Preliminary Significant Legislative Rule Analysis

Chapter 246-290 WAC

Group A Public Water Supplies

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INTRODUCTION

The mission of the Department of Health (department), Office of Drinking Water is to protect the health of the people of Washington State by ensuring safe and reliable drinking water. More than 5.5 million Washington residents get their drinking water from Group A public water systems. Group A public water systems typically serve drinking water to 15 or more connections. The department regulates Group A public water systems under state law and rule, and a formal agreement known as "primacy" with the U.S. Environmental Protection Agency (EPA) for carrying out the federal Safe Drinking Water Act, which establishes minimum standards for drinking water.

SECTION 1: Describe the proposed rule, including a brief history of the issue, and explain why the proposed rule is needed.

The department conducted a review of chapter 246-290 WAC, Group A public water supplies (Group A rule). After analyzing feedback from both staff and stakeholders, the department identified water system planning, emergency sources and supplies, and disinfection as three parts of the Group A rule that could be improved. In addition, the EPA adopted the Revised Total Coliform Rule (RTCR), which must be adopted by the State Board of Health (board) to maintain primacy. The board is proposing to revise the Group A rules to improve public health protection, streamline regulations, provide clarity, and improve consistency between state and federal regulations by:

- Adopting EPA's RTCR into state rules;
- Amending requirements for water system planning to provide greater flexibility;
- Adding a new rule section on emergency sources and supplies to set requirements for systems that have an emergency source and converts long-standing guidance concerning supplies (trucked water) into rule; and
- Amending requirements for disinfection to strengthen public health protection.

In addition to these changes, the Board is proposing technical corrections and clarifications to existing requirements throughout the chapter to make the rule easier to understand and use.

<u>Rule Revision Background</u>

Revised Total Coliform Rule (RTCR)
As part of the primacy agreement, states must adopt and administer rules that are no less stringent than the federal rules. In order to maintain our primacy agreement, the RTCR must be adopted into state rules. The RTCR provides greater public health protection by improving the original Total Coliform Rule of 1989. The RTCR requires systems that are vulnerable to microbial contamination to identify and fix problems, makes adjustments to existing monitoring requirements based on system type and size and compliance history, sets new requirements for seasonal systems, and strengthens public notice requirements when systems incur violations such as failing to conduct an assessment or fix identified problems.

Water System Planning
Some systems must submit water system plan updates to the department every six years. For many of these water systems, the public health benefit may not justify the cost of the

requirements. In order to streamline regulations, provide clarity, improve consistency, and reduce costs for stakeholders without jeopardizing public health, the proposal:

- Revises the timeframe for water system plan updates from six years to ten years with the option to choose a shorter timeframe.
- Revises the planning elements and forecasting requirements to align with the new timeframe for water system plan approvals.
- Revises the triggers for expanding systems to submit a water system plan.
- Removes requirements that prevent extending service beyond the retail service area without redefining the retail service area in a plan amendment, and broadens local government consistency determination requirements.
- Clarifies conditions and options for water system plan amendments.
- Simplifies service area definitions.

Emergency Sources and Supplies

To improve public health protection, the proposal sets requirements for systems that have an emergency source of supply, and converts long-standing guidance for the use of trucked water into rule.

- Requires systems with an emergency source to include information in its emergency response program such as engineering design, a monitoring schedule, emergency activation, and operational procedures.
- Sets conditions under which an emergency source can be physically connected to the distribution system when not in service, and if conditions are not met, requires systems to physically disconnect the emergency source when not in use.
- Requires systems to receive permission prior to using trucked water during an emergency event, and sets disinfection, storage, and recordkeeping requirements.

Disinfection

The Group A rule includes varying disinfection methods and requirements that were adopted to meet the needs of water systems with specific water quality issues, and other requirements were adopted to align with federal rules. Through the review of the rules, the department identified areas that could be improved, including:

- Revisions to the triggers for continuous disinfection.
- Revisions to monitoring and reporting requirements to provide flexibility.
- Sets new requirements for systems that desalinate seawater using reverse osmosis.
- Clarifies the criteria for treatment techniques and reporting violations.

SECTION 2: Is a Significant Analysis required for this rule?

Yes, as defined in RCW 34.05.328, portions of the proposed rule requires a significant analysis. However, the department has determined that no significant analysis is required for the following portions of the rule.

Based on the evaluation, the rule sections identified in Table 1 are non-significant under RCW 34.05.328(5)(c) and do not require analysis.

Table 1: Sections determined to be non-significant

The following table identifies rule sections the department has determined are exempt from analysis based on the exemptions provided in RCW 34.05.328(5)(b) and (c):

WAC Section and Title	**Description of Proposed Changes**	**Rationale for Determination of Non-Significance/Exception**
WAC 246-290-001 Purpose and scope	Makes a correction to the title of chapter 70.119 RCW per a legislative change (SHB1283) in 2009. Change conforms to existing language in chapter 70.119 RCW	Adopts or incorporates by reference without material change a Washington state statute.
WAC 246-290-002 Guidance	Replaces the department's physical address with the internet addresses for obtaining guidance documents, and corrects EPA's website address.	Clarifies the rule without changing its effect.
WAC 246-290-010 Definitions, abbreviations, and acronyms	Definitions added where necessary, and modified to be consistent with RTCR, and water system planning changes throughout the chapter.	The impact of definition changes are analyzed in the context they are used in WAC 246-290-100.
WAC 246-290-025 Adoption by reference	Technical corrections to the titles of federal regulations adopted by reference to conform to EPA's Code of Federal Regulations. Updates the federal effective date to align with the RTCR requirements. Adds new references to align with RTCR requirements. Adds the department's website address to obtain a copy of the Code of Federal Regulations.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-030 General administration	Makes editorial changes to clarify language. Removes the Water Supply Advisory Committee subsection because it was legislatively repealed in 2010.	Changes conform to repealed section in RCW 70.119A.160.

WAC Section and Title	Description of Proposed Changes	Rationale for Determination of Non-Significance/Exception
WAC 246-290-035 Water system ownership	Makes editorial changes to clarify language.	Clarifies language of the rule without changing its effect.
WAC 246-290-060 Variances, exemptions, and waivers	Corrects a reference to section -300 to align with RTCR. Replaces the term "total coliform" with "*E.coli*" to align with RTCR.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-107 Place of use expansion	Makes editorial changes to simplify language and align with water system planning changes.	Clarifies language of the rule without changing its effect.
WAC 246-290-125 Project report and construction document submittal exceptions	Makes editorial changes for clarity and adds "approved" to a backflow prevention assembly to align with chapter 246-292 WAC.	Clarifies language of the rule without changing its effect.
WAC 246-290-130 Source approval	Corrects a reference to section -300.	Clarifies language of the rule without changing its effect.
WAC 246-290-200 Design standards	Corrects a Department of Ecology rule chapter title.	Clarifies language of the rule without changing its effect.
WAC 246-290-220 Drinking water materials and additives	Makes technical changes to add the lead-free requirements of the federal Reduction of Lead in Drinking Water Act of 2011, effective January 4, 2014.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-300 Monitoring requirements	Makes changes to the monitoring requirements to align with the RTCR.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-310 Maximum contaminant levels (MCLs) and maximum residual disinfectant levels (MRDLs)	Makes changes to the MCL and MRDL requirements to align with the RTCR.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-320 Follow-up action	Makes changes to the follow-up action requirements to align with the RTCR.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-415 Operations and maintenance	Makes changes to the operations and maintenance requirements to align with	Adopts or incorporates by reference without material change a federal statute or regulation. Clarifies

