



DEPARTMENT OF
ECOLOGY
State of Washington

Rule Implementation Plan

Water Quality Standards for Surface Waters of the State of Washington

Amendments to Chapter 173-201A WAC

August 2016
Publication No. 16-10-022

Publication and Contact Information

This report is available on the Department of Ecology's website at <https://fortress.wa.gov/ecy/publications/SummaryPages/1610022.html>

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Rule Implementation Plan
Water Quality Standards for Surface
Waters of the State of Washington

Amendments to Chapter 173-201A WAC

by
Watershed Management Section

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Washington State Department of Ecology
Olympia, Washington

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Implementation Plan for Revisions to Chapter 173-201A WAC

Introduction

The Washington State Department of Ecology (Ecology) adopted amendments to Chapter 173-201A WAC, Water Quality Standards for Surface Waters of the State of Washington. The amendments provide new human health criteria and implementation tools. All federal Clean Water Actions, including discharge permits, water pollution identification, and water cleanup plans, will use the new criteria.

The rule also provides language around tools to implement water quality standards, and requirements for implementing water quality standards that will keep dischargers in compliance with their National Pollutant Discharge Elimination System permits while they actively implement actions and control strategies to address pollutants.

Purpose

Ecology provides the information in this implementation plan to meet agency and Washington's Administrative Procedure Act (RCW 34.05.328) requirements related to rule adoptions.

The purpose of this implementation plan is to inform those who must comply with Chapter 173-201A WAC about how Ecology intends to:

- Implement and enforce the rule.
- Inform and educate persons affected by the rule.
- Promote and assist voluntary compliance with the rule.
- Evaluate the rule.
- Train and inform Ecology staff about the rule.

Also included in this plan is information about:

- Supporting documents that may need to be written or revised because of the rule.
- Availability of other resources/information about the rule.
- Contact information for Ecology employees who can answer questions about rule implementation.

Summary of changes

The rule changes include:

- the addition of human health criteria for surface water (WAC 173-201A-240);
- revisions to two implementation tools sections currently in the standards, variances (WAC 173-201A-420) and compliance schedules (WAC 173-201A-510(4));
- a new implementation tool section on intake credits (WAC 173-201A-460); and clarifying implementation language on combined sewer overflows (CSO) treatment plants (WAC 173-201A-510(6)).

The revisions to the variance and compliance schedule language are changes to existing language. The human health criteria are new in Table 240 and the intake credit language is a new section in the rule.

The new language that specifically addresses implementation of human health criteria for CSO treatment plants describes:

- The definition of a CSO treatment plants.
- How effluent limits based on human health criteria for these plants will be approached.

The rule revision resulted in several important changes to the state water quality standards, including implementation tool updates and new human health numeric criteria for toxics.

New human health numeric criteria for surface waters

The new human health criteria are water concentrations for 97 toxic substances to protect people who consume fish and shellfish from local waters and who drink untreated water from local surface waters. These criteria are calculated using a variety of different factors, including chemical-specific toxicity to humans, how chemicals move from water into fish and shellfish and then into humans, as well as other factors.

The criteria calculations and these factors are discussed at more length in the Overview of Key Decisions document (Ecology publication no. 16-10-025) in the Human Health Criteria Equations and Variables section. Specific sections on PCBs and arsenic are also found in the Overview of Key Decisions document. The approach to implementing arsenic criteria includes specific language on arsenic reduction efforts to protect Washington surface waters.

The revised rule contains:

- 1) Calculated criteria values.
- 2) Two criteria values for total PCBs based on the 1999 National Toxics Rule (NTR) update.
- 3) Criteria for arsenic, copper and asbestos based on the Safe Drinking Water Act.

Implementation tools

Variations

A variance is a time-limited designated use and criterion as defined in 40 CFR 131.3, and must be adopted by EPA. A variance temporarily waives water quality standards for a specific chemical criterion and designated use for either a single discharge or for multiple discharges, or for specified stretches of surface waters (e.g., for a specific tributary, a lake, a watershed, etc.).

Variations are used in situations where it can be demonstrated that:

- 1) A discharge can eventually meet the permit limit or a water body can eventually meet the criteria and designated use, but a longer time frame is needed than allowed in a compliance schedule, or,
- 2) It is not known whether the discharge will ever be able to meet the permit limit or whether a waterbody will meet a criterion and/or designated use.

