

Section IV

State Primacy Revision Application

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40 CFR §142 sets out requirements for States to obtain and/or retain primary enforcement responsibility (primacy) for the Public Water System Supervision (PWSS) program as authorized by §1413 of the Safe Drinking Water Act (SDWA). The 1996 SDWA Amendments update the process for States to obtain and/or retain primacy. On April 28, 1998, EPA promulgated the Primacy Rule to reflect these statutory changes (63 FR 23361).

4.1 State Primacy Program Revision

Pursuant to §141.12, **Revision of State Programs**, complete and final requests for approval of program revisions to adopt new or revised EPA regulations must be submitted to the Administrator no later than 2 years after promulgation of the new or revised federal regulations (see Figure 4.1). Until those applications are approved, EPA Regions have responsibility for directly implementing the LT1ESWTR. The State and EPA can agree to implement the rule together during this period. However, if a State is eligible for interim primacy, once it submits a complete and final revision package, it will have full implementation and enforcement authority. A State may be granted an extension of time, up to two years, to submit its application package. During any extension period, an extension agreement outlining the State's and EPA's responsibilities is required.

Figure 4.1: State Rule Implementation and Revision Timetable for LT1ESWTR

EPA/State Action	Time Frame
Rule published by EPA	January 14, 2002
State and Region establish a process and agree upon a schedule for application review and approval (optional)	March 2002 (suggested)
State, at its option, submits <i>draft</i> program revision package including: <ul style="list-style-type: none"> • Preliminary Approval Request • Draft State Regulations and/or Statutes • Regulation Crosswalk 	July 2002 (Suggested)
Regional (and Headquarters if necessary) review of draft	Completed within 90 days of State submittal of Draft (Suggested)
State submits final program revision package including: <ul style="list-style-type: none"> • Adopted State Regulations • Regulation Crosswalk • 40 CFR 142.10 Primacy Update Checklist • 40 CFR 142.14 and 142.15 Reporting and Recordkeeping • 40 CFR 142.16 Special Primacy Requirements • Attorney General's Enforceability Certification 	By October 2003*
EPA final review and determination: <ul style="list-style-type: none"> • Regional review (program and ORC) • Headquarters concurrence and waivers (OGWDW and OECA)** • Public Notice • Opportunity for hearing • EPA's Determination 	Completed within 90 days of State submittal of final 45 days Region 45 days Headquarters **
Rule Compliance Date	January 14, 2005

* EPA suggests submitting an application by **October 2002**, to ensure timely approval. EPA regulations allow until **January 14, 2004** for this submittal. An extension of up to 2 additional years may be requested by the State.

** At least one State per Region

4.1.1. The Revision Process

The approval of State program revisions is recommended to be a two-step process comprised of submission of a draft request (optional) and then submission of a complete and final request for program approval. Figure 4.2 diagrams these processes and their timing.

Draft Request—At the State’s option, it may submit a draft request for EPA review and tentative determination. The request should contain drafts of all required primacy application materials (with the exception of a draft Attorney General’s Statement). A draft request should be submitted by nine months after rule promulgation. EPA will make a tentative determination on whether the State program meets the applicable requirements. The tentative determination should be made within 90 days.

Complete and Final Request—This submission must be in accordance with §142.12(c)(1) and (2) and include the Attorney General’s statement. The State must also include its response to any comments and/or program deficiencies identified in the tentative determination (if applicable). Regions should make States aware that submission of only a final request may make it more difficult for the States to address any necessary changes within the allowable time for State rule adoption.

EPA requests that States submit their complete and final revision package within 21 months of rule promulgation. This will ensure that States will have interim primacy as soon as possible and will prevent States from becoming backlogged with revision applications to adopt future federal requirements.

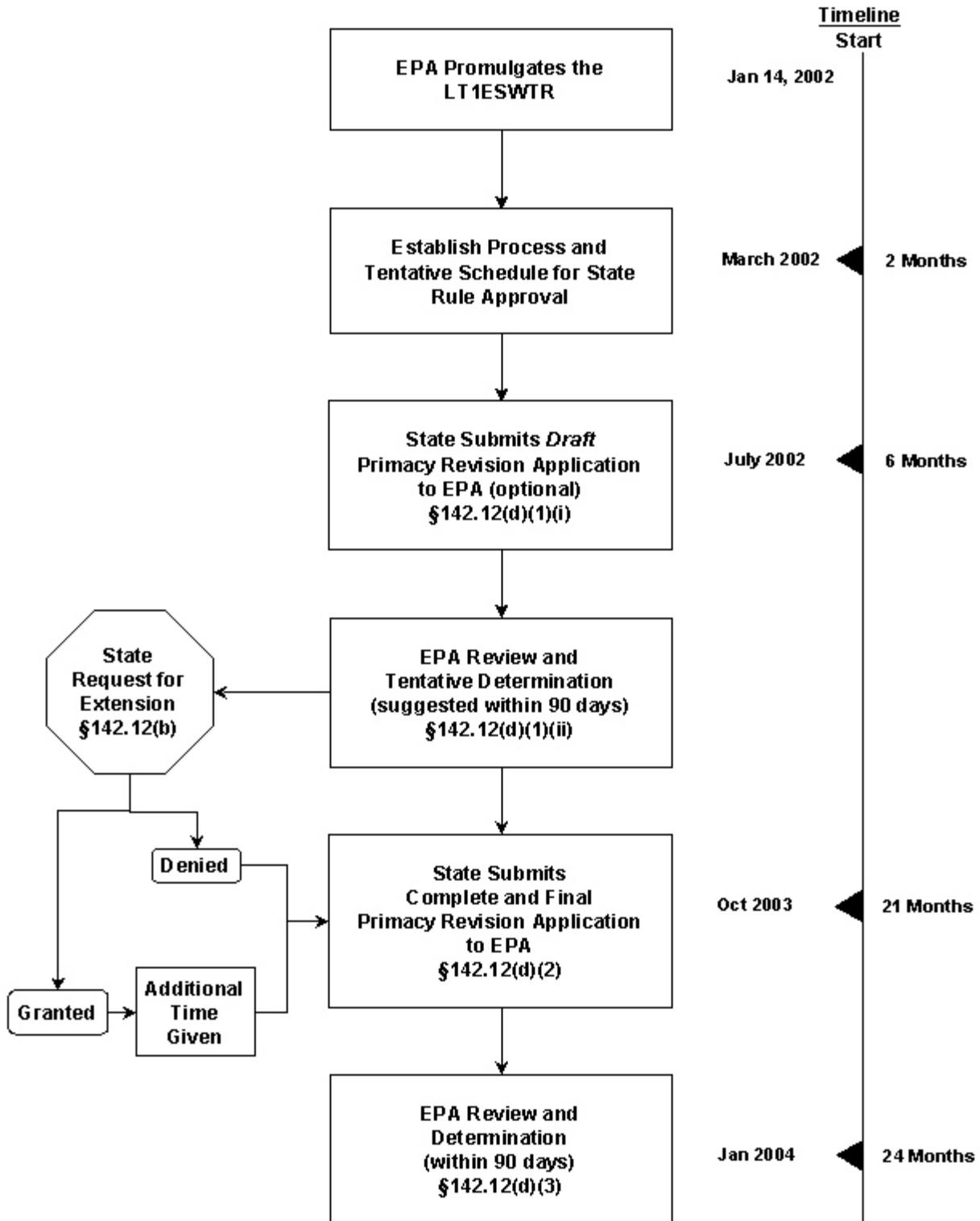
The State and Region should agree to a plan and timetable for submitting the State primacy revision application as soon as possible after rule promulgation—ideally within five months of promulgation.