WAC Section and Title	Description of Proposed Changes	Rationale for Determination of Non-Significance/Exception
	the RTCR. Removes addresses of organizations to ensure the rule remains accurate.	language of the rule without changing its effect.
WAC 246-290-416 Sanitary surveys	Makes changes to the sanitary survey requirements to align with the RTCR.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-453 Treatment techniques for groundwater systems	Revises the section title to clarify the purpose of the section – Corrective action under the GWR (groundwater rule). Makes technical corrections to align with the federal groundwater rule.	Clarifies the rule without changing its effect.
WAC 246-290-480 Recordkeeping and reporting	Makes changes to the recordkeeping and reporting requirements to align with the RTCR.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-630 General requirements	Makes minor grammatical changes to clarify language.	Clarifies the rule without changing its effect.
WAC 246-290-638 Analytical requirements	Adds clarifying language to identify who can take disinfectant measurements to align with chapter 246-292 WAC. Adds clarifying language to turbidity monitoring to align with federal disinfection requirements.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-654 Treatment criteria for filtered systems	Makes a technical correction to log numbers (measures degree of virus removal) by adding a hyphen.	Clarifies the rule without changing its effect.
WAC 246-290-660 Filtration	Makes a technical correction to log numbers (measures degree of virus removal) by adding a hyphen.	Clarifies the rule without changing its effect.
WAC 246-290-662 Disinfection for filtered systems	Makes a technical correction to log numbers (measures degree of virus removal) by adding a hyphen.	Clarifies the rule without changing its effect.

WAC Section and Title	Description of Proposed Changes	Rationale for Determination of Non-Significance/Exception
WAC 246-290-664 Monitoring for filtered systems	Corrects a reference to another rule section to align with RTCR requirements.	Clarifies the rule without changing its effect.
WAC 246-290-676 Filtration technology and design criteria	Makes a technical correction to log numbers (measures degree of virus removal) by adding a hyphen.	Clarifies the rule without changing its effect.
WAC 246-290-690 Criteria to remain unfiltered	Removes the term "total coliform" and replaces it with "*E.coli*" to align with RTCR requirements.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-694 Monitoring for unfiltered systems	Makes changes to rule section references to align with RTCR requirements.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-71001 Public notification	Corrects a federal rule reference to a public notification requirement.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-72001 Purpose and applicability of the consumer confidence report requirements	Adds clarifying language for reporting requirements concerning the federal groundwater rule. Makes a rule reference correction.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-72004 Report contents - Definitions	Adds reporting information as required by the RTCR.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-72005 Report contents- information on detected contaminants	Makes editorial changes to align with the RTCR and the federal unregulated contaminant requirements.	Adopts or incorporates by reference without material change a federal statute or regulation.
WAC 246-290-72007 Report contents- Compliance with National Primary Drinking Water Regulations	Makes a correction to a federal rule reference.	Clarifies the rule without changing its effect.
WAC 246-290-72012 Regulated contaminants	Makes changes in federal consumer confidence reporting language to align with the RTCR and corrects outdated language to the federal arsenic rule.	Adopts or incorporates by reference without material change a federal statute or regulation.

The remaining changes are significant under RCW 34.05.328(5) and are analyzed in section 5 of this analysis.

SECTION 3: Clearly state in detail the general goals and specific objectives of the statute that the rule implements.

The general goal of RCW 43.20.050 is to adopt rules for Group A public water systems to protect public health by ensuring Washington residents have safe and reliable drinking water.

RCW 43.20.050(2)(a) directs the board to:
Adopt rules for Group A public water systems, as defined in RCW 70.119A.020, necessary to assure safe and reliable public drinking water and to protect the public health. Such rules shall establish requirements regarding:

- *(i) The design and construction of public water system facilities, including proper sizing of pipes and storage for the number and type of customers;*
- *(ii) Drinking water quality standards, monitoring requirements, and laboratory certification requirements;*
- *(iii) Public water system management and reporting requirements;*
- *(iv) Public water system planning and emergency response requirements;*
- *(v) Public water system operation and maintenance requirements;*
- *(vi) Water quality, reliability, and management of existing but inadequate public water systems; and*
- *(vii) Quality standards for the source or supply, or both source and supply, of water for bottled water plants.*

SECTION 4: Explain how the department determined that the rule is needed to achieve these general goals and specific objectives. Analyze alternatives to rulemaking and the consequences of not adopting the rule.

Washington regulates Group A public water systems by carrying out the federal Safe Drinking Water Act under a formal "primacy" agreement with the EPA. As part of the agreement, the Board must adopt and the department must administer state rules that are no less stringent than the federal rules. In order to maintain our primacy agreement, the RTCR is being proposed without material change.

The department conducted a review of the Group A rule. After analyzing feedback from both staff and stakeholders, we identified water system planning, emergency sources and supplies, and disinfection as three parts of the Group A rules that could be improved as described in Section 1 of this analysis. Since these requirements are already in rule, rulemaking is necessary to amend them.

The proposed rule will achieve the authorizing statute's goals and objectives by revising monitoring requirements and water quality standards to improve public health protection, streamlining water system planning requirements, adding a new section for emergency sources and supplies, providing clarity, and improving consistency between state and federal regulations. The department has assessed and determined that there are no feasible alternatives to rulemaking.

SECTION 5: Explain how the department determined that the probable benefits of the rule are greater than the probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented.

The department determined the proposal includes some significant legislative rules that are subject to the requirements of RCW 34.05.328(5). The proposed rules include a new section and amends existing sections of the current chapter. This analysis evaluates the new and amended rules to determine whether the changes in each section are "significant" or "non-significant" under RCW 23.05.328(5).

The following section-by-section analysis evaluates the probable benefits and probable costs of each rule deemed significant.

To obtain cost estimates for the changes to the proposed rule, the department convened work groups for specific subjects areas that included department staff and. The department also held several meetings on specific topics. Lastly, the department contacted several water systems, consulting engineering firms, and other types of firms (e.g., water truckers) to obtain input on the probable costs and probable benefits of the proposed rule. The information collected is contained in the applicable section-by-section analysis below.

Section-by-section analysis

WAC 246-290-100 Water System Plan

Rule Overview. A water system plan (WSP) is a comprehensive document that water systems develop to show how they are going to achieve system capacity (the operational, technical, managerial and financial capability to achieve and maintain compliance with the requirements of this chapter). This section includes the criteria for when a WSP must be submitted, the required content of a plan, and when the plan must be updated. WSPs are the foundation of successful water system operation and management which is necessary for assuring safe and reliable drinking water.

This section describes WSP requirements that apply to the categories of community water systems identified in WAC 246-290-100(2) which includes systems that are:

1. New;
2. Expanding;
3. Serving 1,000 or more service connections,;
4. Located in a critical water supply service area and required to develop a water system plan;
5. Determined by the department to be experiencing planning, operation or management problems; or
6. Proposing to use the document submittal exception process in WAC 246-290-125.

Proposed changes to the required content and approval timeframe for WSPs under WAC 246-290-100 are described below.