Because a variance is a temporary change to a criteria and use, variations are considered changes to the water quality standards and must go through rulemaking (and subsequent EPA Clean Water Act approval) to be effective. The current water quality standards give a brief list of the requirements for granting variations, including a maximum five-year time frame. The federal water quality standards regulations were recently revised and now include substantial requirements for granting variations (40 CFR 131.14; <http://www2.epa.gov/wqs-tech/final-rulemaking-update-national-water-quality-standards-regulation>).

The revised state rule language on variations expands on the current rule language and is consistent with the new EPA regulations. Demonstrating the need for a variance could be very labor intensive, depending on the specific situation. More detailed specifications in the water quality standards will help set clearer expectations for both dischargers and the state, and will result in more predictable outcomes for dischargers.

This revised rule change does not grant any specific variations to water quality standards. Instead, this rule change would give more details on the requirements for granting variations, and on the types of actions required of dischargers during variance periods. This includes a proposal to extend the duration of variations beyond five years if necessary.

Compliance schedules

Compliance schedules are tools used in Ecology discharge permits, orders, or other directives that allow time for dischargers to make needed modifications to treatment processes in order to meet permit limits or requirements. They are commonly used for construction and treatment plant upgrades, and cannot be used for new or expanding discharges. Compliance schedules are used when there is an expectation that the discharge will meet permit limits at the end of the schedule.

The current water quality standards contain a maximum time limit of ten years for compliance schedules. In 2009, the Washington legislature passed a law requiring Ecology to develop longer compliance schedules for certain types of discharges. The revised rule contains longer schedules.

Intake credits

Intake credits are a permitting tool that allows a discharge limit to be calculated in a way that does not require the discharger to “clean-up” pollutants in the discharge that are from the intake water, when the intake water and water body receiving the discharge are the same water body. This tool is currently used to calculate technology-based limits, but Washington does not have a regulation that allows use of this tool to calculate limits based on water quality criteria (a.k.a. water quality-based limits). This tool is used to calculate water quality-based limits in several other states, including Oregon and the Great Lakes states.

The revised rule contains language describing how, and when, intake credits could be used.

Combined Sewer Overflow (CSO) Treatment Plants

Ecology developed new language detailing how permitting of combined sewer overflow treatment facilities occurs. This new language defines CSO treatment plants, and how effluent limits based on human health criteria for these plants will be approached. This new language provides clarification, but does not change any current practices with regard to permit requirements.

A new definition was added to define a Combined Sewer Overflow (CSO) Treatment Plant as “a facility that provides At-Site treatment as provided for in chapter 173-245 WAC – Submission of Plans and Reports for Construction and operation of Combined Sewer Overflow Reduction Facilities. A CSO Treatment plant is a specific facility identified in a department-approved CSO Reduction Plan (Long-term Control Plan) that is designed, operated and controlled by a municipal utility to capture and treat excess combined sanitary sewage and stormwater from a combined sewer system.”

Ecology also developed new language at 173-201A-510 WAC, describing implementation of these facilities: “The influent to these facilities is highly variable in frequency, volume, duration, and pollutant concentration. The primary means to be used for requiring compliance with the human health criteria shall be through the application of narrative limitations, which includes but is not limited to, best management practices required in waste discharge permits, rules, orders and directives issued by the department.”

CSOs are driven by influxes of stormwater into combined sanitary and stormwater collection systems. Because of the episodic and short-term nature of CSO discharges it is infeasible to calculate effluent limits that are based on criteria with durations of exposure up to 70 years. If it is infeasible to calculate numeric limits, the federal regulations (40CFR122.44(k)) allow use of best management practices (BMP)-based limits in NPDES permits.

Implementation and Enforcement

Ecology will implement and enforce the adopted rule (upon its effective date) in the same way the current rule is implemented and enforced. This rule will not be able to be used for Clean Water actions until Ecology receives Clean Water Act approval from the Environmental Protection Agency.

Guidance

Ecology intends to update existing guidance, or develop guidance to assist Ecology staff and others to implement new and revised portions of the rule. This will help ensure the new criteria and implementation tools are consistently applied by Ecology. This future guidance will be available online and will be updated as the new water quality standards are implemented and changes are warranted, based on experience in using the new rules. See the List of Supporting Documents in this document for a complete list of guidance that will be done to support this rule.

Implementing rule revisions

Approval of the New Water Quality Standards by the Federal Environmental Protection Agency (EPA)

The revised state rule becomes effective 31 days after the rule adoption. However, the revised state water quality standards must first be approved by EPA to determine that the revisions comply with the federal Clean Water Act before Ecology can use them for federal actions. EPA's Clean Water Act review may require Endangered Species Act (ESA) consultation on portions of the rule revisions that could affect ESA-listed aquatic species. The revised rule language cannot be used for Clean Water Act-based actions until EPA approves the revisions.

EPA can take one of the following courses of action on the state's new rule:

- 1) Approve within 60 days of submittal;
- 2) Disapprove within 90 days of submittal, or
- 3) Partially approve or partially disapprove portions of the revised rule.

EPA informed Ecology that the intake credits portion of the rule is "not a water quality standard," and thus rule language on intake credits will not require Clean Water Act approval, and will therefore be available for use 31 days after Ecology files the adopted rule.

Ecology will keep the public up-to-date and informed on how federal Clean Water Act review of the updated rule is proceeding by sharing (via the Water Quality Listserv and other media) pertinent information transmitted to Ecology from EPA.

List of impaired waters - 303(d)

Periodically, Ecology produces a list of impaired waters that do not meet the water quality standards. This list is commonly called the 303(d) list, since the requirements come from Section 303(d) of the federal Clean Water Act. The existing federal human health criteria, issued to Washington in 1992 (and as revised in 1999), were used to develop the 303(d) list for 2014 that was submitted to EPA in September 2015. Future 303(d) lists will use the water quality standards that have been adopted and approved by EPA at the time the 303(d) list is compiled. Once approved by EPA, these new water quality standards will be used to determine impaired water bodies for future listings.

Total Maximum Daily Loads (TMDLs)

There is continuous ongoing TMDL work that will be in various stages of completion once the water quality standards are finalized. This chart describes how Ecology plans to manage that work once the water quality standards become effective.

TMDL Status	Transition Solution
1. TMDL formally approved.	<ul style="list-style-type: none"> • Keep TMDL in place, even if criteria in the new rule are different • Continue implementation measures • Monitor compliance with TMDL allocations • Compare TMDL targets to new criteria, but not required to change targets • Water body will be placed in category 4a: Has a TMDL - in accordance with the 303(d) listing policy • As effectiveness monitoring is done on the TMDL it will include analysis of the new criteria
2. TMDL not yet approved, but field work completed and report may or may not be completed	<ul style="list-style-type: none"> • Report will have to be updated to include analysis of the new criteria • Proceed with submittal of TMDL if the analysis shows that new criteria will be met • If new criteria will not be met then the TMDL will need to be amended to address new criteria
3. TMDL study in progress and field work begun but not completed	<ul style="list-style-type: none"> • Continue study and include new criteria • Analysis should be based on new criteria • Develop monitoring plan that incorporates new criteria
4. TMDL study planned and no field work yet begun	<ul style="list-style-type: none"> • Include new criteria in study design and sampling and drop old criteria
5. 303(d) listed but no priority set for doing study	<ul style="list-style-type: none"> • Retain on 303(d) list • Continue to scope and schedule projects. When projects are selected for work, the project will be treated the same as in (4) above
6. Effectiveness monitoring for TMDLS	<ul style="list-style-type: none"> • Each TMDL will do effectiveness monitoring after implementation of actions • Effectiveness monitoring associated with the TMDL will be based on the monitoring strategy in the TMDL. In order to determine the TMDL is meeting water quality standards, monitoring will have to show the waterbody is meeting most current criteria • If new criteria will not be met then the TMDL will need to be amended to address new criteria

Revisions to the toxics table

Permit writers will need to refer to the new toxics table in WAC 173-201A-240 to determine the new criteria.

All newly adopted criteria will be implemented when permits are renewed or when new permits are issued.

Permits

There is ongoing permit work that will be in various stages of completion once the water quality standards become effective. The following table describes how Ecology plans to manage that work once the new water quality standards become effective.

Wastewater Discharge Permit Status at the Date of Adoption	Transition Solution
1. Public notice completed	Issue permit but make sure applicant understands that new rules were just adopted and might cause changes in the next permit.
2. Entity review completed but public notice not started. New water quality standards don't cause a reasonable potential to pollute or cause the effluent limits to change.	Go to public notice with permit.
3. Entity review completed but public notice not started. New water quality standards cause reasonable potential and effluent limits	Go to public notice with the permit. Prior to notice, Ecology will first estimate whether the reasonable potential determination would likely change if the water quality standards are approved by EPA and whether it would make a significant difference in Ecology's decision and conditions.
4. Entity review not begun	Use new criteria to determine reasonable potential and effluent limits.

401 Certifications

Ecology will issue 401 Certifications based on the water quality standards that are in effect when the certification is issued. When Ecology goes to public notice, it can estimate how the certification might change if the water quality standards are approved by EPA prior to issuance of the certification, and whether it would make a significant difference to Ecology's decision and conditions.

All certifications that go to public notice after the water quality standards are adopted should be based on the new water quality standards.

Informing and educating persons affected by the rule

Ecology will inform and educate affected parties through ongoing, already-established meeting venues, holding specific meetings, doing outreach to the Water Quality ListServ, and using Ecology's website and providing new or revised guidance.

Previous activities

Affected persons and the public have been informed and educated about the changes to the water quality standards over the past several years. Since this rulemaking began in 2012, there have been numerous technical and policy forums, stakeholder discussions, and public workshops and meetings. Statewide public workshops were held on several occasions prior to publication of the rule proposal.

Public workshops and hearings on the proposed rule were held in April 2016. The purpose of these hearings was to inform and educate the public about the reasons for the proposed changes to the water quality standards, and to give the public an opportunity to ask questions and formally testify on the rule proposal. During the formal public comment period, Ecology also consulted directly with tribes and accepted written comments on the proposal.

Current activities

For the release of this revised rule, Ecology emailed announcements to approximately 1,300 individuals on the Water Quality ListServ informing them of Ecology's changes to the water quality standards. All of the changes to the water quality standards are available to the public on Ecology's website: (<http://www.ecy.wa.gov/programs/wq/swqs/Currswqsruleactiv.html>). This material includes the revised rule language and supporting documentation. The Water Quality ListServ will continue to provide updates. Interested persons can obtain hard copies of written material upon request.

Future activities

After final rule adoption, Ecology will work with interested parties to prioritize guidance document needs. Currently, it is anticipated that guidance on implementation tools (variances, compliance schedules, and intake credits) and pollution reduction activities for arsenic will be the initial focus for guidance development.

Ecology will continue to be available to external interests after rule adoption to explain the final rule changes.

Ecology will also prepare a formal rule submittal package to transmit to EPA for federal Clean Water Act review and approval. This package will contain the adopted rule and supporting documentation. Until EPA gives written approval of the state's new water quality standards, they cannot be used for federal Clean Water Act-based actions (including NPDES permitting and 401 certifications).

Promoting and assisting voluntary compliance

Ecology will provide direct technical assistance to any entity that requests it. Ecology will continue to work with key interests that are regulated by the state water quality standards. Ecology continues to encourage voluntary compliance with the water quality standards and supports numerous water quality programs that, at least in part, promote voluntary compliance:

- Total maximum daily loads (TMDLs)
- Nonpoint pollution programs
- Federal and state grants and loans
- Ongoing technical assistance from permit writers and compliance staff

These programs provide a great deal of financial and technical support to entities complying with the water quality standards.

Evaluating rule

Clean Water Act Sections 303(d) and 305(b) require states to report to EPA on progress made implementing the water quality standards. To help fulfill this requirement Ecology identifies waters that are meeting or not meeting water quality standards, or are scheduled for a TMDL.

The purpose of the water quality standards is to restore and maintain the chemical, physical, and biological integrity of Washington's waters. More specifically, the water quality standards are designed to protect public health, public recreation in the waters, and the propagation of fish, shellfish, and wildlife. The numeric and narrative criteria in the water quality standards are intended to protect those beneficial uses.

The changes to the water quality standards are considered to have achieved their purpose if they fully protect the beneficial uses. The water quality standards should also protect those beneficial uses in the least burdensome way.

Interim milestones

The adopted rule language on compliance schedules and variances includes requirements for interim milestones to meet water quality standards. These milestones include interim permit limits, language on future use of interim water quality criteria and designated uses, and pollution reduction activities (assuming future variances are adopted in subsequent rule revisions).

Objectively measurable outcome

Successful outcomes of the rule can be measured through monitoring to determine if water quality standards are being attained in Washington surface waters. Ecology monitors surface waters across the state to determine whether designated uses are being met. Monitoring data (meeting requirements of the Data Quality Act; RCW 90.48.570 to 90.48.590) will be used to determine whether designated uses are met.

Training and informing agency staff

A rulemaking of this magnitude requires broad outreach to permit writers and other staff and management involved with water quality regulation. This will be done through meetings, email communication, written guidance and one-on-one communication. Ecology will notify all Water Quality Program staff, as well as staff from other programs that will use the new criteria or tools after EPA takes an approval action on its federal Clean Water Act review of the newly adopted water quality standards. The intake credit provision will be available for use immediately after adoption of the rule because this provision does not require EPA Clean Water Act review. However, other new provisions in the state-adopted rule will need federal Clean Water Act review and approval before use for Clean Water Act purposes. Following are examples of staff resources to address training and information sharing related to the revised rule.

NPDES permits and 401 certifications:

The Water Quality Program will provide training for the Ecology permit writers on changes to the rule and to permit writer's guidance. In addition, permit writers are given the opportunity to review and comment on changes to Ecology's *Water Quality Program Permit Writer's Manual*, which will contain the new guidance on how to implement the final rule changes in permits. Permit writing tools, templates, and forms will be updated to account for provisions in the adopted rule, and permit writers will be notified of changes.

Most changes to the guidance discussed here would need approval from the Water Quality Program management team represented by both regional and headquarters management. Thus, the permit writing staff will also receive reinforcement from their regional management regarding use of new guidance. Ongoing support is provided by Ecology's Permit Writer's Workgroup, made up of permit writers who meet quarterly to discuss emerging issues and facilitate communication throughout the regions and across other programs with staff who issue permits.

Water Quality Assessment

The staff working with the Water Quality Assessment will be involved in determining any new approaches that are needed in order to assess Washington waters for compliance with the new human health criteria. Members of that group are already involved with this rulemaking via the development of information to support the Cost Benefit Analysis required by the Administrative Procedures Act. The Water Quality Assessment group will be aware of all changes to criteria that will affect how surface waters are assessed.

Total Maximum Daily Loads (TMDL)

The TMDL staff at Ecology's regions will be informed of changes to the water quality standards through TMDL implementation workshops and *Water Quality Program Permit Writer's Manual* notifications.

Additional training on implementation of the revised water quality standards will be made available to staff upon request.

List of supporting documents that may need to be written or revised

Guidance and other documents that will need to be developed or revised:

- Ecology's *Water Quality Program Permit Writer's Manual* will need to be modified to include new guidance on:
 - Compliance schedules
 - Water quality-based intake credits
 - How requirements in a variance are placed in permits

- Arsenic reduction efforts. The new arsenic criteria are paired with arsenic source reduction requirements. How those requirements are specified in permits will be described in the Permit Writers Manual.
- How the duration of exposure (lifetime or other exposure assumptions) is considered in human health criteria implementation.
- How to address detected Bis(2) phthalates in effluent.
- Permit templates, Fact Sheet templates, and permit application forms, will need to be updated to reflect the new criteria and tools.
- PermitCalc (Ecology's permit spreadsheet tool) will need to be updated.
- Materials available to the public (e.g., web sites, Focus Sheets) will need to be updated to reflect the adopted rule.
- The Water Quality Program's *Assessment of Water Quality for the Clean Water Act Section 303(d) and 305(b) Integrated Report* (Ecology Water Quality Program Policy 1-11) will need to be revised to reflect the new rule. Specifically, a new policy on the assessment and listing process for the new arsenic criteria will need to be developed. The current policy uses fish tissue as the basis of listing for human health criteria impairments. The new arsenic criteria are water concentrations for total arsenic – there is no bioconcentration factor included in this chemical's criteria development (the criteria cannot be equated with tissue concentrations), and the criteria are based on the drinking water exposure route. The new criteria are expressed as a total measure in the water column (not inorganic, filtered, or dissolved). The basis of the new criteria concentrations is the Safe Drinking Water Act Maximum Contaminant Level (MCL). The MCL was developed with consideration of the carcinogenicity of arsenic.
- Variance guidance describing the general and specific requirements for different types of variances (individual or multiple discharger, water body) will need to be developed. The variance guidance might be combined with the current draft guidance on Use Attainability Analysis (both variances and use attainability analyses are based on similar federal guidance and requirements), or it could be a stand-alone document.
- Listings of all active variances will be made available to the public on the web.

More information

For additional information go to Ecology websites noted below:

- Rulemaking website:
<http://www.ecy.wa.gov/programs/wq/swqs/Currsqwgsruleactiv.html>
- Water Quality Standards website:
<http://www.ecy.wa.gov/programs/wq/swqs/index.html>

Contact information

For a better understanding of the human health criteria and implementation rules contact:

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