4.1.2 The Final Review Process

Once a State application is complete and final, EPA has a regulatory (and statutory) deadline of 90 days to review and approve or disapprove of the revised program. The Offices of Ground Water and Drinking Water (OGWDW) and Enforcement and Compliance Assurance (OECA) will conduct detailed reviews of the first State package from each Region. The Region should submit their comments with the State’s package for Headquarter’s review. When the Region has identified all significant issues, OGWDW and OECA will waive concurrence on all other State programs in that Region, although HQ will retain the option to review additional State programs as appropriate. The Office of General Counsel (OGC) has delegated its review and approval to the Office of Regional Counsel (ORC).

In order to meet the 90-day deadline for packages undergoing Headquarter’s review, the review period will be equally split giving both the Regions and Headquarters 45 days to conduct their respective reviews. For the first package in each Region, Regions should forward copies of the primacy revision applications to the Drinking Water Protection Division Director in OGWDW, who will take the lead on the review process. OGWDW will provide OECA with a copy for their concurrent review. OECA will concur on OGWDW approvals.

Figure 4.2: Recommended Review Process for State Request for Approval of Program Revisions



4.2 State Primacy Program Revision Extensions

4.2.1 The Extension Process

Under §142.12(b), States may request that the 2-year deadline for submitting the complete and final packages for EPA approval of program revisions be extended for up to 2 additional years in certain circumstances. The extension request must be submitted to EPA within 2 years of the date that EPA published the regulation. The Regional Administrator has been delegated authority to approve extension applications. Headquarters concurrence on extensions is not required.

Therefore, the State must either adopt regulations pertaining to the LT1ESWTR and submit a complete and final primacy revision application or request an extension of up to 2 years by January 13, 2004.

4.2.2 Criteria that an Extension Request Must Meet

For an extension to be granted under §142.12(b), the State must demonstrate that it is requesting the extension because it cannot meet the original deadline for reasons beyond its control, despite a good faith effort to do so. A critical part of the extension application is the State's proposed schedule for submission of its complete and final request for approval of a revised primacy program. The application must also demonstrate at least one of the following:

- (i) That the State currently lacks the legislative or regulatory authority to enforce the new or revised requirements; or,
- (ii) That the State currently lacks the program capability adequate to implement the new or revised requirements; or,
- (iii) That the State is requesting the extension to group two or more program revisions in a single legislative or regulatory action.

In addition, the State must be implementing the EPA requirements to be adopted in its program revision within the scope of its current authority and capabilities.

4.2.3 Conditions of the Extension

Until the State Primacy Revision Application has been submitted, the State and appropriate EPA Regional office will share responsibility for implementing the primary program elements as indicated in the extension agreement. The State and the EPA Regional office should discuss these elements, and address terms of responsibility in the agreement.

These conditions will be determined during the extension approval process and are decided on a case-by-case basis. The conditions must be included in an extension agreement between the State and the EPA Regional office.

Conditions of an extension agreement may include:

- Informing PWSs of the new EPA (and upcoming State) requirements and that the Region will be overseeing implementation of the requirements until they approve the State program revisions or until the State submits a complete and final revision package if the State qualifies for interim primacy;

- Collecting, storing and managing laboratory results, public notices, and other compliance and operation data required by the EPA regulations;
- Assisting the Region in the development of the technical aspects of enforcement actions and conducting informal follow-up on violations (telephone calls, letters, etc.);
- Providing technical assistance to public water systems;
- For States whose request for an extension is based on a current lack of program capability adequate to implement the new requirements, taking steps agreed to by the Region and the State during the extension period to remedy the deficiency;
- Providing the Region with all the information required under §142.15 on State reporting.

Figure 4.3 provides a checklist the Region can use to review State extensions or to create an extension agreement.