A. Subsection (2)(c): The proposed rule adds "financial problems" to the reasons the department may require a WSP. This change aligns with the purpose of a WSP as described in WAC 246-290-100(1)(a).

Cost
The department expects the effect of this change will not result in additional costs because financial problems falls under the category of managerial difficulties, which is a condition that currently triggers a WSP under the current rule in Section -100(2)(c).

Benefit
This proposed change improves consistency throughout the chapter and within Section -100 for which problems can trigger a WSP submittal requirement. The revised language matches federal capacity development rule language in Section -100(1)(a), which describes the purpose of a WSP. Financial problems are a common issue for systems that don't plan sufficiently.

B. Subsection (2)(e): Replaced the defined term "expanding systems" as a trigger for a WSP submittal with specific actions. The definition of "expanding public water system" in Section -010 is revised to mean a public water system that increases the geographic area where direct service is provided or increases the number of department-approved service connections. The following two exemptions in the definition are deleted.

- A system that connects new approved individual retail or direct service connections onto an existing distribution system within an existing service area; and
- A distribution system extension in an existing service area identified in a current and approved WSP or project report.

Cost
This change does not impose additional costs because fewer water systems will submit WSPs.

Benefit
The benefit is improved clarity for when a WSP is required and for what constitutes an "expanding system." These proposed changes will result in fewer systems being required to submit plans and eliminates confusion about when a plan submittal is required. The proposed changes will allow water systems to grow their systems (expand) without having to submit a WSP if they are proposing to either:

- Increase the service connections within their current service area as long as no new facilities are installed; or
- Install replacement infrastructure without adding additional connections by submitting a capacity analysis or project report under WAC 246-290-110.

C. Subsection (2)(g): Added a new WSP submittal trigger for systems operating under or proposing to operate under an unspecified number of approved service connections. The term "unspecified" means the department assigned an unspecified (undefined) number of connections based on the information provided in a current WSP that demonstrates the system capacity can keep pace with expected population growth.

Cost
This proposed change does not impose additional costs because it puts current practice into rule. The department issues all unspecified system approvals on the condition that the system operate under a current, approved WSP.

Benefit
This proposed change prevents water systems that are approved to serve an unspecified number of connections from letting their plan expire and operating without demonstration of sufficient current system capacity.

D. Subsection (3): Added "planning history" as a consideration to issues that determine the priority focus areas and level of detail that must be included in a WSP as determined in a preplan meeting.

Cost
This proposed change does not impose additional costs because it puts current practice into rule.

Benefit
This proposed change provides additional criterion on which water systems and department staff can determine the appropriate amount of detail each WSP must include based on the unique needs of each system.

E. Subsection (4): Moved "for a period of at least twenty years into the future" in the introductory paragraph to each of the following four subsections: basic planning data, demand forecasts, water resource analysis, and improvement program. For these four subsections, the proposed rule also adds "at a minimum" to the requirement for a 20-year projection.

Cost
This proposed change does not impose additional costs because it does not increase the minimum number of years that a system must address in its future projections.

Benefit
This proposed change will save time and effort for systems because only specific elements will need to include 20-year projections rather than all plan elements as is currently required. The proposed rule also increases flexibility for systems that want to project longer than 20 years.

F. Subsection (4): Replaces references to a "six-year plan approval period" with "the plan approval period."

Cost
This proposed change does not impose additional costs because it does not create additional requirements.

Benefit
This change supports the proposed new WSP approval period in WAC 246-290-100(9) that extends the approval from "six years" to "up to ten years." This proposed change will allow systems to develop future projections that match their plan approval time period. The cost savings associated with this change are analyzed in WAC 246-290-100 (9) item H.

G. Subsection (4): Revised "service area map" requirements to eliminate the reference to "existing service area" and to require a "future service area" map for systems located in a critical water supply service area (CWSSA). This proposed change reduces the types of service areas that must be identified in a WSP. The analysis for service area definitions changes in WAC 246-290-010 follow:

i. Eliminates "existing service area" as a type of service areas that must be identified.

Cost
This proposed change does not impose additional costs because it removes the requirement for systems to identify "existing service areas."

Benefit
This proposed change provides a cost and effort savings to water systems because they will not need to define the area where service is currently provided. The department received several stakeholder comments about the complexity and confusion caused by having to define multiple service areas in their plans and explaining them to their customers. The department assumes that some water systems may have reduced costs due to a reduction in billed consultant time. Many water systems may choose to continue identifying an existing service area in their plans.

ii. The proposal revises the definition for "future service area" to apply only to water systems located in CWSSAs under chapter 70.116 RCW and chapter 246-293 WAC.

Cost
This proposed change does not impose additional costs because systems located in a CWSSA must define their future service area in their WSP under chapter 70.116 RCW and chapter 246-293 WAC.

Benefit
The benefit is improved clarity for systems that are not located in a CWSSA and do not have future service areas under chapter 70.116 RCW. Systems not located in a CWSSA will no longer have to define a future service area in their WSP and therefore may have a minor cost savings due to reduced consultant billing time. Under the existing rule, the definition of "future service area" depends on whether or not a system is located in a CWSSA.

iii. The proposal revises the definition for "retail service area" to remove "this area must include the municipal water supplier's existing service area and may also include areas where future service is planned" and replaces it with a reference to RCW 43.20.260.

Cost
This proposed change does not impose additional costs because there are no required actions.

Benefit
Improves clarity by referring directly to RCW 43.20.260, which requires that municipal water suppliers have a duty to serve their retail service area and describes the conditions under which the duty applies. This proposed change removes potential confusion over whether systems should include all or only parts of the areas where they plan to provide future service in their retail service area.

iv. The proposal revises the definition for "service area" to clarify that water systems located in CWSSA areas must include their future service area under chapter 70.116 RCW, and chapter 246-293 WAC as part of their service area.

Cost
Some water systems have future service areas under RCW 70.116.050 that extend beyond the boundaries of the service area defined in their WSP under RCW 43.20.260. These systems may need to redefine their service area to include their future service area under RCW 70.116.050. To minimize impacts, the department will not require systems to update their service area maps before the system's next scheduled WSP update (i.e., anniversary of WSP approval date – up to ten years.) This proposed revision will provide for more consistent implementation of RCW 43.20.260 and chapter 70.116 RCW.

The department assumes water systems will not reduce their established future service areas to comply with this change. Water systems may incur a nominal cost to redefine their service area to match their established future service area. Water systems will have to resolve any disputed service areas (more than one water system claiming the same future service area).

Benefit
Improves clarity and statewide consistency by clarifying that a future service area under chapter 70.116 RCW and chapter 246-293 WAC is within the service area defined in the Group A rule. This proposed change recognizes that systems located in CWSSA areas have future service areas with implications under chapter 70.116 RCW. This proposed change also bridges the gap between RCW 70.116, which requires water systems in CWSSAs to identify future service areas, and RCW 90.03.386, which harmonizes a municipal water suppliers' service area with the place of use of the suppliers' water rights under RCW 90.03.386.

H. Subsection (9): The proposal revises the WSP approval period. WSPs are approved for six years under the existing rule. Under the proposed rule, WSPs are approved for ten years, unless the water system elects to have a shorter approval period. The proposed rule also removes the two conditions in Section 100(9)(a) and (b) that may invalidate a current plan approval.

