will use to allow source water microbial monitoring at a location after treatment under 40 CFR 141.402(e)(1) of this chapter.</p>	<p>40 CFR 142.16 (o)(3)(iv)</p>	<p>Each request will be evaluated on a case-by-case basis. The Department will only allow monitoring after treatment where it is not possible or practical to collect sample before treatment and where the treatment is not expected to have any impact on microbial water quality.</p>
<p><i>State practices or procedures for treatment technique requirements.</i> As a condition of primacy, the State must verify that significant deficiencies or source water fecal contamination have been addressed. The State must verify within 30 days after the ground water system has reported to the State that it has completed corrective action. The State must verify either through written confirmation from the ground water system or a site visit by the State. Written notice from the ground water system under 40 CFR 141.405(a)(2) of this chapter may serve as this verification. The State's primacy application must include the following:</p>	<p>40 CFR 142.16 (o)(4)</p>	<p>After the Department receives a written notice of correction from a water system, the Department will verify corrections within 30 days by visiting the site(s).</p>

<p>The process the State will use to determine that a ground water system achieves at least a 4-log treatment of viruses (using inactivation, removal, or a combination of inactivation and removal) before or at the first customer for a ground water source for systems that are not subject to the source water monitoring requirements of 40 CFR 141.402(a) of this chapter because the ground water system has informed the State that it provides at least 4-log treatment of viruses.</p>	<p>40 CFR 142.16 (o)(4)(i)</p>	<p>Systems that intend to provide 4-log virus inactivation or removal must submit to the Department a detailed plan on the treatment.</p> <p>If disinfection or UV inactivation is proposed, appropriate CT or IT calculations to determine the effectiveness of the treatment will be required. Where baffling and/or flow conditions are known, the appropriate theoretical detention times will be used. When unknown, tracer studies may be required.</p> <p>Other treatment technologies will be evaluated on a case by case basis and parameters for achieving 4-log treatment will be established based on the most current state of knowledge at the time the request is received. Systems will be required to submit monthly reports that demonstrate that parameters for 4-log treatment set by the Department are met on a daily basis.</p> <p>Specific guidance manuals that may be followed, when appropriate, include: Alternative disinfectants and oxidants guidance manual, UV disinfection guidance manual for the final long term 2 ESWTR, and the membrane filtration guidance manual. If newer guidance from EPA is published and is relative to ground water rule decisions, that may also be followed.</p>
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<p>The process the State will use to determine the minimum residual disinfectant concentration the system must provide prior to the first customer for systems using chemical disinfection.</p>	<p>40 CFR 142.16 (o)(4)(ii)</p>	<p>Minimum residual disinfectant concentrations will be evaluated and set on a case-by-case basis based on CT tables, any removal provided, and other appropriate factors. The Department will evaluate and set the minimum residual disinfectant level based on worst expected case water quality parameters (temperature & pH) and assign the minimum level to ensure that 4-log treatment is provided under the full range of expected operating conditions.</p>
<p>The State-approved alternative technologies that ground water systems may use alone or in combination with other approved technologies to achieve at least 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of 4-log inactivation and removal) before or at the first customer for a ground water source.</p>	<p>40 CFR 142.16 (o)(4)(iii)</p>	<p>The Department is not planning to approve treatment on a fecally contaminated source. If a water system were to propose a compelling argument for treating a contaminated source, the argument and supporting documentation must contain information related to the type of treatment proposed. Such information would include process type (membrane, disinfection, or other), water quality data critical to the process operation, pilot demonstration studies for processes the Department is not comfortable with, manufacturers literature and accompanying data documenting the ability of the process, and any other information relative to the treatment that the Department deems necessary.</p> <p>All proposed treatment is currently reviewed by engineers in both the facilities permitting section and compliance section. The Department's rigorous review standards will continue to be followed. The SC State Primary Drinking Water Regulations R.61-58 sections 2 and 4 cover State requirements for ground water treatment and distribution systems, respectively.</p>

<p>The monitoring and compliance requirements the State will require for ground water systems treating to at least 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of inactivation and removal) before or at the first customer for State-approved alternative treatment technologies.</p>	<p>40 CFR 142.16 (o)(4)(iv)</p>	<p>Monitoring and compliance requirements will be established based on the type of treatment being provided. The Department will use available guidance and monitoring protocols to ensure minimum 4-log treatment is provided under the full range of expected operating conditions. The guidance manuals that will be used include: GWR Triggered & Source Water Monitoring, GWR Corrective Action Guidance Manual, Sanitary Survey Guidance Manual for GW systems, Source Water Assessment Manual, Consecutive System Guidance, GWR Small Entity Compliance Guide, as well as the CT guidance published by the EPA.</p> <p>Current Department regulations require daily visits by a certified operator. Daily visits include process control checks, process verification, chemical levels & dosages, etc.</p> <p>Ground water systems that propose to add treatment will be required to submit a monthly operating report to the Department similar to the report required by surface water plants. The report would include critical daily operating data, chemical amounts and dosages, well flow information, as well as bacteriological distribution system monitoring.</p>
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<p>The monitoring, compliance and membrane integrity testing requirements the State will require to demonstrate virus removal for ground water systems using membrane filtration technologies.</p>	<p>40 CFR 142.16 (o)(4)(v)</p>	<p>Any system proposing membrane treatment must submit a Preliminary Engineering Report to the Department for review. The report must contain manufacturers information on challenge testing done on the membrane, along with expected pre and post membrane water quality.</p> <p>For minimum compliance requirements, the Department will require a direct integrity test once per day on each membrane unit. The system operator must record the results of the test and report it to the Department as part of the monthly operating report.</p>
<p>The criteria, including public health-based considerations and incorporating on-site investigations and source water monitoring results the State will use to determine if a ground water system may discontinue 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of inactivation and removal) before or at the first customer.</p>	<p>40 CFR 142.16 (o)(4)(vi)</p>	<p>The Department will only allow a system to discontinue treatment where it can be satisfactorily demonstrated that the source is not subject to fecal contamination and no significant deficiencies are evident that would adversely affect source water quality.</p> <p>Demonstration to the Department may include, but not be limited to: source water monitoring results that are absent for fecal indicators for a specified time period (several months), satisfactory documentation of well rehabilitation, or onsite visits by Department staff.</p>