The State and EPA should be viewed as partners in this effort, working toward two very specific public health-related goals. The first goal is to achieve a high level of compliance with the regulation. The second goal is to facilitate successful implementation of the regulation during the transition period before the State has primacy, including interim primacy, for the rule. In order to accomplish these goals, education, training, and technical assistance will need to be provided to water suppliers on their responsibilities under the LT1ESWTR.

Figure 4.3: Extension Request Checklist

{Date}

{Regional Administrator}

Regional Administrator

U.S. EPA Region {Region}

{Street Address}

{City, State, Zip}

RE: Request/approval for an Extension Agreement

Dear {Regional Administrator}:

The State of {State} is requesting an extension to the date that final primacy revisions are due to EPA for the Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) until {insert date - no later than January 2006}, as allowed by 40 CFR 142.12 and would appreciate your approval. Staff of the {State Department/Agency} have conferred with your staff and has agreed to the requirements listed below for this extension. This extension is being requested because the State of {State}:

- Is planning to group two or more program revisions into a single legislative or regulatory action.
- Currently lacks the legislative or regulatory authority to enforce the new or revised requirements.
- Currently lacks adequate program capability to implement the new or revised requirements.

{State Department/Agency} will be implementing the LT1ESWTR within the scope of its current authority and capability as outlined in the six areas identified in 142.12(b)(3)(i-vi):

i) Informing PWSs of the new EPA (and upcoming State) requirements and that EPA will be overseeing implementation of the requirements until EPA approves the State revision.

State	EPA	
_____	_____	Provide copies of regulation and guidance to other State agencies, PWSs, technical assistance providers, associations, or other interested parties.
_____	_____	Educate and coordinate with State staff, public water supplies (PWSs), the public, and other water associations about the requirements of this regulation
_____	_____	Notify affected systems of their requirements under the LT1ESWTR.
_____	_____	Other

ii) Collecting, storing and managing laboratory results, public notices, and other compliance and operation data required by the EPA regulations.

State	EPA	
_____	_____	Devise a tracking system for PWS reporting pursuant to the LT1ESWTR.
_____	_____	Keep States informed of SDWIS reporting requirements during development and implementation.
_____	_____	Report LT1ESWTR violation and enforcement information to SDWIS as required.
_____	_____	Other

iii) Assisting EPA in the development of the technical aspects of the enforcement actions and conducting informal follow-up and violations (telephones calls, letters, etc.).

State	EPA	
___	___	Issue notices of violation (NOVs) for treatment technique and monitoring/reporting violations of the LT1ESWTR
___	___	Provide immediate technical assistance to PWSs with treatment technique and/or monitoring/reporting violations to try to bring them into compliance.
___	___	Refer all violations to EPA for enforcement if they have not been resolved within 60 days of the period that triggered the violation. Provide information as requested to conduct and complete any enforcement action referred to EPA.
___	___	Other

iv) Providing technical assistance to public water systems.

State	EPA	
___	___	Conduct training within the State for PWSs on LT1ESWTR rule requirements.
___	___	Provide technical assistance through written and/or verbal correspondence to PWSs.
___	___	Provide on-site technical assistance to PWSs as requested and needed to ensure compliance with this regulation.
___	___	Coordinate with other technical assistance providers and organization to provide accurate information and aid in a timely manner.
___	___	Other

v) Providing EPA with all information prescribed by the State Reporting Requirements in 142.15.

State	EPA	
___	___	Report any violations incurred by PWSs for these regulations each quarter.
___	___	Report any enforcement actions taken against PWSs for these regulations each quarter.
___	___	Report any variances or exemptions granted for PWSs for these regulations each quarter.
___	___	Other

vi) For States whose request for an extension is based on a current lack of program capability to implement the new or revised requirements agrees to take the following steps to remedy the capability deficiency.

State	EPA	
___	___	Acquire additional resources to implement these regulations (List of specific steps being taken attached as <u>{List A}</u>).
___	___	Provide quarterly updates describing the status of acquiring additional resources.
___	___	Other

I affirm that the {State Department/Agency} will implement provisions of the Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) as outlined above.

{Agency Director or Secretary}

Date

{Name of State Agency}

I have consulted with my staff and approve your extension for the aforementioned regulation. I affirm that EPA Region {Region} will implement provisions of the Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) as outlined above.

Regional Administrator
EPA Region {Region}

Date

This Extension Agreement will take effect upon the date of the last signature.

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4.3 State Primacy Package

The Primacy Revision Application package should consist of the following sections:

- State Primacy Revision Checklist
- Text of the State's Regulation
- Primacy Revision Crosswalk
- State Reporting and Recordkeeping Checklist
- Special Primacy Requirements
- Attorney General's Statement of Enforceability

4.3.1 The State Primacy Revision Checklist (40 CFR 142.12(c)(1))

This section is a checklist of general primacy requirements, taken from 40 CFR 142.10, as shown in Figure 4.4. In completing this checklist, the State must identify the program elements that it has revised in response to new Federal requirements. If an element has been revised the State should indicate a "Yes" answer in the second column next to the list of program elements and should submit appropriate documentation. For elements that need not be revised, the State need only list the citation and date of adoption in the second column. During the application review process, EPA will insert findings and comments in the third column.

The 1996 SDWA Amendments include new provisions for PWS definition and administrative penalty authority. States must adopt provisions at least as stringent as these new provisions, now codified at CFR 142.2 and 142.10. Failure to revise primacy for these new provisions can affect primacy for the LT1ESWTR. However, States may still receive primacy for the LT1ESWTR even if they have not yet revised their base program to comply with the new statutory requirements provided that the State has received an extension to adopt these requirements and that this extension period has not expired (up to **January 2006** with full extension).