Cost

Water systems that submit WSPs will likely see an increase in their upfront plan development costs due to developing a longer range plan; however, these systems should see an overall annual savings when the cost is spread out over the entire approval period. Additionally, the proposed rule allows systems to choose a shorter approval period.

Benefit

The proposed rule provides a cost and time savings because water systems that develop WSPs will have a reduced annual cost due to the expanded plan approval period (similar costs divided by ten years as compared to six years). The department asked several consulting firms about water system planning costs. The cost ranges vary due to the system size and complexity and extent of the plan update. For illustrative purposes, if the cost for a small municipal water system (around 1,000 service connections) to develop a WSP or plan update is $100,000, the planning cost per year is approximately $16,000. If the planning costs are relatively similar for the ten year plan approval period, the planning cost per year would be approximately $10,000. For a large municipal water system, the cost to develop a WSP update can be up to several hundred thousand dollars, and again these costs will be spread out over 10 years as compared to six years.

Water systems will also have reduced costs because they will need to pay for local government consistency review and department plan review fees every ten years instead of every six years. The longer plan approval period will also save water system staff time associated with compiling information, conducting meetings with their customers on their WSP, obtaining governing body approval, and holding public forums on their water use efficiency goals.

I. Subsection (11): New subsection. Provides permission for systems to submit WSP amendments and clarifies that an amendment does not alter the current plan's approval period.

Cost

This proposed change does not impose additional costs because it does not impose additional requirements. WAC 246-290-125(3)(d) refers to the ability to amend a WSP, but the definition was not used consistently throughout the chapter.

Benefit

This proposed change improves clarity by providing that systems may amend their currently-approved WSP and clarifying that an amendment does not alter the current plan's approval date. This proposed change also eliminates confusion between the terms WSP "amendment" and WSP "update."

WAC 246-290-105: SMALL WATER SYSTEM MANAGEMENT PROGRAM

Rule Overview. A Small Water System Management Programs (SWSMP) is a planning document for small existing water systems that are not adding new approved service

connections. SWSMPs are required for all systems that do not submit a WSP. Water systems develop and implement SWSMPs to demonstrate how they are going to achieve system capacity (the operational, technical, managerial and financial capability to achieve and maintain compliance). SWSMPs are the foundation of successful small water system management.

This section is revised to add a requirement for existing systems without approved construction documents seeking as-built system approval under WAC 246-290-140 to submit their SWSMP to the department for approval. The current language in WAC 246-290-140 gives the department discretion of granting existing systems as-built approval with or without supporting documentation. The proposed rule adds a requirement for systems to submit their SWSMP as part of the existing system approval submittal. In effect, this does not constitute a change of current practice. The department currently requires systems to submit their SWSMP as part of existing system approval, so this change provides clarification of existing practices.

Cost

The only cost associated with the proposed change is the SWSMP review fee and cost of transmittal. All water systems that don't submit WSPs are already required to develop their SWSMP. Based on current practice, the proposed change will have no impact, as the department currently elects to require systems seeking an existing system approval to submit their SWSMP as part of the application package.

Benefit

These changes clarify the department's current approach and its practice of requiring SWSMP submittals as part of the submittal package for systems seeking existing system approval under WAC 246-290-140.

WAC 246-290-106: DUTY TO PROVIDE SERVICE

Rule Overview. Per RCW 43.20.260, municipal water suppliers have a duty to provide service to all new connections within their retail service area if the system:

1. Can provide the new service in a timely and reasonable manner.
2. Has sufficient water rights;
3. Has sufficient physical capacity; and
4. Receives a service request for a use that is consistent with local government planning under the Growth Management Act.

This section incorporates the duty to provide service requirements under RCW 43.20.260. Proposed revisions are described below:

A. Subsection (3): The proposed rule eliminates "for the retail service area," from the requirement that water systems meet WAC 246-290-108 (local consistency review). This proposed change supports the revised section-108(1)(a) and (2) that requires local consistency for the entire service area prior to plan approval.

B. Subsections (5) and (6): The proposed rule eliminates these subsections, which prohibit water systems from serving beyond their retail service area without first meeting the requirements of this section.

Cost
These proposed changes apply only to municipal water suppliers that submit WSPs. These changes do not represent an increased cost for a majority of water systems because they already obtain a local consistency determination for their entire service area, not just the portion of their service area that they define as "retail." Eliminating these subsections will allow systems to extend service beyond their retail service area without first amending their plan to comply with this section.

Benefit
These proposed changes improve compliance with the underlying statute, RCW 43.20.260, which requires the department to ensure that all new connections to be served under a WSP are consistent with local plans and regulations.

Water systems define their own retail service area. It is the area where the duty to provide service under RCW 43.20.260 applies. This proposed change represents a savings because municipal suppliers who wish to extend service beyond their retail service area, but within their approved service area will no longer be required to redefine their retail service area in a WSP amendment prior to extending service. This change will save water systems the cost of the plan amendment and the plan review fees.

WAC 246-290-108: CONSISTENCY WITH LOCAL PLANS AND REGULATIONS

Rule Overview. Per RCW 43.20.260, the department is required to ensure that all new connections to be served under a WSP are consistent with local government plans adopted under the Growth Management Act. The department implements this requirement through this section by requiring municipal water suppliers to seek review of their plan by all local governments with jurisdiction over the service area and to include documentation from the local government(s) that describes zoning, growth projections, demand forecasts within the service area, and other relevant elements are consistent with adopted local plans and development regulations.

This section describes the consistency requirements in more detail and outlines requirements for obtaining a local consistency review. Proposed revisions are described below:

A. Subsections (1)(a) and (2): Removed the word, "applicable" from "applicable service area" regarding the service area(s) in a WSP that must be reviewed for consistency with local plans and regulations. The proposed rule requires a local consistency determination for the service area.

Cost
Based on our survey results, almost all local governments review the entire "service area" when they review WSPs for consistency, so this clarification does not represent a change in practice. Water systems will need to ensure they define their entire service area and service

area policies based on local land use planning, zoning regulations, and population projections if they don't already. This proposed change should not result in additional fees for water systems because it does not create any additional reviews by local governments or the department; it only potentially expands the area to be reviewed. The department expects a nominal impact to systems and to local governments because the departmental form used by water systems and local governments to document local consistency applies the requirement to the service area, not the retail service area.

Benefit
This proposed change will ensure that local government consistency review occurs for the entire service area. This supports the proposed changes to WAC 246-290-106 that removes the necessity for municipal water suppliers to amend their WSP and complete an additional local consistency review prior to extending service beyond their retail service area. Under the proposed rule, municipal water suppliers will be able to extend within their approved service area without submitting a plan amendment or an updated determination of local consistency to the department if the extension is located outside of the water system's retail service area.

B. Subsection 8(1)(b): Removed the reference to a six-year plan approval period.
This change is analyzed in the sectional analysis of WAC 246-290-100 (9) item H.

WAC 246-290-131: EMERGENCY SOURCES AND SUPPLIES (New section)

Rule Overview. This proposed new rule contains requirements that apply to water systems that elect to maintain an emergency source or an emergency supply. For sources, this includes identifying the actions systems must complete to have an emergency source either physically connected or physically disconnected to their system. The actions establish mechanisms so that if a water system has to use their emergency source, the system can do so in a safe and effective manner.