Rule Bundling—States may bundle the primacy revision packages for multiple rules. If States choose to bundle requirements, the Attorney General's Statement should reference all of the rules included.

4.3.2 Text of the State's Regulation

Each primacy application package should include the text of the State regulation.

4.3.3 Primacy Revision Crosswalk

The Primacy Revision Crosswalk, found in Appendix A, should be completed by States in order to identify State statutory or regulatory provisions that correspond to each Federal requirement. If the State's provisions differ from Federal requirements, the State should explain how its requirements are "no less stringent."

Figure 4.4: State Primacy Revision Checklist

Required Program Elements		Revision to State Program	EPA Findings/Comments
§142.10	Primary Enforcement ▸ Definition of Public Water System*		
§142.10(a)	Regulations No Less Stringent		
§142.10(b)(1)	Maintain Inventory		
§142.10(b)(2)	Sanitary Survey Program		
§142.10(b)(3)	Laboratory Certification Program		
§142.10(b)(4)	Laboratory Capability		
§142.10(b)(5)	Plan Review Program		
§142.10(b)(6)(i)	Authority to apply regulations		
§142.10(b)(6)(ii)	Authority to sue in courts of competent jurisdiction		
§142.10(b)(6)(iii)	Right of Entry		
§142.10(b)(6)(iv)	Authority to require records		
§142.10(b)(6)(v)	Authority to require public notification		
§142.10(b)(6)(vi)	Authority to assess civil and criminal penalties		
§142.10(b)(6)(vii)	Authority to require Consumer Confidence Reports (CCRs)		
§142.10(c)	Maintenance of Records		
§142.10(d)	Variance/Exemption Conditions (if applicable)**		
§142.10(e)	Emergency Plans		
§142.10(f)	Administrative Penalty Authority*		

* New requirement from the 1996 Amendments. Regulations published in the April 28, 1998 *Federal Register*.

** New regulations published in the August 14, 1998 *Federal Register*.

4.3.4 State Reporting and Recordkeeping Checklist (40 CFR 142.14 and 142.15)

This section addresses State recordkeeping requirements. The State should use this checklist to explain how State recordkeeping requirements are consistent with Federal requirements. If State requirements are inconsistent with Federal requirements, the State must explain how its requirements are “no less stringent” as per §142.10. The checklist for the LT1ESWTR is presented in Figure 4.5. There are no new State reporting requirements (40 CFR 142.15) under the LT1ESWTR.

Figure 4.5: Recordkeeping Checklist for the LT1ESWTR

Requirement	Are State policies consistent with Federal requirements? If not, please explain.
Each State that has primary enforcement responsibility must keep records of turbidity measurements for not less than one year; information retained must be set forth in a form which makes possible comparison with turbidity limits specified in §§141.71, 141.73, 141.173, 141.175, 141.550-141.553, 141.560-141.564.	
Each State that has primary enforcement responsibility must keep records of disinfectant residual measurements and other parameters necessary to document disinfection effectiveness in accordance with §§141.72 and 141.74, and reporting requirements of 141.75, 141.175, 141.570; records must be kept for no less than one year.	
Each State that has primary enforcement responsibility must keep written records of decisions made on a system-by-system and case-by-case basis under the provisions of 40 CFR 141, subpart H, subpart P, or subpart T.	
Each State that has primary enforcement responsibility must keep records of systems consulting with the State concerning a modification to a disinfection practice under §§ 141.170(d), 141.172(c), and 141.542, including the status of the consultation.	
Each State that has primary enforcement responsibility must keep records of decisions that a system using alternative filtration technologies as allowed under §§141.173(b) and 141.552 can consistently achieve a 99.9 percent removal and/or inactivation of <i>Giardia lamblia</i> cysts, 99.99 percent removal and/or inactivation of viruses, and 99 percent removal of <i>Cryptosporidium</i> oocysts; decisions must include State-set enforceable turbidity limits for each system; copies of the decision must be kept until the decision is reversed or revised; State must provide a copy of the decision to the system.	
Each State that has primary enforcement responsibility must keep records of systems required to do filter self assessment, CPE, or CCP under the requirements of §§141.175 and 141.563.	

4.3.5 Special Primacy Requirement (40 CFR 142.16)

Section 4.4 (*below*) provides guidance on how States may choose to meet the Special Primacy Requirements.

4.3.6 Attorney General’s Statement of Enforceability (40 CFR 142.12(c)(2))

The complete and final primacy revision application must include an Attorney General’s Statement certifying that the State regulations were duly adopted and are enforceable (unless EPA has waived this requirement by letter to the State). The Attorney General’s Statement should also certify that the State does not have any audit privilege or immunity laws, or if it has such laws, that these laws do not prevent the State from meeting the requirements of the Safe Drinking Water Act. If a State has submitted this certification with a previous revision package, then the State should indicate the date of submittal and the

Attorney General need only certify that the status of the audit laws has not changed since the prior submittal. An example of an Attorney General’s Statement is presented in Figure 4.6.

4.3.6.1 Guidance For States on Audit Privilege and/or Immunity Laws

In order for EPA to properly evaluate the State’s request for approval, the State Attorney General or independent legal counsel should certify that the State’s environmental audit immunity and/or privilege and immunity law does not affect its ability to meet enforcement and information gathering requirements under the Safe Drinking Water Act. This certification should be reasonably consistent with the wording of the State audit laws and should demonstrate how State program approval criteria are satisfied.

EPA will apply the criteria outlined in its “Statement of Principles” memo issued on 2/14/97 (*See* <http://epa.gov/oeca/oppa/pdf/auditimun.pdf>) in determining whether States with audit laws have retained adequate enforcement authority for any authorized federal programs. The principles articulated in the guidance are based on the requirements of federal law, specifically the enforcement and compliance and State program approval provisions of environmental statutes and their corresponding regulations. The Principles provide that if provisions of State law are ambiguous, it will be important to obtain opinions from the State Attorney General or independent legal counsel interpreting the law as meeting specific federal requirements. If the law cannot be so interpreted, changes to State laws may be necessary to obtain federal program approval. Before submitting a package for approval, States with audit privilege and/or immunity laws should initiate communications with appropriate EPA Regional Offices to identify and discuss the issues raised by the State’s audit privilege and/or immunity law.

Figure 4.6: Example of Attorney General’s Statement

<p><i>Model Language</i></p> <p>I hereby certify, pursuant to my authority as (1) and in accordance with the Safe Drinking Water Act as amended, and (2), that in my opinion the laws of the [State / Commonwealth of (3)] [or tribal ordinances of (4)] to carry out the program set forth in the “Program Description” submitted by the (5) have been duly adopted and are enforceable. The specific authorities provided are contained in statutes or regulations that are lawfully adopted at the time this Statement is approved and signed, and will be fully effective by the time the program is approved.</p>
<p><i>Model Language</i></p> <p>I. For States with No Audit Privilege and/or Immunity Laws</p> <p>Furthermore, I certify that [State / Commonwealth of (3)] has not enacted any environmental audit privilege and/or immunity laws.</p> <p>II. For States with Audit Laws that do Not Apply to the State Agency Administering the Safe Drinking Water Act</p> <p>Furthermore, I certify that the environmental [audit privilege and/or immunity law] of the [State / Commonwealth of (3)] does not affect (3) ability to meet enforcement and information gathering requirements under the Safe Drinking Water Act because the [audit privilege and/or immunity law] does not apply to the program set forth in the “Program Description.” The Safe Drinking Water Act program set forth in the “Program Description” is administered by (5); the [audit privilege and/or immunity law] does not affect programs implemented by (5), thus the program set forth in the “Program Description” is unaffected by the provisions of [State / Commonwealth of (3)] [audit privilege and/or immunity law].</p>

III. For States with Audit Privilege and/or Immunity Laws that Worked with EPA to Satisfy Requirements for Federally Authorized, Delegated or Approved Environmental Programs

Furthermore, I certify that the environmental [audit privilege and/or immunity law] of the [State / Commonwealth of (3)] does not affect (3) ability to meet enforcement and information gathering requirements under the Safe Drinking Water Act because [State / Commonwealth of (3)] has enacted statutory revisions and/or issued a clarifying Attorney General's Statement to satisfy requirements for federally authorized, delegated or approved environmental programs.

Seal of Office

Signature

Name and Title

Date

- (1) State Attorney General or attorney for the primacy agency if it has independent legal counsel
- (2) 40 CFR 142.11(a)(6)(i) for initial primacy applications or 142.12(c)(1)(iii) for primacy program revision applications.
- (3) Name of State or Commonwealth
- (4) Name of Tribe
- (5) Name of Primacy Agency

4.4 Guidance for the Special Primacy Requirements of the LT1ESWTR

This section contains information and guidance States can use when addressing the special primacy requirements of the LT1ESWTR. The guidance addresses special primacy conditions in the same order that they occur in the rule.

States should note that, in several sections, the guidance makes suggestions and offers alternatives that go beyond the minimum requirements indicated by reading the subsections of §142.16. EPA does this to provide States with information and/or suggestions that may be helpful to States' implementation efforts. Such suggestions are prefaced by "may" or "should" and are to be considered advisory. They are not required elements of States' applications for program revision.

§142.16 Special primacy requirements. (j): *Requirements for States to adopt 40 CFR part 141, subpart T Enhanced Filtration and Disinfection - Systems Serving Fewer than 10,000 People. In addition to the general primacy requirements enumerated elsewhere in this part, including the requirements that State provisions are no less stringent than the federal requirements, an application for approval of a State program revision that adopts 40 CFR part 141, subpart T Enhanced Filtration and Disinfection - Systems Serving Fewer than 10,000 People, must contain the information specified in this paragraph:*

(1) Enforceable requirements: *States must have rules or other authority to require systems to participate in a Comprehensive Technical Assistance (CTA) activity, the performance improvement phase of the Composite Correction Program CCP). The State must determine whether a CTA must be conducted based on results of a CPE which indicate the potential for improved performance, and a finding by the State that the system is able to receive and implement technical assistance provided through the CTA. A CPE is a thorough review and analysis of a system's performance-based capabilities and associated administrative, operation and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant's capability to achieve compliance. During the CTA phase, the system must identify and systematically address factors limiting performance. The CTA*

is a combination of utilizing CPE results as a basis for follow-up, implementing process control priority-setting techniques and maintaining long-term involvement to systematically train staff and administrators.

Guidance

This special primacy requirement can be satisfied by a description of statutes, rules, and other authority (other than imminent and substantial endangerment authority) the State can use to require PWSs to participate in a comprehensive technical assistance (CTA). The appropriate section(s) of each source of authority should be cited and copies of the written documents must be included in the revision application package. The State should explain how the authorities will be used to require systems to participate in CTAs and ensure the resulting recommendations are implemented. States may also wish to address their authority to take administrative and/or legal actions and assess penalties.

States should note that this special primacy requirement of the Long Term 1 Enhanced Surface Water Treatment Rule is intended to ensure that States have authority to require comprehensive technical assistance (CTAs) in situations beyond those in which the rule establishes the requirement for CPEs. Therefore, States may wish to consider other circumstances under which the requirement for performing a CPE or CTA might be desirable. States should consider development of prioritization procedures for targeting systems that need CTAs and should determine what performance-limiting factors (A, B, or C factors) must be corrected. To obtain the authority to ensure that systems conduct a CTA when necessary, States may want to add a requirement in their regulations that would require systems to go through with a CTA when the CPE required by the triggers in §141.563 of the rule show that a CTA would be beneficial.