This proposed rule also addresses requirements that apply to water systems that elect to truck water during an emergency. The proposed rule establishes requirements for systems that plan on trucking water so that they may do so in a safe and effective manner by converting long-standing guidance into the rule. The department queried stakeholders to estimate probable costs of this rule. The results of these queries are included in the subsection analysis below.

A. Subsection (1): Requires systems to document in their emergency response program: 1) that the source is approved; 2) that the source has satisfactory water quality; 3) that they have procedures/operational steps when activating source; and 4) how they will inform the department and their customers when they use the source.

Cost
The department's assumption is that systems that elect to maintain an emergency source or an emergency supply (trucked water option) will incur nominal costs. Based on input received from stakeholders, the department assumes systems will spend one to two days of

additional staff time (system operator time, $30.59 hourly wage[1]) to arrange, collect and document required information to include in the required content of the emergency response program.

Benefit

The benefit of requiring systems to include the prescribed information in their emergency response program is that it clearly identifies all of the information necessary for the system and the department to determine that the system will be able to provide an emergency source or emergency supply in a safe and effective manner. Without this documented process for the water system to follow, there is the potential for the system to put unsafe water into their system, which could result in its users getting ill.

B. Subsection (2): Establishes requirements for systems that have an emergency source that is physically connected to the water system. Water systems must identify that their emergency sources are physically connected within their emergency response program. If water systems elect to have an emergency source connected to the water system, they must have an isolation valve between the emergency source and the distribution system that is secured in the fully closed position when not in use. They must also have the motor starter locked-out and tagged-out in the off position so that the pump is isolated from the power supply and not able to be turned on unless the water system elects to do so to address an emergency.

Cost

The requirement to physically disconnect an emergency source from the water system exists under current regulation. It is unknown how many water systems maintain an emergency source that is physically connected and the water system will elect not to satisfy the requirements in subsection (2) of this section. Based on stakeholder input, if a system elects to maintain an emergency source, the cost to physically disconnect the source from the distribution system, which will include installing an isolation valve and the pump motor starter locked-out and tagged out, can range from $3,000 to $3,500[2].

Benefit

The major benefit of this subsection is that it clearly identifies what a system has to do to have an emergency source physically connected to the system in a safe manner. The safeguards proposed protect the system users by only allowing the physically connected emergency source after they take the prescribed steps to ensure its safety.

C. Subsection (3): Establishes requirements for water systems that have an emergency source that is not physically connected to their system. Water systems must: 1) demonstrate that their emergency source is physically disconnected from the distribution system by removing a pipe segment or by another alternate means as approved by the department; and 2) receive permission from the department or health officer before physically connecting and activating the emergency source for the purpose of supplying the distribution system.

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[1] Bureau of Labor Statistics, Annual Mean Wage of Water and Wastewater Treatment Plant and Water System Operators by State, May 2015. http://www.bls.gov/oes/current/oes518031.htm

[2] 6" Flanged gate valve costs approximately $2800, lock out devices and tags range from $40-$120 with labor the total cost range between $3000 and $3500.

Cost

It is unknown how many water systems will elect to have an emergency source that is not physically connected to their system. Based on stakeholder input, the cost to maintain an emergency source, physically disconnected from the distribution system, will be a function of the method the water system uses to physically disconnect the source. The department assumes the most costly way to physically disconnect the source is to cut the well discharge pipe in two places, install a pipe flange on both ends of the removed pipe piece and on the pipe that was cut (four flanges total) (cost range of $2,000 and $3,000 per source). If the discharge pipe already has flanged sections, then the cost to remove a flanged section of pipe is only the labor and equipment cost, which will be less than creating a flanged section of pipe. Thus, the estimated costs of complying with the proposed requirements (i.e., maintain disconnected source, get permission from the department) could cost between $1,000 and $3,000 for one emergency source.

Benefit

The major benefit of this subsection is that it clearly identifies what a system has to do to have an emergency source that is physically disconnected from their system. The safeguards proposed protect the system users by only allowing systems to connect an emergency source once it obtains approval. By requiring approval prior to using an emergency source, public health is protected.

D. Subsection (4) and (5): Establishes requirements for systems that want to use trucked water as an emergency drinking water supply. The proposed rule incorporates the department's long-standing (approximately 15 years) guidance for trucking water. Water systems that want to truck water must:

i. Get permission from the department, health officer, or local or state emergency management agency prior to use of trucked water;
ii. Truck water from an approved Group A public water system;
iii. Add chlorine after truck is filled by adding one-half cup of six to eight and twenty-five one hundredths of one percent regular unscented household bleach per one thousand gallons of water, or equivalent;
iv. Demonstrate that the water to be trucked has a free chlorine residual equal to or greater than 0.5 mg/L at the time of delivery; and
v. Demonstrate that the water to be truck is collected, temporarily stored, and delivered by tanks, bladders, pumps, pipes and other equipment that: 1) are contaminant-free and constructed and maintained to prevent contamination; and 2) have not previously been used to carry nonfood products, toxic substances, or petroleum products.
vi. Water systems using trucked water as an emergency drinking water supply shall:
    (i) Receive permission from the department, health officer, or local or state emergency management agency prior to use;
    (ii) Measure the free chlorine residual of the delivered water and only accept water that has a free chlorine residual that is equal to or greater than 0.5 mg/L at the time of delivery;
    (iii) Store trucked water in the delivery truck or in an approved component of the water system; and

(iv) Maintain records of trucked water deliveries, including the hauler, water source, chlorine test results, and delivery date, time, and volume. Records must be available for review upon request by the department or health officer.

Cost

It is a rare occasion for a water system to have to truck water. Historically, there have only been one or two situations annually where water systems use trucked water as an emergency supply. The department assumes the same frequency after the rule is adopted. If a water system elects to truck water, they will incur costs for the required functions listed above. Generally all of these required functions have nominal costs (typically taking a few hours of staff time). The department contacted several firms that offer trucking services for water. These firms charge clients different ways, including flat daily rates, hourly rates, hourly rates with designated maximum travel distances, and typical "time and materials" contracts (e.g., hourly rate or mileage rate plus cost of water). Given each case is unique; it is not possible to identify a cost for this service and therefore is indeterminate.

Benefit

The major benefit of this proposed subsection is that it clearly identifies that the water system has to get the water from a safe source, add appropriate level of chlorine so the water remains safe, truck the water in an appropriate vehicle, and maintain needed records. Systems that follow the required process will be able to use trucked water as an emergency supply safely.

Proposed Changes to WAC 246-290-135: SOURCE WATER PROTECTION

Rule Overview. This section establishes requirements for water systems to protect their sources from contamination. For groundwater wells and springs, this section specifies a minimum sanitary control area and requires water systems to develop and implement a wellhead protection program. For surface water or groundwater sources under the direct influence of surface water, this section requires water systems to develop and implement a watershed control program.

Subsection (4)(f): For systems required to submit a WSP under WAC 246-290-100, the requirement to update the watershed control program is revised from at least every six years to when the water system plan is updated. There is no change to the watershed evaluation six-year update for water systems required to develop a SWSMP under WAC 246-290-105.

Cost
There is no cost for systems required to submit WSPs under WAC 246-290-100 because the proposed rule does not impose additional requirements. There is no change for water systems required to develop SWSMPs under WAC 246-290-105.