Another consideration for States is that §141.563 of the Long Term 1 Enhanced Surface Water Treatment Rule requires systems, under certain circumstances, to have a CPE conducted by the State or a third party approved by the State. If a State does not have adequate resources to conduct the expected CPEs, it may wish to begin development of a procedure for approving third parties that have the necessary expertise and meet other criteria established by the State. States may, under State statutes, be required to get legislative authority to grant third party approvals.

References for more detailed guidance

1. *Optimizing Water Treatment Plant Performance Using the Composite Correction Program*, USEPA, Revised August 1998, EPA/625/6-91/027.

Available from:
Safe Drinking Water Hotline: 1-800-426-4791

2. *Optimizing Water Treatment Plant Performance Using the Composite Correction Program*, USEPA, February 1991, EPA/625/6-91/027.

Available from:
Safe Drinking Water Hotline: 1-800-426-4791

3. *Summary Report: Optimizing Water Treatment Plant Performance With the Composite Correction Program*, USEPA, 1990.

Available from:
Safe Drinking Water Hotline: 1-800-426-4791

§ 142.16 Special primacy requirements. (j): Requirements for States to adopt 40 CFR part 141, subpart T Enhanced Filtration and Disinfection - Systems Serving Fewer than 10,000 People. In addition to the general primacy requirements enumerated elsewhere in this part, including the requirements that State provisions are no less stringent than the federal requirements, an application for approval of a State program revision that adopts 40 CFR part 141, subpart T Enhanced Filtration and Disinfection, must contain the information specified in this paragraph: **(2) State practices or procedures. (i):** Section 141.536 of this chapter—How the State will approve a more representative data set for optional TTHM and HAA5 monitoring and profiling.

Guidance

Section §141.530 allows systems to conduct optional monitoring of TTHM and HAA5 levels to determine if they are below the disinfection profiling trigger values (0.064 mg/L for TTHM and 0.048 mg/L for HAA5). This provision was written to reduce the burden of monitoring and producing a disinfection profile on small systems as compared to large systems. Under the optional monitoring provision, systems are required to collect at least one sample each for TTHM and HAA5 after January 1, 1998, during the month with the warmest water temperature and at the point of maximum residence time in the distribution system. For profiling, systems are required to monitor for certain parameters once a week, on the same calendar day, for 12 consecutive months.

[PLACEHOLDER: Alternative TTHM and HAA5 Monitoring]

EPA believes that requests for use of alternative data sets are best handled by States on a case-by-case basis. Therefore, to meet this special primacy requirement, States' applications for program revision must demonstrate that each request for use of a more representative data set will be evaluated on its merits and approved only when a data set exists, or can be collected within the established time frame, that is more representative of the system's potential for exemption from disinfection profiling.

References for more detailed guidance

1. *IESWTR Disinfection Profiling and Benchmarking Guidance Manual*, USEPA, 1999.

Available from:

Safe Drinking Water Hotline: 1-800-426-4791

2. *Microbial and Disinfection Byproduct Rules Simultaneous Compliance Guidance Manual*, USEPA, 1999.

Available from:

Safe Drinking Water Hotline: 1-800-426-4791

3. *LT1ESWTR Disinfection Profiling and Benchmarking Guidance Manual*, USEPA, (forthcoming).

§ 142.16 *Special primacy requirements. (j): Requirements for States to adopt 40 CFR part 141, subpart T Enhanced Filtration and Disinfection - Systems Serving Fewer than 10,000 People. In addition to the general primacy requirements enumerated elsewhere in this part, including the requirements that State provisions are no less stringent than the federal requirements, an application for approval of a State program revision that adopts 40 CFR part 141, subpart T Enhanced Filtration and Disinfection, must contain the information specified in this paragraph: (2) State practices or procedures. (ii): Section 141.536 of this chapter—How the State will approve a method to calculate the logs of inactivation for viruses for a system that uses either chloramines, ozone, or chlorine dioxide for primary disinfection.*

Guidance

Section 141.535 of the Long Term 1 Enhanced Surface Water Treatment Rule requires systems that use ozone, chloramines, or chlorine dioxide as primary disinfectants to calculate the logs of inactivation of viruses using a method approved by the State. This calculation is in addition to the calculation of the logs of inactivation for *Giardia lamblia* and is required because, for these disinfectants, EPA expects greater CT may be necessary to achieve the required virus inactivation than for inactivation of *Giardia lamblia*. In their primacy revision applications, States must describe how they will approve a method to calculate the logs of inactivation for viruses. States may want to consult the methodology used for the IESWTR as a reference.

A PWS must determine its daily peak hour's CT and the logs of inactivation for viruses as well as for *Giardia lamblia*. Two disinfection profiles must be developed by the system. When determining virus inactivation, PWSs will be required to calculate the total CT from the first point of disinfectant application to the first customer once a week on the same day of the week for one year. EPA suggests that States refer to the *LT1ESWTR Disinfection Profiling and Benchmarking Guidance Manual*, that is forthcoming, and the *Guidance Manual for Compliance With the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources* (SWTR Guidance Manual) for determining how systems should calculate the logs of inactivation of viruses, and thus meet this special primacy requirement. Suggested methods of doing so are as follows:

For systems using chloramines as a primary disinfectant

Table E-13 of the SWTR Guidance Manual presents CT values for 2-log, 3-log, and 4-log inactivation of viruses by chloramine at temperatures ranging from <1° C to 25° C. The table is appropriate for use by systems that add chlorine prior to ammonia and, therefore, get some benefit of a short-lived free chlorine residual. The basis for the inactivation values in Table E-13, is discussed in Appendix F (Section F.2.3 Chloramines) of the SWTR Guidance Manual. Systems that add the two chemicals concurrently, or those adding ammonia first, have little free chlorine and cannot use Table E-13 but may determine viral inactivation efficiencies by using the protocol found in Appendix G of the manual.