Benefit
This proposed change supports extending the WSP approval period in WAC 246-290-100(9) by providing that the watershed control program, which is an element of a WSP, must be updated as part of the WSP update rather than at least every six years. This provides a cost savings for systems required to develop WSPs because it extends their watershed control program update period to match the proposed plan approval period and avoids creating dual WSP and watershed control program update cycles. This will ensure that water systems can update their WSPs, including their source water protection program, in a comprehensive manner. The estimated cost savings is reflected in WAC 246-290-100 (9) item H.

WAC 246-290-451, Disinfection of drinking water

Rule Section Overview. This section contains the disinfection requirements that apply to certain water systems that have documented or potential threats to their sources. This includes criteria that trigger when disinfection is required, the amount of disinfection required (treatment concentration levels and residual disinfection required in water), monitoring requirements, and recordkeeping and recording requirements for systems that disinfect. Currently, there are 6,880 groundwater sources used by Group A water systems. Of this total, 3,266 are disinfected. Based on input from stakeholders and department staff, the proposed rules included several changes to existing requirements. The department surveyed stakeholders to estimate probable costs of this rule. The results of the survey are included in the subsection analysis below. In addition to the significant change, there are several proposed changes to this section to improve clarity and also some “housekeeping” changes, which are not analyzed.

Cost
It is unknown how many water systems will have to install disinfection because of this proposed rule. Systems required to disinfect because of the proposed changes will incur costs for the treatment design and review, the disinfection equipment, and ongoing costs for chemicals, operation, maintenance, testing equipment, and staff time. The department assumes that most systems that will have to disinfect because of the proposed changes will install “simple disinfection”, which entails installing a chlorine tank, connecting pipes and measuring equipment. The department’s professional engineers identified estimated costs of disinfection and shared our assumptions with several consulting professionals. The consulting professionals, in turn, provided the department with their cost estimates, which in some cases includes cost ranges (low and high cost estimates). Table 2 identifies cost estimates for simple disinfection with a capacity that ranges from 10,000 gallons per day (gpd) up to 500,000 gpd. The costs provided have large ranges, with one explanation of the differences in system capacities and are for illustrative purposes only. The actual cost of installing disinfection ultimately depends on the specific water system design, physical layout, and water quality characteristics.

Table 2 Simple disinfection

Disinfection components for simple disinfection using chlorine	Costs Estimates for a system with a capacity of 10,000 to 500,000 gpd		
	Low	High	Average
Engineering design	$1,000	$12,000	$4111
Equipment (chlorine pump, solution tank, injection nozzle, etc.)	$1,000	$2,500	$1644
Flow Control if needed (controller, pulse meter)	$1000	$3,000	$2556
Instrumentation (unit measuring chlorine levels)	$75	$500	$350
Department project review costs for simple disinfection	$205	$994	$874[3]
Labor and Industries (L&I) Permit	$150	$400	$372
Installing disinfection unit including piping equipment setup and testing	$1000	$9000	$3772
Total Estimated Cost of Unit (One Time Costs)	$7794	$28194	$13629

Operation and Maintenance- taking daily reading of chlorination levels and completing monthly reports (annual costs)	$100	$6000	$1672
Operation and maintenance- Completing (semi-annual) equipment maintenance	$200	$200	$200
Annual cost of chlorine (for a 500,000 gpd unit)	$200	$3000	$1889
Total Annualized Operation and Maintenance	$840	$9400	$3916

A. Subsection (4)(d): Establishes a proposed requirement for water systems to provide continuous disinfection if they have a microbial contaminant threat to a source, as documented in a susceptibility assessment, a sanitary survey, or a special purpose investigation. Threats include, but are not limited to, the following conditions:
   (i) A poorly constructed source;
   (ii) An inadequate surface seal;
   (ii) High groundwater;
   (iii) Lack of confining layers in the aquifer;
   (iv) A shallow source;
   (v) A drilled well in fractured bedrock; or
   (vi) A source at risk of flooding.

   Cost
   It is unknown how many water systems will have to install disinfection because of this proposed change. See "Cost" in rule section overview above for potential cost impacts for systems that will have to install disinfection.

   Benefit

[3] Per Fee WAC 246-290-990

The benefit of this proposed change is it adds a protective barrier against outbreaks of illnesses to public water systems whose sources are vulnerable to contamination and located near a potential source of contamination. The proposed change will provide for pro-active protection of public health and will allow the department to address potential threats to water quality for higher risk sources before they contaminate the source. There is a long documented history of benefits of disinfection and its ability to treat and remove bacteriological contamination. Waterborne illnesses could lead to morbidity and mortality.

B. Subsection (4)(e): Establishes a new disinfection requirement for systems that desalinate seawater with reverse osmosis (RO). In response to the federal Long-term 2 Enhanced Surface Water Treatment Rule, the department created a workgroup to determine the impact of this rule on seawater sources treated with RO. The workgroup determined, in 2012, that RO cannot guarantee adequate removal of viruses and recommended a requirement for continuous disinfection that meets a contact time of six minutes, or CT6 (the product of the concentration of a disinfectant and the contact time with the water being disinfected) which will adequately inactivate viruses for all seawater sources that treat with RO.

Cost
There are currently fifteen Group A systems in Washington that have RO treatment and all of these systems currently chlorinate. Some of these systems may have to change their practices to obtain CT6. See "Cost" in rule section overview above for potential cost impact for systems that will have to install disinfection.

Benefit
The proposed change will better protect public health by ensuring adequate treatment against viruses, or any other pathogen, that may breach the RO membrane. The improved treatment will better protect against outbreaks of illnesses caused by these viruses.

C. Subsection (6)(c): The proposal changes the required frequency of monitoring disinfectant concentration at the point of entry to the distribution system from "at least once (every Monday through Friday (except holidays)" to "at least once per day five days a week or each day that water is supplied by the treatment plant if it operates less than daily." This has a nominal impact on water systems that will result in a few more days of monitoring per year with a more consistent schedule.

Cost
There are only nominal costs for a few more daily monitoring's (by removing the exemption for holidays).

Benefit
The proposed changes amend the monitoring requirements for disinfection concentrations for five days a week. This is intended to allow systems more flexibility of when to monitor, but keeps requirement for five days a week.

D. Subsection (6)(d): Requires systems disinfecting a source of supply to CT6 (for virus inactivation) to use an EPA-approved method to measure free chlorine residual. Non-EPA

approved methods may not be used to measure free chlorine residual when measuring for compliance with CT6 disinfection treatment because non-EPA methods are not considered accurate enough to determine compliance.

The Code of Federal Regulations (CFR) identifies approved methods for measuring disinfectant residuals. The CFR also identifies other methods that states can "approve for use" at their discretion[4] that are not EPA-approved methods, such as color wheels and test strips. The proposed rule explicitly prohibits the use of a color wheel and test strips to measure free chlorine residual for CT6 compliance. These changes will clarify the requirements and make it easier for systems to achieve and maintain compliance.

Cost

The existing regulation requires free chlorine residual measurement by an EPA-approved method. The department does not know how many systems are currently using a color wheel to measure free chlorine residual for CT6 compliance (Hach color wheels cost $52.89[5]). Many systems may not be aware that their color wheel test kit is not an EPA-approved method. These systems will have to change their practices to be in compliance. A digital pocket colorimeter, a common device that is an EPA-approved method, costs approximately $415[6].