For systems using chlorine dioxide as a primary disinfectant

Table E-9 of the SWTR Guidance Manual presents CT values for 2-log, 3-log, and 4-log inactivation of viruses by chlorine dioxide at temperatures ranging from <1° C to 25° C and within a pH range of 6-9. EPA believes it is appropriate for States to have PWSs use Table E-9 for calculating the logs of inactivation of viruses. Appendix F (F.2.2 Chlorine Dioxide) of the SWTR Guidance Manual offers a short discussion of the basis for the values in the table. It should be noted that chlorine dioxide is significantly more effective at higher pH's.

For systems using ozone as a primary disinfectant

Table E-11 of the SWTR Guidance Manual shows CT values for 2-log, 3-log, and 4-log inactivation of viruses by ozone over a temperature range of 1°C to Ozone) of the SWTR Guidance Manual offers a short discussion of the basis for the values in the table.

Other methods

States may approve other methods for calculation of the logs of inactivation for viruses for systems using ozone or chloramines as long as the methods are adequately explained in the primacy revision application, are technically correct, and are used in a consistent manner by water systems.

References for more detailed guidance

1. *Guidance Manual for Compliance With the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources*, the American Water Works Association, 1991.

Available from:

AWWA
6666 West Quincy Avenue
Denver, CO 80235
or <http://www.epa.gov/safewater/mdbp/guidsws.pdf>

2. *Alternative Disinfectants and Oxidants Guidance Manual*, USEPA, 1999.

Available from:

Safe Drinking Water Hotline: 1-800-426-4791

3. *IESWTR Disinfection Profiling and Benchmarking Guidance Manual*, USEPA, 1999

Available from:

Safe Drinking Water Hotline: 1-800-426-4791

4. *LT1ESWTR Disinfection Profiling and Benchmarking Guidance Manual*, USEPA (forthcoming)

§142.16 Special primacy requirements. (j): Requirements for States to adopt 40 CFR part 141, subpart T Enhanced Filtration and Disinfection - Systems Serving Fewer than 10,000 People. In addition to the general primacy requirements enumerated elsewhere in this part, including the requirements that State provisions are no less stringent than the federal requirements, an application for approval of a State program revision that adopts 40 CFR part 141, subpart T Enhanced Filtration and Disinfection, must contain the information specified in this paragraph: (2) State practices or procedures. (iii): Section 141.542 of this chapter—How the State will consult with the system and approve significant changes to disinfection practices.

Guidance

The Long Term 1 Enhanced Surface Water Treatment Rule requires all subpart H community and nontransient noncommunity public water systems which serve fewer than 10,000 persons to develop a disinfection profile unless they demonstrate to the State that their TTHM and HAA5 levels are less than 0.064 mg/l and 0.048 mg/l respectively prior to July 1, 2003 for systems serving 500-9,999 or January 1, 2004 for systems serving less than 500. Systems that are required to develop disinfection profiles, and that later want to make a significant change to their disinfection practice, must consult with the State prior to making such change. As described in §141.541 of the LT1ESWTR, significant changes include:

- Changes to the point of disinfection.
- Changing the disinfectant(s) used in the treatment plant.
- Changes to the disinfection process; or
- Any other modifications identified by the State. (Examples could include addition of source water, pretreatment, changes in contact basin geometry and baffling, or in some instances changes in pH).

The disinfection profiling and benchmarking requirements are intended to ensure that systems attempting to reduce disinfection byproduct production do not make changes that cause unintended and unacceptable increases in microbial risks. In order for §141.544 of the LT1ESWTR to be effective, States must identify all systems that are required to develop a disinfection profile and provide them with guidance in terms of when, and under what circumstances, consultation is necessary. It should be noted that the LT1ESWTR requires approval by the State before any significant change be made.

In their applications for program revision, States must explain how they will consult with systems to evaluate changes in disinfection practices and what criteria will be used to determine whether approval would be granted. EPA suggests that States, in the consultation process, consider the following:

- Why the change is being proposed.
- The positive impacts of the change.
- The negative impacts of the change.
- The alternative benchmark.
- Are there alternatives that achieve the desired goal and, if so, have they been evaluated?

Criteria that could be considered by the State could include:

- The microbial quality of the raw water.
- The effectiveness of watershed protection efforts.
- The efficacy of the treatment process in removing microbiological contaminants.

- Chronic and acute risk trade-offs.
- Alternative minimum benchmarks based on water quality.

Finally, the State should work with the PWS in an effort to reach a conclusion that considers, weighs, and balances the risks of microbial contaminants and disinfection byproducts. Ultimately, the State should make a public-health-based decision using all available information and best professional judgement.

References for more detailed guidance

1. *IESWTR Disinfection Profiling and Benchmarking Guidance Manual*, USEPA, 1999.

Available from:

Safe Drinking Water Hotline: 1-800-426-4791

2. *Microbial and Disinfection Byproduct Rules Simultaneous Compliance Guidance Manual*, USEPA, 1999.

Available from:

Safe Drinking Water Hotline: 1-800-426-4791

3. *LT1ESWTR Disinfection Profiling and Benchmarking Guidance Manual*, USEPA, (forthcoming).

§142.16 Special primacy requirements. (j): Requirements for States to adopt 40 CFR part 141, subpart T Enhanced Filtration and Disinfection - Systems Serving Fewer than 10,000 People. In addition to the general primacy requirements enumerated elsewhere in this part, including the requirements that State provisions are no less stringent than the federal requirements, an application for approval of a State program revision that adopts 40 CFR part 141, subpart T Enhanced Filtration and Disinfection, must contain the information specified in this paragraph **(2) State practices or procedures. (iv):** Section 141.552 of this chapter—For filtration technologies other than conventional filtration treatment, direct filtration, slow sand filtration, or diatomaceous earth filtration, how the State will determine that a public water system may use a filtration technology if the PWS demonstrates to the State, using pilot plant studies or other means, that the alternative filtration technology, in combination with disinfection treatment that meets the requirements of §141.172(b) of this chapter, consistently achieves 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts and 99.99 percent removal and/or inactivation of viruses, and 99 percent removal of *Cryptosporidium* oocysts. For a system that makes this demonstration, how the State will set turbidity performance requirements that the system must meet 95 percent of the time and that the system may not exceed at any time at a level that consistently achieves 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts, 99.99 percent removal and/or inactivation of viruses, and 99 percent removal of *Cryptosporidium* oocysts.

Guidance

The SWTR, IESWTR, and LT1ESWTR establish performance standards for several long-established types of surface water treatment technologies, including conventional treatment, direct filtration, slow sand filtration, and diatomaceous earth filtration. These technologies, when properly designed and operated, used in conjunction with disinfection and contact time, and applied to appropriate surface waters, are capable of protecting against the health risks associated with *Giardia lamblia*, *Legionella*, viruses, *Cryptosporidium*, and other pathogens. Sections 141.73(d) of the SWTR and 141.552 of the LT1ESWTR allow PWSs to use technologies other than those mentioned above if they demonstrate to the State's satisfaction that the chosen technology consistently meets the rule's minimum removal and inactivation requirements, and the State approves the use of the technology. When the State grants approval for the use of alternative technologies, it must establish a turbidity performance limit the system must meet at least 95 percent of the time (not to exceed 1 NTU) and a turbidity limit the system may not exceed at any time (not to exceed 5 NTU). The State must set the turbidity limits at levels that ensure the removal and/or inactivation requirements are consistently achieved.

To qualify for the authority to use the discretion provided for by §141.552 of the LT1ESWTR, States must, in their primacy revision application, describe how they will determine whether a PWS will or will not be granted approval for use of an alternative technology *and* how the State will establish the requisite turbidity performance standards. States may want to consult the methodology used for the IESWTR as a reference.

Most States have a review and approval process that addresses all significant modifications to PWSs (not just alternative technologies). In their review of treatment technologies, States generally consider all relevant components necessary to provide consistently safe drinking water including raw water quality and its variability, pretreatment needs, design flow rates, disinfection, storage, monitoring, and operation and maintenance requirements. Because alternative technologies generally do not have long performance histories to base approval/permitting decisions upon, States may wish to apply an additional margin of scrutiny in their review process. The technologies should be evaluated not only on the basis of finished water quality, but also with consideration of operational complexities, the potential for cross connections, redundancy, the ability to handle variable raw water qualities, leaching of contaminants, and long term reliability. Pilot studies are often necessary to adequately demonstrate that an alternative technology is appropriate for use at a particular site.

Guidance has been developed for States to use in determining how to grant approvals for alternative technologies. This guidance generally does not address the current concern for *Cryptosporidium*. The protocols that have been developed and used to assess the performance of technologies in terms of *Giardia lamblia* removal may, however, be revised for *Cryptosporidium* removal evaluations. EPA recommends that States consider the guidance on these issues presented in Section 4.3.7 and Appendix M of the SWTR Guidance Manual (reference 3) as well as the Western States Workgroup's *Consensus Protocol for Evaluation and Acceptance of Alternate Surface Water Filtration Technologies in Small System Applications*, 1992 (reference 1). The protocol developed by the Western States Workgroup establishes a procedure and criteria for evaluation of alternative filtration technologies and should be particularly useful. The following is an outline of the protocol's procedural steps.

- System component evaluation for leaching of contaminants.
- Demonstration of *Giardia* (and *Cryptosporidium*) removal performance.
 - Microscopic Particulate Analyses (MPA).
 - *Giardia/Cryptosporidium* surrogate particle removal evaluations.
 - Particle size analysis demonstration for *Giardia* (and *Cryptosporidium*) removal credit.
 - Live *Giardia/Cryptosporidium* challenge studies.
- On-site demonstration of performance effectiveness.
 - Prior testing of an identical system on a similar water.
 - Conditional acceptance with a performance bond.
 - Pilot testing with MPAs, appropriate monitoring, and final engineering report.

The final step in the process is for States to establish turbidity limits for the technologies. This was not necessary under the SWTR's requirements because the limits for alternative technologies defaulted to the performance limits established for slow sand filtration. When establishing the performance limits, States should give consideration to, among other things, cyst removal efficiencies, potential for interference with disinfection, potential for interference with bacteriological testing, indicators of treatment failure, and the technology's redundant components.

References for more detailed guidance

1. *Consensus Protocol for Evaluation and Acceptance of Alternate Surface Water Filtration Technologies in Small System Applications*, Western States Workgroup, April 1992.

Available from:
Safe Drinking Water Hotline: 1-800-426-4791

2. *State Alternative Technology Approval Protocol*, ASDWA/EPA.

Available from:
Safe Drinking Water Hotline: 1-800-426-4791

3. *Guidance Manual for Compliance With the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources*, AWWA, 1991.

Available from:

AWWA

6666 West Quincy Avenue

Denver, CO 80235

or <http://www.epa.gov/safewater/mdbp/guidsws.pdf>

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