Benefit

Test kits that use the EPA-approved method for chlorine residual are more accurate than a color wheel or test strips (less susceptible to subjective measurements). Systems that treat to CT6 must use residual measurements to determine if treatment is adequate to meet this standard. Keeping the requirement for test kits that meet an EPA-approved method better protects public health.

E. Subsection (7)(a): Changes the required frequency of monitoring disinfectant concentration in the distribution system from "at least once each day (every Monday through Friday except holidays)" to "at least once per day five days a week, unless the department approves less frequent monitoring." The proposed rules also require water systems to take all routine and repeal coliform samples at the same time of day and location (sampling location). This has a nominal impact on water systems that will result in a few more days of monitoring per year with a more consistent schedule.

Cost

There are only nominal costs for a few more daily monitoring's (by removing the exemption for holidays).

Benefit

[4] 40 CFR 141.131(c)(2) If approved by the State, systems may also measure residual disinfectant concentrations for chlorine, chloramines, and chlorine dioxide by using DPD colorimetric test kits

[5] Internet search of cost color wheels http://www.hach.com/free-chlorine-color-disc-test-kit-model-cn-66f/product

[6] Internet search of cost of pocket colorimeter http://www.hach.com/pocket-colorimeter-ii-chlorine-free-and-total/product

The proposed changes amend the monitoring requirements for disinfection concentrations for five days a week. This is intended to allow systems more flexibility of when to monitor, but keeps requirement for five days a week.

F. Subsection (7)(b): Removes the option for systems to use the Heterotrophic Plate Count (HPC) method to "detect residual disinfectant concentrations." The HPC method in the CFR refers only to surface water systems. Current requirements allow systems to request permission in writing to the department to use a lower residual disinfection concentration. The request must identify the instrument used to measure the lower value and include the manufacturer's documentation of the instrument's accuracy to measure the lower value.

The proposed rule adds a new definition of "detectable residual disinfectant concentration" in WAC 246-290-010 (80) that applies to this section. Detectable residual disinfectant concentration means 0.2 mg/L of free chlorine, total chlorine, combined chlorine or chlorine dioxide. Current regulations allow the department to require higher residuals than detectable and this change will clarify implementation of this section. The proposed minimum level of 0.2 mg/L is the lowest value that can accurately be measured using the commonly used color wheel chlorine residual test kit (the test kit can measure a residual to 0.1 mg/L with an error of + or – 0.1 mg/L). In addition, staff conducted a survey of other states and found that 18 of the 34 states that responded had a minimum residual requirement and most used 0.2 mg/L. Staff also surveyed peer reviewed literature and found that 0.2 mg/L was at the low end of useful residual to protect distribution systems. Lastly, this section does include a provision for systems to apply for a lower detectable residual if they are using a more sophisticated device with a greater level of accuracy. The proposed language on detectable residual disinfectant concentration is also included in sections -662, -672, and -692 but is only analyzed in this section.

Cost

The HPC method is more costly than measuring disinfectant residual. If a water system switches its approach it will result in reduced annual operating costs for a typical system ($20 per HPC sample as compared to pennies per sample using a color wheel or colorimeter).

The department has existing authority to require water systems to maintain a detectable residual disinfectant concentration. The department's assumption that the proposed regulations are the least cost approach in how systems can satisfy this requirement.

Benefit

Removing this from the groundwater disinfection section better aligns the state rules with the CFR and better protects public health by requiring an adequate disinfectant residual to be present. The major benefit of the proposed change is it clarifies the department's implementation of what constitutes a detectable residual disinfectant concentration.

G. Subsection (7)(d): The proposal specifically allows systems disinfecting for the purpose of maintaining a detectable residual disinfectant concentration in the distribution system to use a color wheel to measure free chlorine residual. Systems may not use test strips for chlorine residual measurement.

The CFR identifies approved methods for measuring disinfectant residuals. The CFR also identifies other methods that states can "approve for use" at their discretion[7] that are not EPA-approved methods, such as color wheels. This statement clarifies that the department will allow water systems to use a color wheel test kit, which for many systems has been standard practice. This proposed change also allows the department to require an EPA-approved method if circumstances warrant a higher degree of accuracy.

This proposed change will allow systems disinfecting for the purpose of maintaining a detectable residual disinfectant concentration in the distribution system to continue to use the color wheel type test kit for chlorine residual measurement. Many systems currently use this method of analysis for measuring disinfectant residual in the distribution system. The color wheel is sufficiently accurate given the new definition of "detectable residual disinfectant concentration" of 0.2 mg/L. The test strips are not accurate enough to ensure residual at the detectable level and are therefore not permitted.

Cost
Systems that currently use test strips (approximately $20 for 50 strips) will have to purchase an approved color wheel test kit (Hach color wheels costs $52.89[8]) and the reagents (pennies per sample).

Benefit
The proposal sets in rule which test kits are allowed and protects public health by ensuring an adequate residual disinfectant concentration in the distribution system. Allows systems to use color wheels which are affordable but accurate in measuring detectable residual disinfectant concentration" of 0.2 mg/L. Over time, systems that use the color wheel test kit, as opposed to using test strips, will reduce their sampling costs.

WAC 246-290-668: WATERSHED CONTROL

Rule Overview. This section establishes requirements for the protection of surface water sources from contamination by requiring water systems to survey their watershed for activities or conditions that may affect their source water quality and to develop and implement a watershed control program that includes a completed watershed evaluation as part of a WSP or plan update.

The proposed revisions align the watershed control program update with the proposed extension of the WSP approval period. Proposed revisions are described below:

A. Subsection (2): Revised the requirement for all water systems to perform a watershed evaluation from "at least every six years" to "as part of a watershed program update" within the WSP for systems required to develop a WSP under WAC 246-290-100. For systems required to develop a SWSMP, there is no change in the requirement to update the watershed evaluation.

[7] 40 CFR 141.131(c)(2) If approved by the State, systems may also measure residual disinfectant concentrations for chlorine, chloramines, and chlorine dioxide by using DPD colorimetric test kits
[8] Internet search of cost color wheels http://www.hach.com/free-chlorine-color-disc-test-kit-model-cn-66f

B. Subsection (3): Removed the requirement for a professional engineer to oversee the watershed evaluation and to submit a watershed evaluation report within sixty days of completing the evaluation.

Cost
These proposed changes provide a savings to water systems that develop WSPs because it allows them to continue updating their watershed evaluation on the same schedule as their WSP update. The amount saved is included in the overall savings estimate included in WAC 246-290-100 (9) item H, which addresses the extension of the WSP approval period in WAC 246-290-100(9) from six years to up to ten years.

The proposed change to eliminate the requirement for a professional engineer will result in cost savings to all water systems because they will not need to obtain professional engineering services to oversee their watershed evaluation and to submit a watershed evaluation report separate from the watershed program update as part of their WSP or SWSMP.

Benefit
These proposed changes support the proposed change to WAC 246-290-100(9), which extends the WSP approval period, by providing that the watershed evaluation—a component of the watershed control program—may be updated at the same time as the WSP. This proposed change removes the potential for the watershed evaluation being required on a separate six-year schedule.

WAC 246-290-810: WATER USE EFFICIENCY PROGRAM

Rule Overview. Per RCW 70.119A.180, municipal water suppliers are required to develop a water use efficiency (WUE) program that includes sufficient cost-effective water use efficiency measures to meet the WUE goals developed under WAC 246-290-830. The following proposed changes align the WUE program timeframes to be consistent with proposed changes to the WSP approval timeframe in WAC 246-290-100 and are further described below:

A. Subsection (4)(b): For municipal suppliers required to submit WSPs, revises the timeframe to estimate the amount of water saved through the WUE program from the "last six years" to "the approval period of the most recently approved WSP" under WAC 246-290-100."

B. Subsection (4)(e): For municipal supplies required to submit WSPs, revised the requirement to describe all WUE measures, including a schedule and budget, to be implemented during the plan approval period from the "next six years" to the "next six or more years." Added a requirement for systems to submit a schedule and budget for the approval period of the WSP if the approval period is longer than six years.

C. Subsection (4)(i)(i): For municipal suppliers required to submit WSPs, revised the timeframe to identify distribution system leakage totals from the "past six years" to the "past six or

more years." Added that systems with plan approval periods longer than six years must submit distribution leakage totals for their entire plan approval period.

Cost
These proposed changes support the proposed extension of the plan approval period in WAC 246-290-100(9) to up to ten years. Developing a longer-range plan may represent additional costs for water systems that choose to do so. Any additional costs should be considered part of the expense of developing a ten-year plan rather than a six-year plan. The proposed rule does not impose additional costs.

Benefit
These proposed changes align the time periods for meeting WUE requirements with the plan approval period in the proposed rule. These proposed changes eliminate potential gaps between time periods for municipal suppliers going from a six-year plan under the current rule to a longer approval period under the proposed rule.

WAC 246-290-820: DISTRIBUTION SYSTEM LEAKAGE

Rule Overview This section establishes maximum distribution system leakage of ten percent and annual reporting requirements for municipal water suppliers defined under RCW 70.119A.180. The following proposed changes to this section also makes the distribution system leakage program timeframes consistent with proposed changes to the water system planning timeframe in WAC 246-290-100 and are further described below:

Subsection (5)(c)(i): For municipal suppliers required to submit WSPs who serve less than 500 connections and who want to receive an allowance for up to twenty percent leakage, the proposal revises the requirement to complete a leak detection survey from the "last six years" to the "approval period of the most recent WSP."

Cost
These proposed changes support the proposed extension of the plan approval period in WAC 246-290-100(9). As previously discussed, extending the planning time period from six years to ten years might slightly increase the cost of planning, but the cost per planning year is reduced (i.e., plan cost divided by ten years as opposed to six years).

Benefit
These proposed changes align the time periods between the WUE requirements and the plan approval period in the proposed rule. These proposed changes eliminate possible gaps between time periods for municipal suppliers going from a six-year plan under the current rule to a ten-year approval period under the proposed rule.

WAC 246-290-830: WATER USE EFFICIENCY GOAL SETTING

Rule Overview. This section establishes requirements for municipal water suppliers to establish WUE goals in a public forum and to evaluate and establish their goals at least every six years as part of their WSP approval under WAC 246-290-100 or a SWSMP under WAC 246-290-105.

The following proposed changes to this section makes the WUE goal setting timeframes consistent with proposed changes to water system planning timeframe in WAC 246-290-100 and are described below:

Subsection (7): For municipal water suppliers required to submit WSPs, revised the timeframe to evaluate or reestablish WUE goals from at least every six years and as part of a WSP approval" to "as part of developing or updating a WSP for water systems required to submit a WSP."

Cost
This proposed change does not represent a cost because the proposed rule does not impose additional requirements.

Benefit
This proposed change represents a cost savings for water systems required to submit WSPs because the current rule requires goal setting at least every six years and as part of a WSP update, which can create a dual WUE update cycle. The proposed changes align updating the WUE goals with updating the plan, which eliminates the risk of a dual WSP and WUE goal setting cycle. The amount saved is discussed in the cost savings estimate in in WAC 246-290-100 (9) item H, which describes the extension of the plan approval period from six years to up to ten years.

Proposed Rule Cost-Benefit Conclusion
The rule making intends to improve public health protection, streamline regulations, provide clarity, and improve consistency between state and federal regulations. As described in this analysis, there are selected sections that could result in increased costs for select water systems (e.g., disinfection section, and the emergency source and supply section). Although select water systems may incur these costs, the benefit of the sections improve public health protection outweigh these costs. The proposed rule enhances public health protection by requiring disinfection for sources vulnerable to contamination, requiring accurate measuring devices, and requiring safeguards for water systems that elect to truck water to address an emergency source). Furthermore, the rule making also makes changes that will result in cost savings to water systems (e.g., water system planning section). Based on this analysis, the department concludes that the total probable benefits of the proposed rule exceed the total probable costs.

SECTION 6: Identify alternative versions of the rule that were considered, and explain how the department determined that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives state previously.

The department considered alternate versions of the rule. In considering each requirement, the department ultimately chose the version that is the most protective of public health and the least costly for water systems, while meeting the federal and state mandates of the underlying statutes.

The department considered including specific criteria for systems to receive an "unspecified approval" (approved to provide service but not as a specific number of approved service connections.) Historically, "unspecified" designation was assigned to several very large municipal type systems with a variety of types of service connections, such as multi-family,

industrial, or business. In these cases, calculating the exact number of approved connections did not provide benefit to the department nor the system. These systems requested an unspecified designation and the department reviewed their water system plans and ultimately made a determination if it was appropriate based on the system's capacity to serve anticipated growth. The department considered and ultimately decided not to propose specific criteria for unspecified determination. Rather, the department proposed that systems seeking a new or continued unspecified designation would trigger a requirement for systems to submit their WSP for review and approval. The department will determine if an unspecified designation is appropriate during the plan review process.

The department received input from stakeholders that there are too many subcategories of a system's service area. The department considered removing "future service area" as a defined term to reduce the number of service areas water systems must identify in a water system plan. Upon further consideration, the department elected to not remove this definition but revised it to only apply for water systems required to plan under RCW 70.116, Water System Coordination Act.

Based on the department's approach, the department determines the rule changes are the least burdensome alternative for those required to comply that achieves the goals and specific objections of the underlying statutes.

SECTION 7: Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

The proposed rule does not require those to whom it applies to take an action that violates requirements of federal or state law.

SECTION 8: Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law.

The proposed rule does not impose more stringent performance requirements on private entities than on public entities. The proposed changes in this rule apply equally to the classification and operation of all public water systems, whether they are publicly or privately owned.

SECTION 9: Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by an explicit state statute or by substantial evidence that the difference is necessary.

The proposed rule does not differ from any applicable federal regulation or statute. The proposed rule changes were developed using the Safe Drinking Water Act, and state statutes (chapter 70.119 RCW and chapter 43.20 RCW).

SECTION 10: Demonstrate that the rule has been coordinated, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.

Yes. The department has coordinated with EPA and the department's Drinking Water Advisory Group as well as extensive work with Group A public water systems during the development of

this rule. The department held a sixty-day informal comment period to receive feedback on the draft rule. The department also held several meetings with the following entities to inform and engage them on the draft rules:

- Center for Environmental Law and Policy
- Washington Public Utility Districts Association
- Washington Association of Sewer and Water Districts
- Washington Water Utility Council

The proposed rule changes have been coordinated to the maximum extent practical with other federal and state laws applicable to the same subject matter: