

INITIAL STATEMENT OF REASONS

PROBLEM STATEMENT (Gov. Code, §11346.2(b)(1))

The California State Water Resources Control Board (State Water Board), as well as the United States Environmental Protection Agency (U.S. EPA), establish drinking water standards to ensure the drinking water provided to the public by public water systems is safe, potable, reliable, and protective of public health.

All suppliers of domestic water to the public are subject to regulations adopted by U.S. EPA under the Safe Drinking Water Act of 1974, as amended (42 U.S.C. § 300f et seq.). California public water systems are also subject to regulations adopted by the State Water Board under the California Safe Drinking Water Act (Health & Saf. Code, div. 104, pt. 12, ch. 4, §116270 et seq.). California has been granted primary enforcement responsibility—known as “primacy”—by U.S. EPA for public water systems in California. California has no authority to enforce federal regulations, but only state regulations. Federal law and regulations require that California, in order to receive and maintain primacy, promulgate regulations that are no less stringent than the federal regulations.

California Health and Safety Code (HSC), section 116270(f), declares California’s intent to improve upon the minimum requirements of the federal Safe Drinking Water Act Amendments of 1996, to establish primary drinking water standards that are at least as stringent as those established under the federal Safe Drinking Water Act, and to establish a program that is more protective of public health than the minimum federal requirements. HSC section 116270(h) states that California’s Safe Drinking Water Act shall be construed to ensure consistency with the requirements for states to obtain and maintain primary enforcement responsibility for public water systems under the federal Safe Drinking Water Act and acts amendatory thereof or supplementary thereto. HSC section 116350(b), paragraphs (2) and (3), establish the State Water Board’s responsibility to enforce provisions of the federal Safe Drinking Water Act and regulations adopted pursuant thereto, and to adopt regulations to implement the California Safe Drinking Water Act. HSC section 116375 requires the State Water Board to adopt regulations necessary to carry out the purposes of California’s Safe Drinking Water Act, including monitoring of contaminants and reporting of results; requirements for the design, operation, and maintenance of public water systems that the State Water Board determines are necessary to obtain, treat, and distribute a reliable and adequate supply of pure, wholesome, potable, and healthy water; requirements for treatment, including disinfection of water supplies; and requirements for notifying the public of delivered water quality. The State Water Board has determined that the proposed regulations are necessary to carry out the purposes of California’s Safe Drinking Water Act and to obtain and maintain primary enforcement responsibility under the federal Safe Drinking Water Act. Pursuant to HSC sections 116270, 116271, 116350, and 116375, the State Water Board has the responsibility and authority to adopt the subject regulations.

On February 13, 2013, the U.S. EPA promulgated the Revisions to the Total Coliform Rule (aka Revised Total Coliform Rule) (RTCR) (78 Fed. Reg. 10270; amended Feb. 26, 79 Fed. Reg. 10665), as required by the Safe Drinking Water Act Amendments of 1996. The federal RTCR increases public health protection through the reduction of potential pathways of entry for fecal contamination into distribution systems. The federal RTCR builds on the federal Total Coliform Rule (TCR) to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbial contamination. The federal RTCR applies to public water systems. With limited exceptions, public water systems have been required to comply with the federal RTCR since April 1, 2016. Since April 1, 2016, California public water systems have been working to comply with both the federal RTCR, subject to federal enforcement, and California's Total Coliform Rule.

The key provisions of the federal RTCR include:

- Setting a maximum contaminant level (MCL) for *E. coli* for protection against potential fecal contamination;
- Setting a coliform treatment technique requirement;
- Requirements for monitoring total coliforms and *E. coli* according to a bacteriological sample siting plan and schedule specific to the public water system;
- Provisions allowing public water systems to transition to the federal RTCR using their existing TCR monitoring frequency, including public water systems on reduced monitoring under the existing TCR;
- Requirements for seasonal systems to monitor and certify the completion of state-approved start-up procedures;
- Requirements for assessments and corrective action when monitoring results show that public water systems may be vulnerable to contamination;
- Public notification requirements for violations; and
- Specific language for community water systems to include in their Consumer Confidence Reports when they must conduct an assessment or if they incur an *E. coli* MCL violation.

California currently requires public water systems to monitor for total coliforms in the distribution system and comply with the total coliform MCL (Cal. Code Regs., tit. 22, div. 4, ch. 15, § 64421 et seq.).

Pursuant to the above-referenced Health and Safety Code sections, the proposed rulemaking will include a number of requirements that are in addition to the federal RTCR and are known as state-only requirements. The state-only requirements increase public health protection and build on the federal RTCR to protect public health through improved monitoring for the presence of microbial contamination in groundwater sources and the distribution system; improved investigation and response to microbial contamination during a possible significant rise in bacterial count; and specific seasonal system start-up procedures to ensure steps are taken to mitigate the

risk associated with dewatering and depressurizing the water system. The proposed state-only requirements would apply to California public water systems.

The key provisions of the state-only requirements in the proposed California RTCR include:

- Requirements for bacteriological monitoring of a groundwater (not Ground Water Under the Direct Influence of Surface Water (GWUDI)) source that is treated with a primary or residual disinfectant on a continuous basis and for revising bacteriological sample siting plans to include the source sample sites;
- Requirements for public water systems on reduced bacteriological monitoring to return to routine bacteriological monitoring;
- Requirements for coliform density determinations of total coliforms and *E. coli*, if directed by the State Water Board;
- For public water systems collecting one sample per month, eliminating the need to submit a monthly summary of a bacteriological monitoring result, and clarifying the minimum monthly summary elements for public water systems collecting more than one sample per month;
- Requirements for a report and corrective action when monitoring results indicate a possible significant rise in bacterial count; and
- Requirements for seasonal system start-up procedure components, actions to be taken prior to serving water to the public, and a provision allowing an alternative to certain start-up procedure components.

The State Water Board also proposes a number of nonsubstantive changes, which are not discussed in detail due to their minor nature. The nonsubstantive changes will correct use of upper/lower case, plurals, and taxonomy (italics), grammar, punctuation, a typographical error, subsection and paragraph designations; redesignate sections, subsections, paragraphs, and subparagraphs; redesignate referenced federal Code of Federal Regulations (CFR) sections; update article and section headings and section references; reorganize existing requirements; add clarifying language; delete obsolete references and requirements; and delete redundant requirements.

The purpose of the proposed regulations is to

- Provide the public with increased protection against microbial pathogens in drinking water served by public water systems;
- Protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbial contamination; and
- Maintain primary enforcement authority (“primacy”) through the adoption of drinking water regulations no less stringent than those promulgated by U.S. EPA.

The proposed regulations are expected to provide the following benefits:

- Improved clarity of requirements through increased specificity and reduced redundancy;
- Enhanced public awareness of water quality served by requiring public notification when an *E. coli* MCL violation occurs, and when a public water system fails to conduct a required assessment or corrective action to prevent microbial contamination;
- Increased consumer confidence in safety of potable water supply;
- Improved clarity and understanding of existing regulations regarding a significant rise in bacterial count; and
- Relief for public water systems from burden of tracking compliance with two different sets of regulations with similar purposes; and
- Improved public health and welfare through the following:
 - Establishing a health goal and Maximum Contaminant Level (MCL) for *E. coli*;
 - Establishing a treatment technique for total coliform bacteria, requiring public water systems to find and correct sanitary defects in the drinking water distribution system that may lead to microbial contamination;
 - Increasing oversight of seasonally operated water systems in the form of minimum start-up procedures, public water system submittal of bacteriological and disinfection monitoring results, and required State Water Board approval;
 - Requiring additional bacteriological samples to provide more information about the distribution system and water sources as a whole and help to evaluate if there is a serious problem in an area of the distribution system that may pose a significant risk to consumers; and
 - Improving upon the federal RTCR requirements by requiring more frequent and more specific monitoring to provide more information on source contamination and determination of any data trends.

In particular, public health benefits include avoidance of a range of health effects from consumption of fecally contaminated drinking water, including potential decreased incidence of acute and chronic illness, endemic and epidemic disease, waterborne disease outbreaks, and death.

Overall, the proposed regulations would incorporate and build on the federal RTCR to enhance and protect public health and welfare through improved monitoring for the presence of microbial contamination in groundwater sources and the distribution system, investigation and response to microbial contamination, and ensured integrity of

drinking water distribution systems, thereby facilitating increased protection of public health for California residents.

Pursuant to federal primacy requirements and sections 116271, 116350, and 116375 of the Health and Safety Code, the State Water Board proposes the below noted changes to title 22.

Chapter 15, Article 1. Definitions

- Adopt section 64400.02 (Approved Surface Water) defining approved surface water to have the same meaning as given in chapter 17 (section 64651.10);
- Adopt section 64400.03 (Clean Compliance History) defining a clean compliance history, a factor in whether a water system may return to routine monitoring;
- Amend section 64400.47 (Haloacetic Acids (Five) or HAA5), re-numbering the section number for this definition to allow for continued alphabetical listing of definitions;
- Adopt section 64400.47 (Groundwater Under the Direct Influence of Surface Water or GWUDI), defining groundwater under the direct influence of surface water to have the same meaning as given in chapter 17 (section 64651.50);
- Adopt section 64400.63 (Level 1 Assessment), providing a summary definition of a Level 1 assessment as an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and the likely reason a water system triggered the assessment;
- Adopt section 64400.64 (Level 2 Assessment), defining a Level 2 assessment evaluation, a more detailed evaluation than a Level 1 assessment, involving a more comprehensive investigation and review of information;
- Amend section 64400.65 (IOC) to re-number the section number for this definition to allow for continued alphabetical listing of definitions;
- Adopt section 64400.95 (Protected Water Source) to define a protected water source to mean an aquifer that provides physical exclusion of microbial contamination;
- Adopt section 64401.35 (Sanitary Defect) to define a sanitary defect as a defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of failure or imminent failure in an existing barrier;
- Adopt section 64401.45 (Seasonal System) to define seasonal systems that are not operated as a public water system on a year-round basis;

Chapter 15, Article 2. General Requirements

- Amend section 64415 (Laboratory and Personnel) to redesignate references to the Code of Federal Regulations and to incorporate by reference federal regulations prescribing approved analytical methods;

Chapter 15, Article 3. Primary Standards – Bacteriological Quality

- Amend section 64421 (General Requirements) to delete redundant text and text that is superseded by other regulations, to add references to other sections modified in the proposed regulations, to add and specify sampling requirements for certain groundwater sources, to specify the applicability of this article to public water systems, to specify the content of requests, to specify the format of plans, procedures and requests made, to require monthly bacteriological monitoring and specify criteria and a mechanism to return to quarterly monitoring, to relocate a declaration requirement, and to replace a declaration requirement with requirements to maintain training documentation for personnel collecting samples and specifying the content to include in this documentation;
- Amend section 64422 (Routine Sampling Siting Plan; renamed Bacteriological Sample Siting Plan) to add specificity and clarity to bacteriological sample siting plan requirements, to add sampling points to be identified in the plan, and to specify the timeframe and clarify conditions for submittal of the plan;
- Amend section 64423 (Routine Sampling) to delete reduced monitoring provisions, to specify that paragraphs applicable to groundwater sources are not applicable to groundwater sources under the direct influence of surface water, to modify the population basis for minimum monitoring frequencies, to clarify conditions for which the minimum number of samples must be collected, to reference public water systems instead of water suppliers, to add requirements and specify conditions for increasing transient-noncommunity water system monitoring to monthly sampling, to add conditions for transient-noncommunity water systems to request a return to routine monitoring, to specify State Water Board and public notification requirements, to add a population and service connection category to Table 64423-A specifying the minimum number of routine total coliform samples per month, to modify Table 64423-A to specify all minimum numbers of samples as being on a per month basis, and to clarify the basis of determining monthly population served for transient-noncommunity water systems;
- Amend section 64423.1 (Sample Analysis and Reporting of Results) to specify public water systems instead of water suppliers, to delete the option of monitoring for fecal coliforms, to add a requirement to report coliform density under specified conditions, to add a requirement that a public water system provide to its laboratory contact information for person(s) available to receive analytical results 24 hours a day, to remove the monthly bacteriological summary

requirement for public water systems serving fewer than 400 service connections or 1,000 persons, to specify the minimum content of the monthly bacteriological summary, to clarify reporting requirements for public water systems serving exactly 10,000 service connections, to clarify reporting requirements by removing the references to water systems serving more or less than 33,000, deleting a redundant recordkeeping requirement, and to add requirements for a public water system to notify the State Water Board and provide public notification for certain violations of *E. coli* monitoring and reporting violations;

- Amend section 64424 (Repeat Sampling) to specify public water systems instead of water suppliers; to modify the allowed time for collection of a repeat sample set for a public water system with a single service connection from four days to three days; to specify that a repeat sample set shall consist of at least three samples for each total coliform-positive sample for all public water systems; to specify conditions for using alternative or dual purpose sampling locations when collecting a repeat sample set; to delete a reference to the total coliform maximum contaminant level (MCL); to clarify a timeframe in which a public water system must notify the State Water Board of a coliform treatment technique trigger resulting from a total coliform positive repeat sample; to delete obsolete federal TCR routine monitoring requirements; and to add requirements for a public water system to notify the State Water Board and provide public notification for certain violations of repeat sampling monitoring and reporting requirements;
- Amend section 64425 (Sample Invalidation) to specify public water systems instead of water suppliers, to clarify that both routine or repeat samples may be invalidated, to update the federal regulation reference, to add the requirement that a public water system must notify the State Water Board within 24 hours if the system is unable to collect the sample within the 24-hour time period or deliver the sample to the laboratory within 24 hours after collection, to specify that invalidated total coliform-positive sample results do not count toward meeting minimum monitoring requirements, and to add requirements for a notify the State Water Board and provide public notification for certain violations of replacement sample monitoring and reporting requirements;
- Amend section 64426 (Significant Rise in Bacterial Count) to specify that all valid samples collected in a calendar month must be included in determining a possible significant rise in bacterial count; to replace references to total and fecal coliforms with *E. coli*; to clarify the circumstances under which a public water system must contact the State Water Board; to clarify the basis for determining a significant rise in bacterial count; to clarify the timeframe for implementing the emergency notification plan as within 24 hours of significant rise in bacterial count determination; to delete the requirement that evidence be physical; to add a requirement that a public water system must submit to the State Water Board a report on the investigation, sanitary defects detected, corrective actions

completed, and a proposed timetable for any remaining corrective actions within 30 days of notification of a test result indicating a possible significant rise in bacterial count; to add a requirement that a public water system notify the State Water Board within five business days of when each scheduled corrective action is completed; and to add a requirement that a public water system violating the requirement to notify the State Water Board provide public notification;

- Amend section 64426.1 (Total Coliform Maximum Contaminant Level (MCL), renamed *E. coli* Maximum Contaminant Level (MCL)), to make nonsubstantive changes, to specify public water systems instead of water suppliers, to replace instances of total coliform with *E. coli*, to delete criteria for a total coliform MCL violation, to establish criteria for an *E. coli* MCL violation, to modify notification procedures, and to establish that a public water system shall not be eligible for a variance or exemption from the *E. coli* MCL;
- Repeal section 64426.5 (Variance from Total Coliform Maximum Contaminant Level), deleting criteria for variance from the obsolete total coliform MCL;
- Adopt section 64426.6 (Coliform Treatment Technique), establishing violations of the coliform treatment technique as being comprised of either public water system exceedance of a treatment technique trigger specified in section 64426.7 and failure to timely conduct the required assessment or corrective actions or failure by a seasonal system to complete a State Water Board-approved start-up procedure prior to serving water to the public, adding a requirement for public water systems in violation of the coliform treatment technique to notify the State Water Board by the end of the next business day, and adding a requirement that a public water system in violation of the State Water Board notification requirement provide public notification;
- Adopt section 64426.7 (Coliform Treatment Technique Triggers), establishing the samples used to determine an exceedance of a coliform treatment technique trigger and the types of and the conditions that constitute a coliform treatment technique trigger exceedance;
- Adopt section 64426.8 (Level 1 and Level 2 Assessments and Corrective Actions), establishing requirements for Level 1 and Level 2 assessments, corrective actions to be taken when sanitary defects are found, and the actions required when a reporting violation occurs;
- Adopt section 64426.9 (Seasonal System Start-Up Procedure), establishing the requirements for a seasonal system start-up procedure, an exemption from or use of alternatives to a start-up procedure requirement, and the actions required prior to a public water system serving water to the public or when a reporting violation occurs;

Chapter 15, Article 3.5. Ground Water Rule

- Amend section 64430 (Requirements) to add the Federal Register notice for the Revised Total Coliform Rule and to replace references to federal regulations incorporated into the California Code of Regulations with references to California regulations;

Chapter 15, Article 12. Best Available Technologies (BAT)

- Amend section 64447 (Best Available Technologies (BAT) – Microbiological Contaminants) to replace a reference to the obsolete total coliform MCL with a reference to the *E. coli* MCL, and to establish the best available technologies, affordable technologies, treatment techniques, and other available means of achieving compliance with the *E. coli* MCL;

Chapter 15, Article 18. Notification of Water Consumers and the State Board

- Amend section 64463.1 (Tier 1 Public Notice) to replace a reference to the obsolete total coliform MCL with a reference to the *E. coli* MCL and remove associated subcategories of the total coliform MCL violation;
- Amend section 64463.4 (Tier 2 Public Notice) to replace a reference to the obsolete total coliform MCL with a reference to the *E. coli* MCL, and to add violation of a coliform treatment technique as a type of violation for which reduced frequency of public notice is not allowed;
- Amend section 64463.7 (Tier 3 Public Notice) to add violation types of failure to comply with a reporting requirement pursuant to article 3 and failure to comply with a recordkeeping requirement pursuant to section 64470(b)(7);
- Amend section 64465 (Public Notice and Content and Format) to delete health effects language in Appendix 64465-A for contaminant types of total coliform and fecal coliform/*E. coli* and to add health effects for contaminant types of *E. coli*, coliform assessment and/or corrective action violations, *E. coli* assessment and/or corrective action violations, and seasonal system treatment technique violations;

Chapter 15, Article 19. Records, Reporting and Recordkeeping

- Amend section 64470 (Recordkeeping) to add a requirement that public water systems maintain copies of any Level 1 and Level 2 assessments and documentation of sanitary defects and corrective actions for not less than five years following completion of the assessment or corrective action;

Chapter 15, Article 20. Consumer Confidence Report

- Amend section 64481 (Content of the Consumer Confidence Report) to add required Consumer Confidence Report text describing Level 1 and Level 2 assessments, to replace references to the obsolete total coliform and fecal coliform requirements, to add required Consumer Confidence Report text providing explanations of Level 1 and Level 2 assessments not due to an *E. coli* MCL violation and not due to an *E. coli* MCL violation; to add Consumer Confidence Report text describing noncompliance associated with detections of *E. coli* with violation of the *E. coli* MCL and without violation of the *E. coli* MCL, and Consumer Confidence Report text to describe compliance with the total coliform MCL for its final reporting year;
- Amend Appendix 64481-A (Typical Origins of Contaminants with Primary MCLs, MRDLs, Regulatory Action Levels, and Treatment Techniques) to replace fecal coliform with *E. coli* as a microbiological contaminant;

Chapter 15.5, Article 3. Monitoring Requirements

- Amend section 64534.4 (Disinfectant Residuals Monitoring) to update referenced sections;

Chapter 17, Article 1. General Requirements and Definitions

- Amend section 64650 (General Requirements) to add an alternative *E. coli* concentration trigger of 100 *E. coli*/100 mL for *Cryptosporidium* monitoring for both lake/reservoir and flowing stream sources;

Chapter 17, Article 2. Treatment Technique Requirements, Watershed Protection Requirements, and Performance Standards

- Amend section 64652.5 (Criteria for Avoiding Filtration) to replace the obsolete total coliform MCL with the *E. coli* MCL;
- Amend section 64653 (Filtration) to delete the criteria under which filtered water from a slow sand filtration plant may exceed 1.0 NTU (nephelometric turbidity unit); and

Chapter 17, Article 3. Monitoring Requirements

- Amend section 64656 (Disinfection Monitoring) to update referenced sections and to clarify conditions for taking disinfectant residual samples at points other than those listed in subsection (c).

SPECIFIC DISCUSSION OF PROPOSED REGULATIONS

The proposed regulations are contained in title 22, division 4, chapters 15 (articles 1, 2, 3, 3.5, 12, 18, 19, and 20), 15.5 (article 3), and 17 (articles 1, 2, and 3), California Code of Regulations. The following provides a detailed discussion of the proposed changes. Reference to 40 CFR 141 is from the 2013 *Federal Register*; reference to 40 CFR 141 from the 2014 *Federal Register* is as noted. Development of estimated costs is described in detail in the Cost Estimating Methodology. Estimated costs are meant to estimate statewide costs and not the actual cost to a particular public water system.

Title 22, CCR, Division 4, Chapter 15, Article 1

Section 64400.02. Approved Surface Water.

This section would be adopted to define a term used in Chapter 15 for clarity.

Section 64400.03. Clean Compliance History.

This section would be adopted for conformance with the federal regulation (40 CFR 141.2).

Section 64400.47 (redesignated 64400.49). Haloacetic Acids (Five) or HAA5.

Former section 64400.47 would be redesignated as section 64400.49 to accommodate the addition of a new definition in alphabetical order. The new definition would be provided in section 64400.47 discussed below.

Section 64400.47. Groundwater Under the Direct Influence of Surface Water or GWUDI.

This section would be adopted to define a term used in Chapter 15 for clarity.

Section 64400.63. Level 1 Assessment.

This section would be adopted for conformance with federal regulation (40 CFR 141.2), except that who conducts the assessment, the minimum assessment elements, and the requirement to comply with State Water Board directives would not be included. These assessment requirements are reorganized and consolidated with other assessment provisions of federal regulation (40 CFR 141.859), which are discussed later under section 64426.8.

Section 64400.64. Level 2 Assessment.

This section would be adopted for conformance with federal regulation (40 CFR 141.2), except that who conducts the assessment, the minimum assessment elements, and the requirement to comply with State Water Board directives and required actions would not be included. These assessment requirements are reorganized and consolidated with

other assessment provisions of federal regulation (40 CFR 141.859), which are discussed later under section 64426.8.

Section 64400.65 (redesignated 64400.62). IOC.

Former section 64400.65 would be redesignated as section 64400.62 to accommodate the addition of new definitions in alphabetical order. The new definitions would be provided in sections 64400.63 and 64400.64 discussed above.

Section 64400.95. Protected Water Source.

This section would be adopted to define a term used in Chapter 15 for clarity. Although the term is not defined in federal regulation, the term is defined in a 2014 federal RTCR state implementation guidance document and would be adopted with no change to maintain consistency.

Section 64401.35. Sanitary Defect.

This section would be adopted for conformance with federal regulation (40 CFR 141.2).

Section 64401.45. Seasonal System.

This section would be adopted for conformance with federal regulation (40 CFR 141.2). The phrase “noncommunity water system” would be replaced with “nontransient-noncommunity water system or transient-noncommunity water system” to clarify the type of noncommunity water system.

Title 22, CCR, Division 4, Chapter 15, Article 2

Section 64415. Laboratory and Personnel.

The purpose of this section is to establish who may perform required analyses, sample collection, and field tests for compliance with the regulations; the analytical methods to use for analyses; and the qualification of personnel performing sample collection and/or field tests.

Subsection (a) would be revised by subdividing the subsection into subsections (a) and (a)(1), with corrected punctuation and paragraph designation, to reorganize existing state regulations, accommodate the addition of paragraph (2) discussed below, and improve readability.

Subsection (a)(1) would also be revised to redesignate referenced federal CFR sections to federal approved methods, as 40 CFR 141.21, 141.22, and 141.42 are obsolete, clarify the edition and incorporation by reference of the CFR citations, and correct grammar and punctuation.

Subsection (a)(2) would be added for conformance with federal regulation (40 CFR 141.852, 2013 FR and 141.852(a)(5), 2014 FR).

Title 22, CCR, Division 4, Chapter 15, Article 3

Section 64421. General Requirements.

The purpose of this section is to establish overarching requirements and additional requirements that may not be specific to other sections in the proposed regulations.

Former subsections (a) through (a)(5) would be deleted because they are redundant with respect to the requirements in sections 64422, 64423, 64423.1, 64424, 64425, 64426, and 64426.1.

Subsection (a) would be added for conformance with federal regulation (40 CFR 141.851(b)).

Subsection (b) would be revised to clarify that there are special purpose bacteriological monitoring requirements, which are in addition to the federal RTCR compliance bacteriological monitoring requirements. “Water suppliers” would be replaced with “a public water system” to clarify existing language. This change is needed because the federal RTCR contains requirements specific to public water systems and, when applicable, to specific types of public water systems (*i.e.*, community water systems, nontransient-noncommunity water systems, and transient-noncommunity water systems). For the same reason, similar changes are made throughout the remainder of the regulation text to replace “water supplier,” “supplier,” and “system” in regulation text with “public water system” and replace “water suppliers” with “public water systems.”

Former subsections (b)(1) through (3) would be deleted because they are redundant with respect to the requirements in Chapter 16, sections 64580, 64582, and 64583, California Code of Regulations.

Former subsection (b)(4) would be redesignated as subsection (b)(1) due to the deletion of former subsections (b)(1) through (3), and revised to correct punctuation and grammar.

Subsection (b)(2) would be added to require bacteriological monitoring of a groundwater (not GWUDI) source that is treated with a primary or residual disinfectant on a continuous basis and is not monitored pursuant to section 64654.8(b)(1)(B). A groundwater source that receives continuous disinfection may become contaminated without a public water system being aware of it if no raw groundwater bacteriological sample is taken on a regular basis. Bacteriological monitoring ensures that coliform contamination of the groundwater source does not go undetected. The monitoring would determine bacteriological quality; extent of bacteriological contamination (if any) prior to disinfection; effectiveness of disinfection treatment (based on bacteriological results from the groundwater source and distribution system); identify if additional

corrective action is needed to control the problem at the groundwater source before it become a bacteriological compliance issue in the distribution system; and provide important information to the system to protect the health of their customers.

Subsection (b)(2)(A) would be added to require quarterly bacteriological monitoring of the raw water from a groundwater (not GWUDI) source. The sample type is specified to ensure that samples are collected from the raw water and not the treated water. Quarterly monitoring at regular intervals provides for an on-going assessment of the raw water quality and alerts a public water system to changes in raw water quality and the resultant need for changes in disinfection treatment or additional corrective actions.

As of August 2017, there were 2,081 public water systems with a total of 6,427 groundwater (not GWUDI) sources that are disinfected with a primary or residual disinfectant on a continuous basis. Based on the July 2015 and May 2017 surveys of State Water Board District Offices and Local Primacy Agencies, 584 systems with a total of 1,191 groundwater (not GWUDI) sources do not monitor on a quarterly or more frequent basis pursuant to section 64654.8(b)(1)(B) or as a condition of an amended water supply permit and would be required to comply with subsection (b)(2)(A). The estimated average unit cost of monitoring per sample (bacteriological, total coliform/*E. coli*, presence-absence) ranges from \$54.94 to \$96.37 across water system size and number of samples collected simultaneously. The estimated average unit cost includes the unit cost of labor, sample collection, sample delivery, and sample analysis, which are described in further detail in the Cost Estimating Methodology. The estimated cost of raw water bacteriological monitoring, by water system size, is shown in Table 1. The costs start during year 1 and are expected to continue in years 2 and 3.

**Table 1 Estimated Monitoring Cost for Section 64421(b)(2)(A)
Raw Water Bacteriological Monitoring**

Water System Size (Population Served)^(a)	No. of Public Water Systems	No. of GW (Not GWUDI) Sources with Disinfection	Monitoring Cost (\$) (for Year 1+) (Cost Increase)
SWS ($\leq 1,000$)	494	666	\$188,000
LWS ($> 1,000$)	90	525	\$175,000
Total	584	1,191	\$363,000

(a) Small water systems (SWS) and large water systems (LWS) serve 17,807 and 1,139,691 service connections, respectively, for a total of 1,157,498 service connections.

Subsection (b)(2)(B) would be added to require monthly bacteriological monitoring of the raw water from a groundwater (not GWUDI) source when a sample collected under subsection (b)(2)(A) is total coliform-positive. The sample type is specified to ensure that the bacteriological sample is collected from the raw water and not the treated water. More frequent monitoring of a total coliform-positive source provides more information

on the contamination of the source and helps determine any data trend. Subsection (b)(2)(B) would also specify criteria and a mechanism to enable a public water system to return to quarterly monitoring. Based on the State Water Board's experience, a minimum of three consecutive months of total coliform-absent results is necessary to provide sufficient data to evaluate the source and the effectiveness of any corrective actions taken. A request to the State Water Board ensures that the criterion is met before a system returns to quarterly monitoring. The estimated cost of increased monitoring and submitting a monitoring reduction request to the State Water Board cannot be quantified because future occurrences are unknown and cannot be predicted. While a request to reduce bacteriological monitoring from one sample per month to one sample per quarter would result in an initial one-time cost impact, the request could result in an annual cost savings that outweighs the initial one-time cost impact.

Subsection (c) would be added to relocate former section 64422(b); replace the section 64422(b) declaration with a requirement to maintain documentation on trained personnel performing sample collection and/or field tests; and specify the information to include in the documentation. The relocation of former section 64422(b) and maintenance of documentation eliminates the burden of updating the Bacteriological Sample Siting Plan merely due to personnel changes, while ensuring that personnel trained in accordance with section 64415(b) is documented. The documentation would be available for review by State Water Board personnel as authorized under section 116735, California Health and Safety Code. Public water systems are likely to already be maintaining documentation to track training completed by system personnel and demonstrate compliance with section 64415(b). As such, the estimated cost of requiring documentation to be maintained is expected to be negligible. However, a cost savings may be expected by no longer requiring systems to update plans merely due to personnel changes. The estimated cost savings cannot be quantified because future occurrences in personnel changes are unknown and cannot be predicted.

Subsection (d) would be added for conformance with federal regulation (40 CFR 141.853(a)(1); *i.e.*, *written* bacteriological sample siting plan) and to clarify the format (in writing) of plans, procedures, and requests required by the proposed regulations to be submitted by public water systems and the information to include in the requests. Subsection (d) avoids repetition throughout the proposed regulation, while ensuring written documentation of initial plans, procedures, and requests and changes made over time. The contents of a request would be specified to provide the State Water Board with information to consider the request. The estimated cost of submitting a request to the State Water Board cannot be quantified because future occurrences are unknown and cannot be predicted.

Section 64422. Bacteriological Sample Siting Plan.

The purpose of this section is to establish the requirements for a bacteriological sample siting plan for bacteriological monitoring of the distribution system and groundwater sources.

The section heading would be revised to provide a more appropriate title for the section.

Subsection (a) would be revised for conformance with federal regulation (40 CFR 141.853(a)(1)), except that the March 31, 2016 date for public water systems to develop a written bacteriological sample siting plan would not be included because the date has passed. As of April 1, 2016, systems have been conducting bacteriological monitoring according to written plans determined by the State Water Board District Offices and Local Primacy Agencies as meeting the state TCR and federal RTCR requirements. Subsection (a) would also be revised to specify a date for systems to submit, if directed by the State Water Board, a plan to the State Water Board. With the adoption of the proposed regulations, systems will need to revise their plans if: (1) performing raw water bacteriological monitoring (see section 64421(b)(2)(A)) or (2) a change in bacteriological monitoring frequency occurs (see sections 64423(a)(1) and (2)). Systems would be given three months from the effective date of the regulations. The State Water Board believes three months is a reasonable amount of time for systems to revise and submit updated plans to the State Water Board District Offices and Local Primacy Agencies. Since some systems may have voluntarily included the section 64421(b)(2)(A) sampling points in their previously submitted plans and may not need to update their plans because there is no change in bacteriological monitoring frequency, the phrase “if directed by the State Board” would be included so that these systems are not burdened with having to resubmit revised plans. Lastly, subsection (a) would be revised to clarify existing language (see section 64421(b) for further discussion) and correct grammar for consistency with the updated section heading.

As of August 2017, and based on June – July 2015, August 2016, and March and May 2017 surveys of State Water Board District Offices and Local Primacy Agencies, there were:

- For section 64421(b)(2)(A), 2,081 public water systems with groundwater (not GWUDI) sources that are disinfected with a primary or residual disinfectant on a continuous basis; 584 systems do not monitor on a quarterly or more frequent basis pursuant to section 64654.8(b)(1)(B) or as a condition of an amended water supply permit and would be required to comply with section 64421(b)(2)(A) and submit a revised plan;
- For section 64423(a)(1), 1,655 community water systems using groundwater (*i.e.*, not GWUDI) and serving 25-1,000 persons; six systems are on reduced monitoring (one sample per quarter) and would be required to return to routine monitoring (one sample per month) and submit a revised plan; and
- For section 64423(a)(2), 1,315 nontransient-noncommunity water systems using groundwater (*i.e.*, not GWUDI) and serving 25-1000 persons; 22 systems are on reduced monitoring (one sample per quarter) and would be required to return to routine monitoring (one sample per month) and submit a revised plan.

As of August 2017, there were 612 public water systems that would need to revise their Bacteriological Sample Siting Plans. The estimated cost of plan revision includes the unit cost of labor and a labor burden of two to eight hours across water system size by population served, which are described in further detail in the Cost Estimating Methodology. The estimated cost of revising bacteriological sample siting plans, by water system size, is shown in Table 2. The costs are a one-time cost that occurs in year 1.

**Table 2 Proposed RTCR Estimated Plan Revision Cost for Section 64422(a)
Bacteriological Sample Siting Plan**

Water System Size (Population Served)^(a)	No. of Public Water Systems	Plan Revision Cost (for Year 1) (One-Time Cost)
SWS ($\leq 1,000$)	522	\$38,000
LWS ($> 1,000$)	90	\$25,000
Total	612	\$63,000

(a) SWS and LWS serve 18,207 and 1,139,691 service connections, respectively, for a total of 1,157,898 service connections.

Subsection (a)(1) would be revised to correct grammar, use of plurals, and punctuation.

Subsection (a)(2) would be revised to clarify the type of sample and sample sites that may be rotated, correct reference to paragraph designation, and correct grammar and punctuation.

Subsection (a)(3) would be added for conformance with federal regulation (40 CFR 141.853(a)(1)).

Subsection (a)(4) would be added for conformance with federal regulations (40 CFR 141.853(a)(1) and (a)(5)). Applicable state regulation would be referenced for clarity.

Subsection (a)(5) would be added for conformance with federal regulations (40 CFR 141.853(a)(5)(i) and (ii)). Subsection (a)(5) would also include section 64421(b)(2) special purpose sampling points to identify those groundwater sources subject to raw water bacteriological monitoring.

Former subsection (b) would be deleted for reasons previously discussed under section 64421(c).

Subsection (b) would be added for conformance with federal regulation (40 CFR 141.853(a)(1)).

Subsection (c) would be revised to clarify existing language (see section 64421(b) for further discussion). The phrase “at any time the plan no longer ensures representative

monitoring of the system” would be revised to specify a 30-day timeframe to submit an updated plan and to clarify the situations where an updated plan is warranted. The State Water Board believes 30 days is a reasonable amount of time for public water systems to revise and submit updated plans to the State Water Board District Offices and Local Primacy Agencies. There is no cost impact for specifying a submittal timeframe because system submittal of an updated plan to the State Water Board is required regardless of the proposed timeframe. The addition of clarifying language is to ensure that distribution system or operational changes are reflected in the plan with respect to selection of routine, repeat, and dual purpose sample sites.

Section 64423. Routine Sampling.

The purpose of this section is to establish the bacteriological monitoring requirements for routine sampling of the distribution system in terms of the number and frequency of samples to be collected; the reporting requirements; and the actions required when a monitoring or reporting violation occurs.

Subsection (a) would be revised to clarify existing language (see section 64421(b) for further discussion).

Subsection (a)(1) would be revised to correct punctuation and delete the reduced monitoring provision for community water systems using groundwater (*i.e.*, not GWUDI) and serving 25-1,000 persons. Community water systems typically serve at least 15 service connections used by yearlong residents or regularly serves at least 25 yearlong residents. Based on the degree of consumer exposure, the State Water Board believes that collecting one sample per quarter is not adequate to assess the bacteriological quality of the drinking water and does not provide an adequate level of public health protection. Systems on reduced monitoring (one sample per quarter) would be required to return to routine monitoring (one sample per month; per table 64423-A). The proposed change is necessary to provide adequate data to assess the bacteriological quality of drinking water and to provide an adequate level of public health protection.

As of August 2017, there were 1,655 community water systems using groundwater (*i.e.*, not GWUDI) and serving 25-1,000 persons. Based on a June 2015 survey of State Water Board District Offices and Local Primacy Agencies, six systems were on reduced monitoring and would be required to return to routine monitoring. The estimated average unit cost of monitoring per sample (bacteriological, total coliform/*E. coli*, presence-absence) ranges \$54.94 to \$96.37 across water system size and number of samples collected simultaneously. The estimated average unit cost includes the unit cost of labor, sample collection, sample delivery, and sample analysis, which are described in further detail in the Cost Estimating Methodology. The estimated cost of returning to routine monitoring, by water system size, is shown in Table 3. The costs start during year 1 and are expected to continue in years 2 and 3. However, it should be noted that the net cost is \$0 because the cost of routine and reduced monitoring under the state TCR was captured under the federal TCR. While the requirement to

return to routine monitoring results in a loss of a previous cost savings, it does not result in an additional cost over existing state regulations.

**Table 3 Proposed RTCR Estimated Monitoring Cost for Section 64423(a)(1)
Return to Routine Bacteriological Monitoring**

Water System Size (Population Served) ^(a)	No. of Community Water Systems Using Groundwater (<i>i.e.</i> , Not GWUDI) and Serving 25-1,000 Persons	Monitoring Cost (for Year 1+) (Loss of Previous Cost Savings)
SWS ($\leq 1,000$)	6	\$3,600
LWS ($> 1,000$)	Not applicable	Not applicable
Total	6	\$3,600
		Net Cost = \$0

(a) SWS serve a total of 278 service connections.

Subsection (a)(2) would be revised to correct punctuation and delete the reduced monitoring provision for nontransient-noncommunity water systems using groundwater (*i.e.*, not GWUDI) and serving 25-1,000 persons. Nontransient-noncommunity water systems typically serve at least the same 25 persons over six month per year, such as at schools or businesses. Based on the degree of consumer exposure, the State Water Board believes that collecting one sample per quarter is not adequate to assess the bacteriological quality of the drinking water and does not provide an adequate level of public health protection. Systems on reduced monitoring (one sample per quarter) would be required to return to routine monitoring (one sample per month; per table 64423-A). The proposed change is necessary to provide adequate data to assess the bacteriological quality of drinking water and to provide an adequate level of public health protection.

As of August 2017, there were 1,315 nontransient-noncommunity water systems using groundwater (*i.e.*, not GWUDI) and serving 25-1,000 persons. Based on the August 2016 and March 2017 surveys of State Water Board District Offices and Local Primacy Agencies, 22 systems are on reduced monitoring and would be required to return to routine monitoring. The estimated average unit cost of monitoring per sample (bacteriological, total coliform/*E. coli*, presence-absence) ranges from \$54.94 to \$96.37 across water system size and number of samples collected simultaneously. The estimated average unit cost includes the unit cost of labor, sample collection, sample delivery, and sample analysis, which are described in further detail in the Cost Estimating Methodology. The estimated cost of returning to routine monitoring, by water system size, is shown in Table 4. The costs start during year 1 and are expected to continue in years 2 and 3. However, it should be noted that the net cost is \$0 because the cost of routine and reduced monitoring under the state TCR was captured under the federal TCR. While the requirement to return to routine monitoring results in

a loss of a previous cost savings, it does not result in an additional cost over existing state regulations.

**Table 4 Proposed RTCR Estimated Monitoring Cost for Section 64423(a)(2)
Return to Routine Bacteriological Monitoring**

Water System Size (Population Served)^(a)	No. of Nontransient- Noncommunity Water Systems Using Groundwater (i.e., Not GWUDI) and Serving 25-1,000 Persons	Monitoring Cost (for Year 1+) (Loss of Previous Cost Savings)
SWS ($\leq 1,000$)	22	\$13,000
LWS ($> 1,000$)	Not applicable	Not applicable
Total	22	\$13,000
		Net Cost = \$0

(a) SWS serve a total of 122 service connections.

Subsection (a)(3) would be revised for conformance with federal regulation (40 CFR 141.854(a)(1)) and to correct punctuation.

Subsection (a)(4) would be revised for conformance with federal regulation (40 CFR 141.857(d)), while reorganized to improve readability. “For any quarter” would be added for clarity. Since the population served by transient-noncommunity water systems may vary from month-to-month, quarterly monitoring may only be practically implemented on a whole quarter basis.

Subsections (a)(4)(A) and (B) would be added to specify information to be submitted to the State Water Board for consideration of reducing bacteriological monitoring from one or more sample per month to one sample per quarter. Since the population served by transient-noncommunity water systems may vary from month-to-month, historical data documents the size of population served for each month of the calendar quarter for which the request is being made. A revised Bacteriological Sample Siting Plan and updated sampling schedule ensures that the overall bacteriological monitoring continues to meet section 64422, while making clear those months for which monthly and quarterly monitoring would occur. The estimated cost of submitting the specific information to the State Water Board cannot be quantified because future occurrences are unknown and cannot be predicted. While a request under subsection (a)(4) to reduce bacteriological monitoring from one or more sample per month to one sample per quarter, along with the information specified in subsections (a)(4)(A) and (B), would result in an initial one-time cost impact, the request could result in an annual cost savings that outweighs the initial one-time cost impact.

Subsection (a)(5) would be revised to correct punctuation.

Subsection (a)(6) would be added for conformance with federal regulations (40 CFR 141.854(i)(2), 141.856(b), and 141.857(b) and (d)), except that the reduced monitoring (one sample per quarter) provision in the federal regulations for seasonal systems would not be included because: (1) for nontransient-noncommunity water systems using groundwater (not GWUDI) and serving $\leq 1,000$ persons, the monitoring frequency would be less than that required by existing state regulation (*i.e.*, subsection (a)(2) requires one or more sample per month) and (2) for transient-noncommunity water systems using groundwater (not GWUDI) and serving $\leq 1,000$ persons, the State Water Board believes that it would result in inadequate monitoring of a system, which is not operated on a year-round basis and starts up and shuts down at the beginning and end of each operating season, and an unacceptable level of public health protection. The phrase “in lieu of paragraphs (2) through (5)” would be added to clarify the monitoring requirement for nontransient-noncommunity water systems and transient-noncommunity water systems that are seasonal systems.

Former subsection (a)(6) would be redesignated as subsection (a)(7) to accommodate the addition of paragraph (6) discussed above and for conformance with federal regulation (40 CFR 141.853(a)(2)). Former subsection (a)(6) would be revised to correct grammar, clarify the type of groundwater, and correct punctuation.

Subsection (a)(8) would be added for conformance with federal regulation (40 CFR 141.853(a)(3)). Applicable state regulation would be referenced for clarity.

Subsection (a)(9) would be added for conformance with federal regulation (40 CFR 141.853(a)(4)), except that: (1) the purpose of the additional samples would not be included because the language is narrative and (2) the need for the additional samples to be representative of water throughout the distribution system would not be included because the language is redundant with respect to existing state regulation (see section 64422(a)(2)). Applicable state regulation would be referenced for clarity.

Subsection (b) would be revised for conformance with federal regulations (40 CFR 141.856(c) and 141.857(c)). The phrases “before or at the first service connection” and “24-hour time period” would be retained for consistency with existing state regulations within subsection (b). Subsection (b) would also be revised to clarify existing language (see section 64421(b) for further discussion); correct grammar; and reference applicable state regulation for clarity.

Lastly, subsection (b) would be revised so that extension requests for sample collection and/or analysis are mandatory instead of optional. The potential for total coliforms to be present before or at the first service connection may still exist beyond the 24 hours of first exceeding 1 NTU (Nephelometric Turbidity Unit) in the source water. A mandatory extension request documents the public water system’s reasons for not collecting the bacteriological sample within 24 hours of an exceedance, allows the State Water Board to make the ultimate determination if a time extension should be granted, and, if granted, enables the State Water Board to specify a timeframe for sample collection.

The estimated cost of submitting an extension request to the State Water Board cannot be quantified because future occurrences are unknown and cannot be predicted.

Former subsection (c) would be deleted because it is redundant with respect to the requirements in sections 64424, 64426, and 64426.1.

Subsections (c) and (c)(1) would be added for conformance with federal regulation (40 CFR 141.854(f)), except that requirements for non-transient noncommunity water systems and transient noncommunity water systems on annual monitoring would not be included because existing and proposed state regulations (see sections 64423(a) and (b)) do not allow systems to be on annual monitoring.

Subsections (c)(1)(A) through (D) would be added for conformance with federal regulations (40 CFR 141.854(f)(1) through (4)). For subsection (c)(1)(D), the last sentence would be added to clarify the types of bacteriological monitoring failure that constitute a violation.

Subsection (c)(2) would be added for conformance with federal regulation (40 CFR 141.854(g)). Self-regulating language allowing the State Water Board to reduce the monitoring frequency would be replaced with allowing a transient-noncommunity water system, using only groundwater (not GWUDI), serving 1,000 or fewer persons a month, and collecting one sample per month to request to return to routine monitoring (one sample per quarter).

Subsection (c)(2)(A) would be added for conformance with federal regulation (40 CFR 141.854(g)(1)). To clarify for seasonal systems and other public water systems that become inactive and return to operation, “consecutive” would be added to emphasize a 12-month rolling period instead of a 12-month calendar period (*i.e.*, January through December). “State Board” would be added for consistency with proposed section 64426.8(b) and to clarify the party that conducts a level 2 assessment and makes a determination that the system is free of sanitary defects and have a protected water source.

Subsection (c)(2)(B) would be added for conformance with federal regulation (40 CFR 141.854(g)(2)). “Immediately prior to the request” would be added to clarify when the start of the 12 consecutive months occurs. The word “consecutive” would be added for the reason discussed for subsection (c)(2)(A).

Subsection (c)(3) would be added for conformance with federal regulation (40 CFR 141.854(j)), except that the provision allowing the State Water Board to waive the collection of three routine samples in the month following a total coliform-positive sample would not be included. The non-transient noncommunity systems subject to subsection (c)(3) collect one routine sample per quarter. Collecting additional routine samples in the month following a total coliform-positive sample helps to determine if a problem persists and supplements the infrequent routine monitoring of systems on quarterly monitoring. The State Water Board believes that waiting three months to

collect a routine sample to determine if a problem persists is too long and does not provide an adequate level of public health protection. For clarity, the phrase “with or without a Level 1 treatment technique trigger” would be revised to read “with or without a Level 1 treatment technique trigger exceedance.” The last sentence in subsection (c)(3) would be added to relocate a state-only requirement from section 64424(d) [repeat monitoring] so that all routine monitoring requirements are under section 64423 [routine monitoring]. The language would be updated to replace an obsolete federal TCR reference (5 routine samples) with a federal RTCR reference (3 routine samples).

Subsection (d) would be added for conformance with federal regulations (40 CFR 141.860(c)(1) and 141.861(a)(4)). Applicable state regulations would be referenced for clarity.

Subsection (e) would be added for conformance with federal regulation (40 CFR 141.204(a)(6)). Applicable state regulations would be referenced for clarity.

Table 64423-A would be revised for conformance with federal regulations (40 CFR 141.855(b), 141.856(b), and 141.857(b)), except that: (1) for 40 CFR 141.855(b), the referenced provisions of 141.855(c) through (f) would not be included because the April 1, 2016 implementation dates have passed and community water systems are not allowed to be on quarterly monitoring (section 64423(a)(1) requires monthly monitoring) and (2) for 40 CFR 141.856(b), the phrase “[including consecutive system]” would not be included because it is redundant; all public water systems, using approved surface water, and serving 1,000 or fewer persons are required to collect one sample per month (see sections 64423(a)(1), (2), (5), and (6)) regardless if the system is or is not a consecutive system.

The minimum number of routine total coliform samples and frequency would be changed to match the federal RTCR to allow California to meet its primacy requirement to report RTCR violations and associated enforcement actions from the state SDWIS database to the federal SDWIS database. The State Water Board has no other mechanism to report the violations and enforcement actions. Although the change would result in fewer samples being taken over a one-year period by public water systems with a monthly population of 6,701 or more, the new assessment and corrective action provisions of the RTCR (see proposed section 64426.8) would require systems to identify and prevent occurrences of water quality problems. Fewer *E. coli* MCL violations and fewer occurrences of total coliform and *E. coli*-positive samples are expected as a result of implementing this “find and fix” approach. The State Water Board believes that the new assessment and corrective action provisions compensate for the change in the minimum number of samples required and, taken as a whole, provide for greater protection of public health.

For the Monthly Population Served column, Footnote 1 would be added to clarify the population basis for transient-noncommunity water systems when determining the minimum number of samples required. These systems serve a transient population where the number of persons served may vary from month to month, such as at

campgrounds, restaurants, and gas stations. The population would be determined based on the average number of persons served per day (aka daily average population) in a month. This approach takes into consideration the transient population variation that may occur due to special events in a month or seasonal activities throughout the year. This approach provides public health protection by ensuring that an adequate number of samples are collected and are representative of the population served in a given month. Systems have historically used the population basis approach to determine their monthly population served under the state TCR. As such, the cost of clarifying the population basis is expected to be negligible.

For the Service Connections column, monthly population served between 7,601 to 12,900 would be updated or added to provide an alternative basis to determine the minimum number of samples required. The numbers would be based on the California average household size of 2.8 persons from the 1990 Census, which was used for Table 64423-A in the state TCR (R-84-90). Based on the 2010 Census, the California average household size is 2.9 persons. This represents a 0.1 person increase over a 20-year period. The State Water Board believes this increase is not significant and does not warrant revising all the numbers in the Service Connections column at this time. There is no cost impact with allowing the use of the alternative basis because it is not mandatory; it is merely an option available to systems.

Section 64423.1. Sample Analysis and Reporting of Results.

The purpose of this section is to establish the bacteriological analyses and reporting requirements for routine, repeat, replacement, and “other” samples and the actions required when a monitoring or reporting violation occurs.

Subsection (a) would be revised for conformance with federal regulation (40 CFR 141.852(a)(2)) and to clarify existing language (see section 64421(b) for further discussion). Subsection (a) would also be revised to require public water systems to report results in terms of coliform density if directed by the State Water Board, based on an identified sanitary defect, exceedance of a Level 1 or Level 2 coliform treatment technique trigger, history of total coliform-positive samples within the past 12 consecutive months, or determination of a possible significant rise in bacterial count. The State Water Board believes these situations warrant coliform density determination of total coliform and *E. coli* to help investigate coliform occurrence, identify the magnitude of a possible or actual contaminating event, and further evaluate the integrity of the distribution system. The estimated average sample analysis cost for total coliform/*E. coli* using presence-absence and coliform density is \$33 per sample and \$41 per sample, respectively, for an incremental cost increase of \$8 per sample. The estimated average sample analysis cost considers the 2015 technical review by the California Department of Public Health, Drinking Water and Radiation Laboratory Branch of the federal RTCR analytical methods for acceptability in California and capability for coliform density determination and a 2017 survey of 45 laboratories accredited by the State Water Board, Environmental Laboratory Accreditation Program for analyzing total coliform and *E. coli* in drinking water using approved methods

specified in the federal RTCR, which are described in further detail in the Cost Estimating Methodology. The estimated incremental cost of using coliform density determination for a given situation cannot be quantified because future occurrences and the number of samples to be collected are unknown and cannot be predicted.

Subsection (b) would be revised to clarify existing language (see section 64421(b) for further discussion), delete an obsolete reference to “fecal coliform,” and correct grammar and punctuation. Subsection (b) would also be revised to require a public water system to provide the laboratory with the system contact person’s name and contact information. Since the laboratory is required to notify the system within the timeframe and for the situations specified in subsection (b), the laboratory must have this information readily available. Systems are likely to already have provided this information to their laboratory under the state TCR. As such, the cost of requiring systems to provide this information to their laboratory is expected to be negligible.

Subsection (c) would be revised to clarify existing language (see section 64421(b) for further discussion).

Subsection (c)(1) would be revised to correct grammar and punctuation. Subsection (c)(1) would also be revised to require only public water systems serving more than 400 service connections or 1,000 persons, or wholesalers as defined in section 64402.20(a), to submit a monthly summary of the bacteriological monitoring results. Systems of this size and type collect two or more samples per month. Public water systems serving 400 or fewer service connections and 1,000 or fewer persons, excluding wholesalers, would no longer be required to submit a monthly summary. Systems of this size collect one sample per month or fewer (see table 64423-A and sections 64423(a)(3) and (4)), and the bacteriological result is submitted to the State Water Board (see section 64423.1(c)(2)). The State Water Board believes it is not necessary for the systems to summarize the result of one sample and would propose to eliminate a reporting burden for such systems.

As of August 2017, there were 6,340 public water systems serving 400 or fewer service connections and 1,000 or fewer persons, excluding wholesalers. The estimated cost of no longer submitting a monthly coliform summary includes the unit cost of labor and a labor burden of 5 minutes per summary, which are described in further detail in the Cost Estimating Methodology. The estimated cost of no longer submitting a monthly coliform summary is shown in Table 5. The costs start during year 1 and are expected to continue in years 2 and 3.

**Table 5 Proposed RTCR Estimated Reporting Cost for Section 64423.1(c)(1)
Monthly Coliform Summary**

Water System Size	No. of Public Water Systems ^(a)	Reporting Cost (for Year 1+) ^(b) (Cost Decrease)
400 or Fewer Service Connections and 1,000 or Fewer Persons (excluding Wholesalers) ^(a)	6,340	\$154,000
More than 400 Service Connections or More than 1,000 Persons (including Wholesalers)	Not applicable	Not applicable
Total	6,340	\$154,000

(a) Water systems serve a total of 191,507 service connections.

Subsections (c)(1)(A) through (D) would be added to clarify the content of a monthly summary of bacteriological monitoring results. The total number of samples collected; number, sample collection date, and sample location of all total coliform and *E. coli*-positive samples; number, sample collection date, sample location, and result of triggered groundwater source samples collected; and sample collection date, sample location, and result for all repeat samples collected are necessary for the State Water Board to efficiently evaluate bacteriological conditions and compliance. Water systems have historically been providing these monthly summaries with this content. As such, there is no cost impact for clarifying the monthly summary content.

Subsection (c)(2) would be revised to correct upper/lower case usage, grammar, and punctuation.

Subsection (c)(3) would be revised to correct upper/lower case usage and grammar. Subsection (c)(3) would also be revised to clarify the reporting requirement for public water systems serving 10,000 service connections. Subsections (c)(2) and (c)(3) currently do not address how systems serving exactly 10,000 service connections are to report bacteriological results. The State Water Board's experience is that large public water systems tend to have a good understanding of the regulations and accurately report the results in the monthly summary (see subsection (c)(1)). Therefore, routine review of large quantities of coliform-absent data that have a good correlation to the results in the monthly summary would be time consuming for the State Water Board and would not result in increased public health protection. However, submittal of the results for positive routine samples and repeat samples would allow the State Water Board to determine that appropriate follow-up action was taken by the systems and to confirm that repeat samples were collected in accordance with the regulations. As of August 2017, there were no systems serving exactly 10,000 service connections. As such, there is no cost impact for clarifying the reporting requirement for systems serving 10,000 service connections.

Subsections (c)(2) and (c)(3) would be revised to clarify the reporting requirements by retaining reference to 10,000 service connections and deleting reference to 33,000 persons to make the reporting requirements mutually exclusive. As of August 2017, there were 76 public water systems serving fewer than 10,000 service connections and more than 33,000 persons and 15 public water systems serving more than 10,000 service connections and fewer than 33,000 persons. This means the 91 systems must comply with both paragraphs (2) and (3). The State Water Board believes this duplicate effort is not necessary. As of August 2017, there were no systems serving exactly 10,000 service connections or exactly 33,000 persons. The number of service connections has generally been a number that can easily be determined by the systems. Systems are likely to already be reporting based on number of service connections served. As such, the cost of clarifying the reporting requirements is expected to be negligible.

Former subsection (d) would be deleted because it is redundant with respect to the requirements in section 64470.

Subsection (d) would be added for conformance with federal regulations (40 CFR 141.860(c)(2) and 141.861(a)(4)). Applicable state regulations would be referenced for clarity.

Subsection (e) would be added for conformance with federal regulations (40 CFR 141.204(a)(6) and 141.860(d)(1)). Applicable state regulations would be referenced for clarity.

Section 64424. Repeat Sampling.

The purpose of this section is to establish the monitoring and reporting requirements for repeat sampling when a routine sample result is total coliform-positive and the actions required when a monitoring or reporting violation occurs.

Subsection (a) would be revised for conformance with federal regulations (40 CFR 141.858(a)(1) and (2)), except that for a single service connection water system, the provision allowing an alternative repeat sample set collection procedure (sample volume and container size) would not be included to maintain consistency with existing state regulations (see subsection (a)). The same provision was in the federal TCR and not included in the state TCR because the California Department of Health Services indicated that it was the Department's experience that sample containers (and hence sample volumes) need to be the standard size. The standard size approach has been in place since July 31, 1992 (effective date of state TCR). The State Water Board maintains the same need and believes that adding an alternative procedure would only cause confusion for a single service connection water system. Subsection (a) would also be revised to clarify existing language (see section 64421(b) for further discussion), correct reference to paragraph designation, correct punctuation, and correct grammar due to the addition of section 64421(d).

Subsection (a)(1) would be revised for conformance with federal regulation (40 CFR 141.858(a)(1)), except that: (1) the provision allowing the State Water Board to implement criteria for public water systems to use in lieu of the case-by-case extension provided in paragraph (2) would not be included; it is the State Water Board's experience that circumstances for an extension may vary and determining the amount of time systems have to collect repeat samples needs to be tailored to the circumstances and (2) the self-regulating language prohibiting the State Water Board from waiving the requirement for systems to collect repeat samples would not be included; regulations are written to regulate systems, not the State Water Board, and, as written, section 64424 requires systems to collect repeat samples.

Subsection (a)(2) would be revised to correct grammar.

Subsection (b) would be revised for conformance with federal regulations (40 CFR 141.853(a)(5) and (5)(ii)(A), (B), and (C)). Self-regulating language allowing the State Water Board to allow the use of an alternative monitoring location would be replaced with allowing a public water system to submit a request to use an alternative monitoring location; regulations are written to regulate systems, not the State Water Board. Subsection (b) would also be revised to correct upper/lower case usage, to clarify existing language (see section 64421(b) for further discussion), and to reference applicable state regulation for clarity. Federal regulations (40 CFR 141.853(a)(5)(ii)(A), (B), and (C)) would be organized in table format (see tables 64424-A, B, and C) to improve readability.

Table 64424-A would be added for conformance with federal regulation (40 CFR 141.853(a)(5)(i)).

Table 64424-B would be added for conformance with federal regulation (40 CFR 141.853(a)(5)(ii)). Self-regulating language regarding State Water Board written approval to use dual purpose sampling would be replaced with allowing a public water system to submit a request to use dual purpose sampling; regulations are written to regulate systems, not the State Water Board. Applicable state regulation would be referenced for clarity.

Table 64424-C would be added for conformance with federal regulations (40 CFR 141.853(a)(5)(ii)(A), (B), and (C)). Applicable state regulation would be referenced for clarity.

Subsection (c) would be revised for conformance with federal regulation (40 CFR 141.858(a)(3)), to clarify existing language (see section 64421(b) for further discussion), to correct grammar, to reference applicable state regulation for clarity, and to clarify a timeframe by which a public water system would notify the State Water Board when the system exceeds a Level 1 or Level 2 coliform treatment technique trigger (CTTT) exceedance as a result of a total coliform-positive repeat sample. With the exception of exceeding an *E. coli* MCL (see sections 64426.1 and 64426.7(c)(1)), the federal RTCR does not require a system to notify the State Water Board of a CTTT exceedance

unless the exceedance occurs as a result of a repeat sample being total coliform-positive. While the system must notify the State Water Board, the federal RTCR does not specify a timeframe by which the notification must be completed. The State Water Board believes that timely notification is needed due to the increased public health concern arising from exceeding a CTTT as a result of confirmed detection of coliform bacteria in the distribution system. The State Water Board would propose notification by the end of the day on which the system determines a trigger exceedance occurs. This notification timeframe is required when an *E. coli* MCL violation occurs (see section 64426.1 (c)) and would be appropriate to use for a Level 2 treatment technique trigger exceedance due to an *E. coli* MCL violation (see section 64426.7(c)(1)). The same timeframe would be used for the other treatment technique trigger exceedances that occur, as a result of a total coliform-positive repeat sample, to simplify notification efforts by the system and to avoid confusion with having to implement different timeframes based on different treatment technique trigger exceedances. A timeframe would also help determine when the 30-day period starts for the system to submit to the State Water Board a completed Level 1 or Level 2 assessment (see sections 64429.7(a)(4) and (b)(3)) and alert the State Water Board of the need to conduct a Level 2 assessment (see section 64429.7(b)(1)). There is no cost impact for clarifying a notification timeframe because system notification of the State Water Board is required regardless of the proposed timeframe.

Former subsections (d), (d)(1), and (d)(2) would be deleted because they are the additional routine monitoring requirements from the obsolete federal TCR. Federal RTCR requirements concerning additional routine monitoring are located in section 64423 (see section 64423(c)(1) for further discussion).

Subsection (d) would be added for conformance with federal regulation (40 CFR 141.861(a)(4)). Applicable state regulations would be referenced for clarity.

Subsection (e) would be added for conformance with federal regulation (40 CFR 141.204(a)(6)). Applicable state regulations would be referenced for clarity.

Section 64425. Sample Invalidation.

The purpose of this section is to establish the criteria and procedures for the invalidation of total coliform-positive samples and samples that are difficult to read due to interference, as defined by the analytical methods; the reporting requirements; and the actions required when a monitoring or reporting violation occurs.

Subsection (a) would be revised to clarify existing language (see section 64421(b) for further discussion), clarify the type of sample that may be invalidated, and correct grammar.

Subsection (a)(2) would be revised to correct grammar.

Subsection (b) would be revised for conformance with federal regulation (40 CFR 141.853(c)(2)), except that the provision allowing the State Water Board to implement criteria for public water systems to use in lieu of the case-by-case extension provided in 40 CFR 141.853(c)(2) would not be included; it is the State Water Board's experience that circumstances for an extension may vary and determining the amount of time systems have to collect a replacement sample needs to be tailored to the circumstances. For the case-by-case extension allowed in 40 CFR 141.853(c)(2), the State Water Board would propose to use the same notification procedures in section 64424(a)(2) for consistency, to simplify notification efforts by the system, and to avoid confusion with having to implement notification procedures for invalidated samples that are different from those for repeat samples. There is no cost impact for using the existing notification procedure because system notification of the State Water Board is required to obtain an extension. Subsection (b) would also be revised to clarify the type of sample that may be invalidated, replace an obsolete federal TCR CFR citation on sample invalidation with a federal RTCR CFR citation, clarify the incorporation by reference of the CFR citation, clarify existing language (see section 64421(b) for further discussion), and correct grammar.

Subsection (c) would be added for conformance with federal regulation (40 CFR 141.853(c)). Applicable state regulations would be referenced for clarity.

Subsection (d) would be added for conformance with federal regulation (40 CFR 141.861(a)(4)). Applicable state regulations would be referenced for clarity.

Subsection (e) would be added for conformance with federal regulation (40 CFR 141.204(a)(6)). Applicable state regulations would be referenced for clarity.

Section 64426. Significant Rise in Bacterial Count.

The purpose of this section is to establish a timeframe, the samples used, and the criteria to determine a possible significant rise in bacterial count (SRBC); the actions required when the criteria are reached or exceeded or when a determination is made that there is a SRBC; the reporting requirements; and the actions required when a reporting violation occurs.

Subsection (a) would be added to specify the timeframe and samples used for determining a possible SRBC. The timeframe and samples used would be consistent with proposed regulations (see sections 64426.1(a) and 64426.7(a)), except that special purpose bacteriological samples collected under section 64421(b) and during special investigations would be included to determine a possible SRBC. The additional special purpose bacteriological samples provide more information about the distribution system as a whole and help to evaluate if there is a serious problem in an area of the distribution system that may pose a significant health risk to consumers. There is no cost impact for specifying a timeframe because system determination of a possible SRBC would occur regardless of the proposed timeframe. The estimated cost of

including special purpose samples in determining a possible SRBC cannot be quantified because future occurrences are unknown and cannot be predicted.

Former subsection (a) would be redesignated as subsection (b) to accommodate the addition of subsection (a) discussed above.

Subsection (b)(1) would be revised to clarify existing language (see section 64421(b) for further discussion).

Subsection (b)(2) would be revised to clarify existing language (see section 64421(b) for further discussion), delete an obsolete reference to “fecal coliform,” and correct taxonomy (“*E. coli*” is replaced with “*E. coli*”).

Subsection (b)(3) would be revised to replace an obsolete federal TCR reference (total coliform maximum contaminant level) with a federal RTCR reference (*E. coli* maximum contaminant level).

Former subsection (b) would be redesignated subsection (c) to accommodate the addition of subsection (a) discussed above. Former subsection (b) would also be revised to correct grammar and reference to subsection designation and clarify existing language (see section 64421(b) for further discussion).

Subsection (c)(1) would be revised to clarify that the test result of more than one sample may result in a SRBC, delete reference to the [total coliform] MCL from the obsolete federal TCR, and delete the 24-hour extension to notify the State Water Board after offices are closed. Public water systems are able to make after-hours contact with the State Water Board District Offices and Local Primacy Agencies according to an Emergency Notification Plan, which is required of all systems under HSC section 116460.

Subsection (c)(2) would be revised for conformance with state law (HSC 116450(b)) by including a 24-hour timeframe to conduct an initial investigation and submit information to the State Water Board. There is no cost impact with this change because it is a statutory requirement. Subsection (c)(2) would also be revised to correct upper/lower case usage.

Subsection (c)(2)(E) would be revised to delete the word “physical” from “physical evidence.” There is no cost impact with this change because it merely allows public water systems to consider in their investigation all types of evidence indicating bacteriological contamination of facilities. Subparagraph (E) would also be revised to correct upper/lower case usage.

Former subsection (c) would be redesignated subsection (d) to accommodate the addition of subsection (a) discussed above. The timeframe of “upon” would be revised to read “as soon as possible within 24 hours” for consistency with existing state regulation (see section 64463.1(b)). The State Water Board believes that timely

implementation of an Emergency Notification Plan, which is required of all public water systems under HSC section 116460, is needed when something is happening in the distribution system that has a significant potential for serious adverse effects on human health as a result of short-term exposure. There is no cost impact for revising the implementation timeframe because system implementation of the plan is required regardless of the proposed timeframe. Former subsection (c) would also be revised to clarify the basis for determining a significant rise in bacterial count and existing language (see section 64421(b) for further discussion).

Subsection (e) would be added to specify a timeframe of 30 days for the submittal of a report and the information to include in the report when public water systems reach or exceed a possible significant rise in bacterial count. The State Water Board believes 30 days is a reasonable amount of time for systems to complete their initial investigation, identify and remediate the problem, and submit information to the State Water Board District Offices and Local Primacy Agencies. The State Water Board would propose systems prepare a report on the investigation; completing the initial investigation would ensure that specific action is taken to identify and remediate the cause of the potential significant rise in bacterial count, recognizing that it is not always possible to identify a sanitary defect. Corrective actions taken and a timetable would be included to ensure that sanitary defects are corrected in a timely manner, taking into consideration the extent and cost of the corrective action. Lastly, subsection (e) would specify a timeframe of five business days for the system to notify the State Water Board when each scheduled corrective action is completed. The State Water Board believes five business days is a reasonable amount of time for systems to notify the State Water Board District Offices and Local Primacy Agencies. The estimated cost of completing the initial investigation, submitting a report to the State Water Board, and notifying the State Water Board that each scheduled corrective action is completed cannot be quantified because future occurrences are unknown and cannot be predicted.

Subsection (f) would be added for conformance with federal regulations (40 CFR 141.860(d)(2) and 141.204(a)(6)). Applicable state regulations would be referenced for clarity.

Section 64426.1. *E. coli* Maximum Contaminant Level (MCL).

The purpose of this section is to establish a timeframe and the samples used to determine compliance with the *E. coli* maximum contaminant level (MCL); the conditions that constitute an *E. coli* MCL violation; the reporting requirements; the actions required when a reporting violation occurs; and the provision for no variance or exemption from the *E. coli* MCL.

The section heading would be revised to provide a more appropriate title for the section.

Subsection (a) would be revised for conformance with federal regulations (40 CFR 141.63(d), 141.853(b), and 141.858(a)(5)), except that for 141.63(d) the total coliform MCL compliance determination until March 31, 2016 would not be included because the

federal TCR is obsolete. For 40 CFR 141.858(a)(5), “coliform treatment technique trigger” would be replaced with “*E. coli* MCL” to clarify the specific coliform treatment technique trigger covered under subsection (a). Subsection (a) would also be revised to correct grammar, clarify that samples collected during special investigations are special purpose samples, and clarify existing language (see section 64421(b) for further discussion).

Subsection (b) would be revised for conformance with federal regulations (40 CFR 141.63(c) and 141.860(a)), except that, for 40 CFR 141.63(c), the April 1, 2016 begin date for the *E. coli* MCL would not be included because the date has passed; reference to “Subpart Y” would not be included to avoid confusion associated with citing the federal RTCR; and the violation of the *E. coli* MCL for purposes of public notification would not be included because the language is narrative.

Former subsections (b)(1) through (4) would be deleted because they are the total coliform MCL violations from the obsolete federal TCR.

Subsections (b)(1) through (4) would be added for conformance with federal regulations (40 CFR 141.63(c)(1) through (4) and 141.860(a)(1) through (4)).

Subsection (c) would be revised for conformance with federal regulation (40 CFR 141.861(a)(1)(i)), except that the 24-hour extension to notify the State Water Board after offices are closed would no longer be retained. Public water systems are able to make after-hours contact with the State Water Board District Offices and Local Primacy Agencies according to an Emergency Notification Plan, which is required of all systems under HSC section 116460. Subsection (c) would also be revised to correct reference to subsection designations, correct grammar, and reference applicable state regulations for clarity.

Subsection (d) would be added for conformance with federal regulation (40 CFR 141.204(a)(6)). Applicable state regulations would be referenced for clarity.

Subsection (e) would be added for conformance with federal regulation (40 CFR 141.4(a)), except that: (1) for total coliform MCL – the prohibition on variances or exemptions would not be included because the total coliform MCL is from the obsolete federal TCR and (2) for treatment technique requirements of subpart H of part 141 (Filtration and Disinfection) – the prohibition on variances would not be included because the prohibition is in existing state regulation (see Chapter 17, section 64652(h)).

Section 64426.5. Variance from Total Coliform Maximum Contaminant Level.

The purpose of this section is to establish the criteria for obtaining a variance from the total coliform maximum contaminant level (MCL).

Section 64426.5 would be deleted for conformance with federal regulation (40 CFR 141.4(b)). Since the total coliform MCL would no longer be in effect with the adoption of the state RTCR, the criteria in section 64426.5 would be obsolete. Based on an October – November 2016 survey of State Water Board District Offices and Local Primacy Agencies, there are no public water systems operating with a variance from the total coliform MCL.

Section 64426.6. Coliform Treatment Technique.

The purpose of this section is to establish the conditions that constitute a coliform treatment technique violation; the reporting requirements; and the actions required when a reporting violation occurs.

Subsections (a) through (a)(2) would be added for conformance with federal regulations (40 CFR 141.860(b) through (b)(2)) and organized to improve readability. For subsection (a)(1), applicable state regulations would be referenced for clarity.

Subsection (b) would be added for conformance with federal regulation (40 CFR 141.861(a)(2)). Applicable state regulations would be referenced for clarity.

Subsection (c) would be added for conformance with federal regulation (40 CFR 141.204(a)(6)). Applicable state regulations would be referenced for clarity.

Section 64426.7. Coliform Treatment Technique Triggers.

The purpose of this section is to establish a timeframe and samples used to determine the occurrence of a coliform treatment technique trigger (CTTT) exceedance and the conditions that constitute a CTTT exceedance.

Subsection (a) would be added for conformance with federal regulations (40 CFR 141.853(a)(4) and (b), 141.854(j), 141.856(c), and 141.858(a)(5)), while organized and worded to maintain consistency with existing state regulatory language (see section 64426.1(a)). Applicable state regulations would be referenced for clarity.

Subsections (b) through (b)(3) would be added for conformance with federal regulations (40 CFR 141.859(a)(1) through (a)(1)(iii)).

Subsections (c) through (c)(2) would be added for conformance with federal regulations (40 CFR 141.859(a)(2) through (a)(2)(ii)). 40 CFR 141.859(a)(2)(iii) would not be included because existing and proposed state regulations (see sections 64423(a) and (b)) do not allow systems to be on annual monitoring.

Section 64426.8. Level 1 and Level 2 Assessments and Corrective Actions.

The purpose of this section is to establish requirements for the Level 1 and Level 2 assessments, the corrective actions when sanitary defects are found, and the actions required when a reporting violation occurs.

Subsection (a) would be added for conformance with federal regulation (40 CFR 141.859(b)(3)). Applicable state regulation would be referenced for clarity.

Subsection (a)(1) would be added for conformance with federal regulations (40 CFR 141.2 [Level 1 Assessment] and 141.859(b)(3)(i)).

Subsection (a)(2) would be added for conformance with federal regulations (40 CFR 141.2 [Level 1 Assessment and Level 2 Assessment] and 141.859(b)(1), (2), and (3)(i)). For clarity, the phrase “assessment form” would be revised to read “assessment” because the proposed regulations specify the contents of an assessment and not the format.

Subsections (a)(2)(A) through (C) would be added for conformance with federal regulations (40 CFR 141.2 [Level 1 Assessment and Level 2 Assessment] and 141.859(b)(2)).

Subsection (a)(2)(D) would be added for conformance with federal regulations (40 CFR 141.2 [Level 1 Assessment and Level 2 Assessment] and 141.859(b)(2)).

Subsection (a)(2)(E) would be added for conformance with federal regulations (40 CFR 141.2 [Level 1 Assessment and Level 2 Assessment] and 141.859(b)(2)).

Subsection (a)(3) would be added for conformance with federal regulations (40 CFR 141.2 [Level 1 Assessment] and 141.859(b)(2)).

Subsection (a)(4) would be added for conformance with federal regulations (40 CFR 141.859(b)(3)(i) and 141.861(a)(3)). For 40 CFR 141.859(b)(3)(i) and 141.861(a)(3), the phrase “assessment form” and “assessment report,” respectively, would be revised to read “assessment” for the reason discussed for subsection (a)(2).

Subsection (a)(5) would be added for conformance with federal regulation (40 CFR 141.859(b)(3)(ii)), except that self-regulating language for the State Water Board to consult with the public water system would not be included; regulations are written to regulate systems, not the State Water Board. Also, consultation already occurs as part of the routine communication between the State Water Board and systems. The phrase “revised assessment form” would be revised to read “revised assessment” for the reason discussed for subsection (a)(2). Lastly, the phrase “agreed-upon-schedule not to exceed 30 days” would be revised to read “within 30 days” to correct grammar due to elimination of self-regulating language.

Subsection (b) would be added for conformance with federal regulation (40 CFR 141.859(b)(4)). Applicable state regulation would be referenced for clarity.

Subsection (b)(1) would be added for conformance with federal regulations (40 CFR 141.2 [Level 2 Assessment] and 141.859(b)(1), (2), and (4)(i)), except that the following would not be included because Level 2 Assessments would be conducted by the State Water Board: (1) for 40 CFR 141.2 – that assessment be conducted by an individual

(may include the system operator) approved by the State, (2) for 40 CFR 141.859(b)(1) and (4)(i) – that assessment be conducted by party/parties approved by the State, and (3) for 40 CFR 141.859(b)(2) – self-regulating language to conduct the assessment consistent with any State directives.

Subsection (b)(2) would be added for conformance with federal regulations (40 CFR 141.2 [Level 2 Assessment] & 141.859(b)(4)).

Subsection (b)(3) would be added for conformance with federal regulations (40 CFR 141.2 [Level 2 Assessment], 141.859(b)(4)(i), and 141.861(a)(3)). For 40 CFR 141.859(b)(4)(i) and 141.861(a)(3), the phrase “assessment form” and “assessment report,” respectively, would be revised to read “assessment” for the reason discussed for subsection (a)(2).

Subsection (b)(4) would be added for conformance with federal regulation (40 CFR 141.859(b)(4)(iii)), except that, for the reasons discussed for subsection (a)(5), self-regulating language for the State Water Board to consult with the public water system would not be included; the phrase “revised assessment form” would be revised to read “revised assessment;” and the phrase “agreed-upon-schedule not to exceed 30 days” would be revised to read “within 30 days.”

Subsection (c) would be added for conformance with federal regulations (40 CFR 141.859(c) and 141.861(a)(3)), except that, for 40 CFR 141.859(c), self-regulating language “in consultation with the system” would not be included for the reason discussed for subsection (a)(5). For 40 CFR 141.859(c) and 141.861(a)(3), the phrase “assessment form” and “assessment report,” respectively, would be revised to read “assessment” for the reason discussed for subsection (a)(2) and to correct grammar. Lastly, subsection (c) would clarify a timeframe by which public water systems would notify the State Water Board when each scheduled corrective action is completed. While systems must notify the State Water Board, the federal RTCR does not specify a timeframe by which the notification must be completed. Timely notification is needed to ensure that corrective actions are completed in a timely manner. The State Water Board would propose notification within five business days of when each scheduled corrective action is completed. The State Water Board believes five business days is a reasonable amount of time for systems to notify the State Water Board District Offices and Local Primacy Agencies. There is no cost impact for clarifying the notification timeframe because system notification of the State Water Board is required regardless of the proposed timeframe.

Subsection (d) would be added for conformance with federal regulations (40 CFR 141.204(a)(6) and 141.860(d)(1)), except that, for 40 CFR 141.860(d)(1), “assessment form” would be revised to read “assessment” for the reason discussed for subsection (a)(2). Applicable state regulations would be referenced for clarity.

Section 64426.9. Seasonal System Start-Up Procedure.

The purpose of this section is to establish the requirements for a seasonal system start-up procedure; an exemption from or use of alternatives to a start-up procedure requirement; and the actions required prior to serving water to the public or when a reporting violation occurs.

Subsection (a) would be added for conformance with federal regulations (40 CFR 141.854(i)(1), 141.856(a)(4)(i), and 141.857(a)(4)(i)), except that the April 1, 2016 date for seasonal systems to demonstrate completion of a State-approved start-up procedure would not be included because the date has passed. As of April 1, 2016, seasonal systems have developed and implemented start-up procedures approved by the State Water Board District Offices and Local Primacy Agencies. With the adoption of the proposed regulations, seasonal systems may need to revise their procedures to include the minimum components shown in subsections (a)(1) through (6). Seasonal systems would be given three months from the effective date of the regulations. The State Water Board believes three months is a reasonable amount of time for seasonal systems to revise and submit updated procedures to the State Water Board District Offices and Local Primacy Agencies. Since some seasonal systems may have procedures that already contain the minimum components, the phrase “if directed by the State Board” would be included so that these seasonal systems are not burdened with having to resubmit revised procedures.

Subsections (a)(1) through (6) would be added to specify the minimum components that need to be addressed in a seasonal system start-up procedure. The federal RTCR requires the procedure to be State-approved, but does not specify the components of the procedure. The State Water Board provided guidance to enable seasonal systems to meet the federal RTCR April 1, 2016 deadline and to ensure steps are taken to mitigate the risk associated with dewatering and depressurizing the water system. However, guidance is not enforceable. Adopting the proposed regulations will make the minimum components enforceable. In 2017, the State Water Board conducted six informational workshops throughout California to discuss the process for adopting the RTCR and to present the February 3, 2017 draft regulations. Since then, subsections (a)(1) through (5) remain unchanged. Subsection (a)(6) was modified to eliminate the State Board notification timeframe of “within 10 days” to allow the notification to be tailored based on site-specific considerations. Overall, the State Water Board believes the cost impact associated with subsections (a) and (a)(1) through (a)(6) will be negligible.

Subsection (b) would be added for conformance with federal regulation (40 CFR 141.861(a)(5)).

Subsection (b)(1) would be added for conformance with federal regulations (40 CFR 141.854(i)(1), 141.856(a)(4)(i), and 141.857(a)(4)(i)).

Subsection (b)(2) would be added for conformance with federal regulation (40 CFR 141.861(a)(5)).

Subsection (b)(3) would be added to require submittal of the bacteriological and disinfectant residual monitoring results prior to serving water to the public. This is to ensure the water is coliform absent and, for the disinfectant used, does not exceed the maximum residual disinfectant level (see table 64533.5-A). Submittal of these results is necessary for the State Water Board to evaluate compliance with subsection (a)(3) and (4) prior to approving serving water to the public. Since April 1, 2016, seasonal systems have submitted the monitoring results as supporting documentation when certifying completion of a State Board-approved start-up procedure. As such, there is no cost impact for requiring submittal of monitoring results.

Subsection (b)(4) would be added to require State Water Board approval before seasonal systems serve water to the public. This is to ensure seasonal systems comply with subsections (b) through (b)(3) and adequately demonstrate that the risk associated with dewatering and depressurizing the water system has been mitigated. Since April 1, 2016, seasonal systems have obtained State Water Board approval prior to serving water to the public. As such, there is no cost impact to seasonal systems for requiring State Water Board approval.

Subsection (c) would be added for conformance with federal regulations (40 CFR 141.854(i)(3), 141.856(a)(4)(ii), and 141.857(a)(4)(ii)) except that, for 40 CFR 141.854(i)(3), requirements for seasonal systems monitoring less frequently than monthly would not be included because proposed state regulation (see section 64423(a)(6)) does not allow seasonal systems to monitor less frequently than monthly. For clarity, the phrase “in subsections (a)(1) through (5)” would be added to identify those requirements seasonal systems may request an exemption from. Reference to subsection (a)(6) would not be included because exempting seasonal systems from State Water Board notification would not be appropriate.

Subsections (d) through (d)(2) would be added to allow seasonal systems to use an alternative approach for compliance with a start-up procedure if it can demonstrate equivalent public health protection and obtains State Water Board approval prior to use. The State Water Board recognizes that the start-up procedure is necessarily very specific; however, due to site-specific conditions, there may be situations in which a start-up procedure requirement may be impractical or unachievable. For this reason, some allowance for the use of acceptable alternatives is needed. Seasonal systems would need to demonstrate that the alternative being proposed does not increase the risk to public health over that of the specific proposed regulation and institute additional mitigative measures. Since there are many possible situations and alternatives, it would be impossible to cover them with regulatory language. State Water Board approval would be required to ensure that the proposed alternative approach is protective of public health before it is used. There is no cost impact with allowing the use of an alternative approach because it is not mandatory; it is merely an option available to seasonal systems.

Subsection (e) would be added for conformance with federal regulations (40 CFR 141.204(a)(6) and 141.860(d)(3)). Applicable state regulations would be referenced for clarity.

Title 22, CCR, Division 4, Chapter 15, Article 3.5

Section 64430. Requirements.

The purpose of this section is to establish the requirements of the federal Ground Water Rule.

The first paragraph would be revised to correct punctuation and grammar and to incorporate by reference the amendments to the federal Ground Water Rule contained in federal regulations (40 CFR 141.402 and 141.405).

Former subsections (a) through (c) would be deleted to eliminate reference to “141.21” because “141.21” refers to the obsolete federal TCR.

Subsections (a) through (d) would be added for conformance with federal regulation (40 CFR 141.402). Applicable state regulations would be referenced for clarity.

Subsection (e) would be added for conformance with federal regulation (40 CFR 141.405). Applicable state regulation would be referenced for clarity.

Title 22, CCR, Division 4, Chapter 15, Article 12

Section 64447. Best Available Technologies (BAT) – Microbiological Contaminants.

The purpose of this section is to establish the best available technologies for reducing the level of microbiological contaminants in drinking water to comply with the *E. coli* MCL.

The first paragraph would be revised for conformance with federal regulations (40 CFR 141.63(e) and (f)), except that BAT for the total coliform MCL would not be included because the total coliform MCL is from the obsolete federal TCR.

Subsection (a) would be revised for conformance with federal regulation (40 CFR 141.63(e)(1)).

Subsection (c) would be revised for conformance with federal regulation (40 CFR 141.63(e)(3)) and to correct grammar.

Subsection (d) would be revised for conformance with federal regulation (40 CFR 141.63(e)(4)). Applicable state regulation would be referenced for clarity.

Subsection (e) would be added for conformance with federal regulation (40 CFR 141.63(e)(5)). Applicable state document that contains California's U.S. EPA-approved State Wellhead Protection Program would be incorporated by reference for clarity.

Title 22, CCR, Division 4, Chapter 15, Article 18

The article heading would be revised to replace "Department" with "State Board." This change is needed to reflect the 2014 drinking water program transition from the California Department of Public Health to the State Water Board.

Section 64463.1. Tier 1 Public Notice.

The purpose of this section is to establish the violations and situations that have a significant potential to have serious adverse effects on human health as a result of short-term exposure; a timeframe and actions to be taken by public water systems; and the manner of public notice delivery.

Subsection (a)(1) through (1)(B) would be revised for conformance with federal regulation (40 CFR 141.202(a)(1)) and to reference applicable state regulation for clarity.

Section 64463.4. Tier 2 Public Notice.

The purpose of this section is to establish the violations and situations that have the potential to have serious adverse effects on human health; a timeframe and actions to be taken by public water systems; and the manner of public notice delivery.

Subsection (a)(2) and former subsection (a)(3) would be revised by reorganizing existing state regulations under one subsection to improve readability. Former subsection (a)(3) would also be revised to correct punctuation.

Former subsection (a)(4) would be redesignated as subsection (a)(3) due to reorganizing subsection (a)(2) and former subsection (a)(3) discussed above.

Subsection (b)(2) would be revised for conformance with federal regulation (40 CFR 141.203(b)(2)), except that reference to "Total Coliform Rule" would not be included because the federal TCR is obsolete.

Section 64463.7. Tier 3 Public Notice.

The purpose of this section is to establish the violations and situations not included in the Tier 1 and Tier 2 public notification sections (see sections 64463.1 and 64463.4); a timeframe and actions to be taken by public water systems; and the manner of public notice delivery.

Subsections (a)(2) and (3) would be revised to correct grammar and punctuation, respectively, to accommodate the addition of paragraphs (4) and (5) discussed below.

Subsections (a)(4) and (5) would be added for conformance with federal regulation (40 CFR 141.204(a)(6)). Applicable state regulations would be referenced for clarity.

Section 64465. Public Notice and Content and Format.

The purpose of this section is to establish the primary content (information and language) and format requirements of a public notice when a maximum contaminant level, maximum residual disinfectant level, regulatory action level, or treatment technique for a contaminant has been violated or when there is a contaminant assessment, corrective action, or treatment technique violation.

Subsection (a)(3) would be revised to correct a typographical error.

Appendix 64465-A would be revised for conformance with federal regulation (40 CFR Appendix B to Subpart Q of Part 141), except that: (1) for Contaminant column – (a) Total coliform and Fecal coliform/*E. coli* would no longer be included because they are contaminants from the obsolete federal TCR; the information would be reorganized under Table 64481-E for the reasons discussed for section 64481(o) and (b) “Subpart Y” would not be included to avoid confusion associated with citing the federal RTCR, (2) for Maximum Contaminant Level Goals (MCLG) column – the various MCLG would not be included because they are goals, not enforceable, considered merely “informative” under California law, and not appropriate for inclusion in regulations, and (3) for Maximum Contaminant Level (MCL) column – the *E. coli* MCL and various treatment techniques would not be included because they duplicate requirements specified elsewhere in the federal RTCR and proposed regulations (see sections 64426.1 and 64426.6).

Appendix 64465-A, Health Effects Language column would also be revised: (1) for *E. coli* Assessment and/or Corrective Action Violations – to replace the second applicable sentence of “during the assessment that we conducted” with “during the assessment” for clarity because the State Water Board, not the public water systems, is the party conducting the Level 2 assessment (see section 64426.8(b)(1)) and (2) for Seasonal System Treatment Technique Violations – to reference applicable state regulations for clarity.

Title 22, CCR, Division 4, Chapter 15, Article 19

Section 64470. Recordkeeping.

The purpose of this section is to establish the form and manner of records maintenance.

Subsection (b)(5) would be revised to correct grammar and accommodate the addition of paragraph (7) discussed below.

Subsection (b)(6) would be revised to correct grammar and punctuation and accommodate the addition of paragraph (7) discussed below.

Subsection (b)(7) would be added for conformance with federal regulations (40 CFR 141.861(b)(1), 2013 FR and 2014 FR). For clarity, “assessment form” would be revised to read “Level 1 and Level 2 assessments” to clarify the type of assessment conducted and because the proposed regulations specify the contents of an assessment and not the format. Applicable state regulation would be referenced for clarity.

Title 22, CCR, Division 4, Chapter 15, Article 20

Section 64481. Content of the Consumer Confidence Report.

The purpose of this section is to establish the primary content and format requirements of the Consumer Confidence Report (CCR).

Subsection (b)(10) would be added for conformance with federal regulation (40 CFR 141.153(c)(4)(i)).

Subsection (b)(11) would be added for conformance with federal regulation (40 CFR 141.153(c)(4)(ii)).

Subsection (c)(1) would be revised to reference a new section that contains a treatment technique and to correct punctuation.

Subsection (d)(2)(D) would be revised for conformance with federal regulation (40 CFR 141.153(d)(4)(iv)), except that reference to total coliform would be deleted and reorganized under subsection (o), which would contain the CCR reporting requirements for the state TCR.

Former subsections (d)(2)(G) through (G)2. would be deleted and reorganized under subsections (o)(2) through (2)(B), which would contain the CCR reporting requirements for the state TCR.

Former subsection (d)(2)(H) would be redesignated as subsection (d)(2)(G) due to the deletion of former subsections (d)(2)(G) through (G)2. discussed above and revised for conformance with federal regulation (40 CFR 141.153(d)(4)(x)).

Former subsection (d)(2)(I) would be redesignated as subsection (d)(2)(H) due to the deletion of former subsections (d)(2)(G) through (G)2. discussed above.

Subsection (n) would be added for conformance with federal regulation (40 CFR 141.153(h)(7)).

Subsection (n)(1) would be added for conformance with federal regulation (40 CFR 141.153(h)(7)(i)). Applicable state regulation would be referenced for clarity.

Table 64481-A would be added for conformance with federal regulations (40 CFR 141.153(h)(7)(i)(A) through (D)(2)). Federal regulations would be organized in table format to improve readability.

Subsection (n)(2) would be added for conformance with federal regulation (40 CFR 141.153(h)(7)(ii)). Applicable state regulation would be referenced for clarity.

Table 64481-B would be added for conformance with federal regulations (40 CFR 141.153(h)(7)(ii)(A) through (C)(2)). Federal regulations would be organized in table format to improve readability. The last applicable statement in Table 64481-B would be revised for reasons previously discussed under section 64465 (see appendix 64465-A, Item (1)).

Subsections (n)(3) through (3)(D) would be added for conformance with federal regulations (40 CFR 141.153(h)(7)(iii) through (iii)(D)).

Subsection (n)(4) would be added for conformance with federal regulation (40 CFR 141.153(h)(7)(iv)).

Subsection (o) would be added to reorganize under one subsection the CCR reporting requirements for the state TCR because section 64426.1, appendix 64465-A, section 64481(d)(2)(D), former sections 64481(d)(2)(G) to (H), and appendix 64481-A would be revised to reflect only the state RTCR to facilitate understanding and compliance efforts. Prior to state RTCR adoption, public water systems are required to comply with the state TCR. If total coliform, fecal coliform, or *E. coli* is detected or a violation occurs during a calendar year, additional information is required in the CCR delivered to consumers by July 1, in the following year. Subsection (o) would contain dates to clarify when the CCR is due for reporting state TCR information and the bacteriological monitoring time period associated with the state TCR.

Subsection (o)(1) and Table 64481-C would be added for conformance with federal regulation (40 CFR Appendix A to Subpart O of Part 141) to specify how the total coliform MCL would be expressed.

Subsections (o)(2) through (2)(B) would be added to reorganize former subsections (d)(2)(G) through (G)2. to specify how data would be summarized if total coliform is detected.

Subsection (o)(3) would be added to reorganize former subsection (d)(2)(H) to specify how data would be summarized if fecal coliform and *E. coli* is detected and to revise for conformance with federal regulation (40 CFR Appendix A to Subpart O of Part 141; *i.e.*, “or” is changed to “and”).

Subsection (o)(4) would be added to specify information to include on the likely source of the detected total coliform, fecal coliform, or *E. coli* contaminant and, if the source is unknown, a provision for mandatory language to be used. This requirement would be consistent with existing state regulation (see section 64481(d)(2)(H)) and specific to the state TCR.

Table 64481-D would be added to specify the mandatory language to use if the likely source of the detected total coliform, fecal coliform, or *E. coli* contaminant is unknown. This requirement would be consistent with existing state regulation (see appendix 64481-A) and specific to the state TCR.

Subsection (o)(5) would be added to specify information to include for a violation of the total coliform MCL. This requirement would be consistent with existing state regulation (see section 64481(d)(3)) and specific to the state TCR.

Table 64481-E would be added to reorganize a portion of appendix 64465-A to specify health effects language for total coliform, fecal coliform, and *E. coli* under the state TCR. The State Water Board reviewed the *E. coli* health effects language in the state TCR and federal RTCR, determined that the differences were minor in nature, and would propose using the latest *E. coli* health effects language from the federal RTCR for consistency.

Subsection (o)(6) would be added to specify information to include for other types of violation if they occurred. This requirement would be consistent with existing state regulation (see sections 64481(g) and (g)(1), (5), and (7)) and specific to the state TCR.

Appendix 64481-A would be revised for conformance with federal regulation (40 CFR Appendix A to Subpart O of Part 141), except that: (1) for Contaminant column – Total coliform bacteria (with March 31, 2016 end date) and Fecal Coliform and *E. coli* (with March 31, 2016 end date) would no longer be included because they are contaminants from the obsolete federal TCR, (2) for Traditional MCL column and MCL in CCR Units column – the MCL and treatment technique would not be included because they duplicate requirements specified elsewhere in the federal RTCR and proposed regulations (see sections 64426.1 and 64426.6 and table 64481-C), (3) for Maximum Contaminant Level Goals (MCLG) column – the various MCLG would not be included because they are goals, not enforceable, considered merely “informative” under California law, and not appropriate for inclusion in regulations, and (4) for Health Effects Language column – language would not be included because they duplicate requirements specified elsewhere in the proposed regulation (see appendix 64465-A). The appendix heading would also be revised to correct punctuation.

Title 22, CCR, Division 4, Chapter 15.5, Article 3

Section 64534.4. Disinfectant Residuals Monitoring.

The purpose of this section is to establish the disinfectant residual monitoring requirements if chlorine, chloramines, or chlorine dioxide is used.

Subsection (a) would be revised to correct grammar and update reference to sections.

Title 22, CCR, Division 4, Chapter 17, Article 1

Section 64650. General Requirements.

The purpose of this section is to establish a requirement for treatment of surface water; a process to avoid multibarrier treatment (aka filtration avoidance); and, for public water systems not in compliance with Chapter 17, a process to return to compliance.

Subsection (f)(1)(I) would be added to specify an alternative *E. coli* concentration to trigger *Cryptosporidium* monitoring under the federal Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) for small public water systems (*i.e.*, filtered systems serving fewer than 10,000 persons). The federal LT2ESWTR specifies that primacy states may approve an alternative *E. coli* concentration provided the alternative trigger level provides a more accurate identification of whether the small public water system will exceed the Bin 1 *Cryptosporidium* level of <0.075 oocysts/L (40 CFR 141.701(a)(5)).

U.S. EPA evaluated federal LT2ESWTR monitoring data from large public water systems (*i.e.*, filtered systems serving 10,000 or more persons) and determined that alternative *E. coli* levels would more accurately identify small public water systems required to conduct *Cryptosporidium* monitoring and meet the treatment technique requirements (including bin classification for filtered systems) of the federal LT2ESWTR. In a February 4, 2010 memorandum, U.S. EPA issued guidance to primacy states on an alternative *E. coli* trigger level to use to trigger *Cryptosporidium* monitoring while still providing public health protection. The State Water Board would propose to adopt U.S. EPA's alternative *E. coli* concentration of 100 *E. coli*/100 mL for both lake/reservoir and flow streams sources to formally specify the alternative *E. coli* concentration in regulation and to make this alternative available for small public water systems to use.

In the 2010 memorandum, the U.S. EPA estimated that there would be a reduction in federal LT2ESWTR treatment and *Cryptosporidium* monitoring costs to 24 small public water systems, but did not specify a dollar value for the cost savings. U.S. EPA also estimated that an additional 1,300 small public water systems would not have to conduct *Cryptosporidium* monitoring for an approximately \$17 million in monitoring cost savings. A cost savings breakdown by state was not provided.

Former subsections (f)(1)(I, J, K, L, and M) would be redesignated as subsections (f)(1)(J, K, L, M, and N), respectively, to accommodate the addition of subsection (F)(1)(I) discussed above to maintain reference to federal citations in numerical order.

Title 22, CCR, Division 4, Chapter 17, Article 2

Section 64652.5. Criteria for Avoiding Filtration.

The purpose of this section is to establish the criteria to avoid the necessity of providing filtration.

Subsection (h) would be revised for conformance with federal regulation (40 CFR 141.71(b)(5)), except that reference to the total coliform MCL would not be included because the total coliform MCL is from the obsolete federal TCR.

Section 64653. Filtration.

The purpose of this section is to establish the filtration technologies that are known to be capable of complying with the requirements of Chapter 17; the performance standards that must be met for each filtration technology specified; and a procedure for public water systems to propose and demonstrate the acceptability of an alternative filtration technology.

Table 64653 would be revised to correct punctuation and delete the criteria under which filtered water from a slow sand filtration (SSF) plant may exceed 1.0 NTU (Nephelometric Turbidity Unit). The California Department of Health Services specified the total coliform MCL as the criteria to ensure that any treatment plant allowed to exceed 1.0 NTU would be well operated and the filter bed in a mature condition (R-31-89 Surface Water Filtration and Disinfection Treatment). Since the total coliform MCL would no longer be in effect with the adoption of the state RTCR, the criteria would be obsolete. Replacing the total coliform MCL with the *E. coli* MCL would not be appropriate because the *E. coli* MCL specifies conditions concerning routine and repeat samples collected under the proposed RTCR and is not a numerical standard.

As of May 2019, there were 65 public water systems using SFF plants to treat approved surface water. Based on a May – July 2019 survey of State Water Board District Offices and Local Primacy Agencies, the State Water Board determined that exceeding 1.0 NTU in the filtered water and using the criteria occurs rarely. There was one incident in 2018 that an SFF plant had a high turbidity event and exceeded 1.0 NTU; the level was 1.4 NTU. The State Water Board believes deleting the criteria will not have a significant impact on systems using SSF plants.

Title 22, CCR, Division 4, Chapter 17, Article 3

Section 64656. Disinfection Monitoring.

The purpose of this section is to establish the monitoring requirements for determining compliance with the performance standards for a disinfection facility.

Subsection (c) would be revised to correct grammar and update reference to sections.

Subsection (d) would be revised for conformance with federal regulation (40 CFR 141.74).

ALTERNATIVES CONSIDERED

(Gov. Code, §11346.2(b)(4)(A) and (B))

Government Code section 11346.2(b)(4) requires that the State Water Board consider reasonable alternatives to the regulation and the agency's reasons for rejecting those alternatives.

The State Water Board considered the alternative of adopting only the minimum required elements of the federal RTCR, without the additional state-only requirements proposed here. This alternative was rejected because the proposed state-only requirements include related requirements for bacteriological monitoring and reporting, bacteriological sample siting plans, coliform density determination, determination of a significant rise in bacterial count, and seasonal system start-up procedures intended to provide additional public health protection, provide increased clarity, or eliminate requirements unnecessary to achieve the regulatory purpose.

The alternative considered would not provide the additional health protection, would not increase regulatory clarity, and would not eliminate existing unnecessary requirements, and so would not be as effective for the intended purpose. Additionally, this alternative would not achieve California's intent to establish a program that is more protective of public health than the minimum federal requirements, as specified in Health and Safety Code section 116270(f).

The State Water Board has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

PRESCRIPTIVE OR PERFORMANCE STANDARD

(Gov. Code, §§11340.1(a), 11346.2(b)(1), and 11346.2(b)(4)(A))

The proposed regulation would impose performance standards; it would not mandate the use of specific technologies or equipment.

ECONOMIC IMPACT ASSESSMENT

(Gov. Code, §11346.3(a)(3) and 11346.3(b))

Based on the cost calculations described earlier in this Initial Statement of Reasons, the documents and other evidence identified in the Documents Relied Upon listed herein, and presented in more detail in the Cost Estimating Methodology, with additional findings provided in Standard Form 399 and its attachment, the State Water Board has made an initial determination that the economic impact of the proposed regulations would be approximately \$4.2 million statewide over the course of 20 years, would not exceed \$50 million in a 12-month period, would not have a significant statewide adverse economic impact directly affecting businesses, would not affect the ability of California businesses to compete with businesses in other states, and that the regulations would not therefore be considered a Major Regulation as defined by CCR, Title 1, Division 3, Chapter 1, subsection 2000(g).

The State Water Board has further determined that the proposed regulation is not expected to:

- (A) create or eliminate jobs within California,
- (B) create new businesses or eliminate existing businesses within California, or
- (C) expand businesses currently doing business within California.

The proposed regulations are not expected to result in the creation or elimination of jobs in California because there would be no significant change in water system or regulatory personnel needed for compliance with the new requirements. The nature of the water industry is such that the adoption of this proposed regulation would not result in the creation or elimination of businesses. The impact of the proposed regulations would be insignificant. Since water system size is basically a function of the number of service connections (consumers) served, the proposed regulations should not have any effect on expansion. Certain categories of businesses, however, may experience an increased demand on their services as an indirect result of the regulation being implemented. Analytical laboratories may experience increased demand for services associated with additional bacteriological monitoring.

The proposed regulations would incorporate and build on the federal RTRC to enhance and protect public health and welfare through improved monitoring for the presence of microbial contamination in groundwater sources and the distribution system, investigation and response to microbial contamination, and ensured integrity of drinking water distribution systems, thereby facilitating increased protection of public health for California residents. ((Gov't Code §11346.3(b)(1)(D))

DETERMINATION OF NO SIGNIFICANT STATEWIDE ADVERSE ECONOMIC IMPACT ON BUSINESS

(Gov. Code, §11346.2(b)(5))

Based on the cost calculations described earlier in this Initial Statement of Reasons, the documents and other evidence identified in the Documents Relied Upon listed herein, and the additional cost and calculation details provided in the Cost Estimating Methodology, the proposed regulations will not have a significant, statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states.

The proposed regulations directly impact public water systems. Public water systems are utilities, not businesses or individuals. Pursuant to Government Code Chapter 3.5, Article 2, section 11342.610(b)(8), public water systems are specifically excluded from the definition of "small businesses". However, the State Water Board recognizes that a small number of the identified public water systems likely provide water solely to businesses, such as mobile home parks, restaurants, and food processors, and that public water systems often provide water to businesses. The State Water Board does not track or have a way of estimating the total number of businesses found within every public water system service area. The types of businesses expected to be indirectly

impacted consist of every type of business that requires potable drinking water for their customers, employees, or processes/operations. The State Water Board has determined that the proposed regulatory action would have no significant direct adverse economic impact on California business enterprises and individuals, including the ability of California businesses to compete with businesses in other states. Most of the proposed regulatory changes are to incorporate federal requirements applicable to all states.

No reporting is required of businesses, but reporting of monitoring results would continue to be required of public water systems. Increased reporting would include documentation of trained personnel performing sample collection, revision of bacteriological sample siting plan when requested by the State Water Board, potential significant rise in bacterial count investigation reports discussing sanitary defects and corrective actions, revised season system start-up procedure when requested by the State Water Board, public notification, and Level 1 and Level 2 assessment reports. These reports are necessary for the health, safety, and welfare of the people of the state to ensure compliance with the regulations. The State Water Board recognizes that monitoring and reporting costs would likely be passed on to a public water system's customers, which may include individuals and businesses. Therefore, even though the regulation does not directly affect businesses or individuals, those entities may be indirectly impacted by the regulation.

UNNECESSARY DUPLICATION WITH FEDERAL REGULATIONS

(Gov. Code, §11346.2(b)(6))

The State Water Board determined that the proposed regulations are neither duplicative of, nor in conflict with, any existing federal regulations. This regulation is primarily to adopt existing federal RTCR regulations for state enforcement. California has been granted primary enforcement responsibility ("primacy") by U.S. EPA for public water systems in California. Federal law and regulations require that California, in order to receive and maintain primacy, promulgate regulations that are no less stringent than the federal regulations. HSC section 116270(h) states that California's Safe Drinking Water Act shall be construed to ensure consistency with the requirements for states to obtain and maintain primary enforcement responsibility for public water systems under the federal Safe Drinking Water Act and acts amendatory thereof or supplementary thereto. HSC section 116350(b), paragraphs (2) and (3), establish the State Water Board's responsibility to enforce provisions of the federal Safe Drinking Water Act and regulations adopted pursuant thereto, and to adopt regulations to implement the California Safe Drinking Water Act. The State Water Board is proposing these regulations primarily to maintain primacy.

The proposed regulations also contain requirements beyond the federal regulations. These state-only requirements include related requirements for bacteriological monitoring and reporting, bacteriological sample siting plans, coliform density determination, determination of a significant rise in bacterial count, and season system start-up procedures intended to provide additional public health protection consistent

with HSC section 116365, provide increased clarity, or eliminate requirements unnecessary to achieve the regulatory purpose. The primary costs associated with the state-only requirements are due to the addition of requirements for bacteriological monitoring of groundwater (not Groundwater Under the Direct Influence of Surface Water (GWUDI)) sources that are treated with a primary or residual disinfectant on a continuous basis and for revising bacteriological sample siting plans to include the source sample sites. These costs are partially offset by cost decreases associated with no longer requiring a monthly summary of bacteriological monitoring results for public water systems collecting a single sample each month. The costs associated with the state-only requirements are justified by the public health benefit.

HSC section 116270(f) states California's legislative intent to improve upon the minimum requirements of the federal Safe Drinking Water Act Amendments of 1996 and to establish a program that is more protective of public health than the minimum federal requirements. HSC section 116350(b) states the responsibility to enforce provisions of the federal Safe Drinking Water Act and regulations adopted pursuant thereto and to adopt regulations to implement the California Safe Drinking Water Act. HSC section 116375 requires the State Water Board to adopt regulations for the monitoring of contaminants and reporting of results; requirements for operation and maintenance of public water systems determined necessary to distribute a reliable supply of pure, wholesome, potable, and healthy water; and requirements for notifying the public of delivered water quality. Therefore, differing regulations are not only authorized by law, but are in certain instances, required.

DOCUMENTS RELIED UPON

(Gov. Code, §11346.2(b)(3))

1. CDHS, 1991. Surface Water Filtration and Disinfection Treatment, Initial Statement of Reasons, R-31-89, pages 14 to 15, California Department of Health Services, operative June 5, 1991.
2. CDHS, 1992. Monitoring Regulations and Maximum Contaminant Level for Total Coliforms (Including Fecal Coliforms and *E. Coli*), Final Statement of Reasons, R-84-90, pages 9 to 10, California Department of Health Services, operative July 31, 1992.
3. CDHS, 1999. Drinking Water Source Assessment and Protection (DWAP) Program, California Department of Health Services, Division of Drinking Water and Environmental Management, January 1999, including Revisions 1 (dated April 1999) and 2 (dated January 2000).
4. CDPH, 2015. Memorandum – Federal Revised Total Coliform Rule (RTCR) Analytical Methods for Drinking Water, California Department of Public Health, Drinking Water and Radiation Laboratory Branch, October 1, 2015.
5. FedEx, 2017. FedEx Rates and Transit Times, 100 Miles (Richmond, CA to Auburn, CA), 1 Package, 1.0 lbs, 17" x 12" x 15", October 6, 2017.

6. FedEx, 2017. FedEx Rates and Transit Times, 100 Miles (Richmond, CA to Auburn, CA), 1 Package, 5.0 lbs, 17" x 12" x 15", October 6, 2017.
7. FedEx, 2017. FedEx Rates and Transit Times, 100 Miles (Richmond, CA to Auburn, CA), 1 Package, 10.0 lbs, 17" x 12" x 15", October 6, 2017.
8. FedEx, 2017. FedEx Rates and Transit Times, 100 Miles (Richmond, CA to Auburn, CA), 1 Package, 20.0 lbs, 17" x 12" x 15", October 6, 2017.
9. SWRCB, 2015. Survey of State Water Board District Offices and Local Primacy Agencies on Bacteriological Monitoring Frequency for Community Water Systems, Using Groundwater (not GWUDI), and Serving 25 – 1,000 Persons Per Month, State Water Resources Control Board, June 2015.¹
10. SWRCB, 2015 and 2017. Survey of State Water Board District Offices and Local Primacy Agencies on Raw Water Bacteriological Monitoring Practices, State Water Resources Control Board July 2015 (Initial Survey) and May 2017 (Follow-Up Survey).²
11. SWRCB, 2016 and 2017. Survey of State Water Board District Offices and Local Primacy Agencies on Bacteriological Monitoring Frequency for Nontransient-Noncommunity Water Systems, Using Groundwater (not GWUDI), and Serving 25 – 1,000 Persons Per Month, State Water Resources Control Board, August 2016 (Initial Survey) and March 2017 (Follow-Up Survey).³
12. SWRCB, 2017. Safe Drinking Water Information System database, August 14, 2017.
13. SWRCB, 2017. List of Environmental Laboratories Accredited Under Field of Testing 101 – Microbiology of Drinking Water, State Water Resources Control Board, Environmental Accreditation Laboratory Program, November 17, 2017.
14. SWRCB, 2017. Survey of Environmental Laboratories Accredited Under Field of Testing 101 for Federal Revised Total Coliform Rule Analytical Methods, State Water Resources Control Board, December 2017.⁴
15. SWRCB, 2020. Cost Estimating Methodology, Revised Total Coliform Rule, SBDDW-20-002, State Water Resources Control Board, February 27, 2020.
16. USBLS, 2017. Employment Cost Index, Series Index CIU20144000000001 (B), Total Compensation, Utilities, from 2007 to 2017, United States Bureau of Labor Statistics October 2, 2017.

¹ See Cost Estimating Methodology for survey results.

² See Cost Estimating Methodology for survey results.

³ See Cost Estimating Methodology for survey results.

⁴ See Cost Estimating Methodology for survey results.

17. USCB, 2010. American FactFinder – 2010 Census (DP-1, Profile of General Population and Housing Characteristics: 2010, 2010 Census Summary File 1, California), United States Census Bureau.
18. USEPA, 2010. Memorandum – OGWDW Review of Small System Monitoring Requirements Under the Long Term 2 Enhanced Surface Water Treatment Rule, United States Environmental Protection Agency, Office of Ground Water and Drinking Water, February 4, 2010.
19. USEPA, 2012. Economic Analysis for the Final Revised Total Coliform Rule, United States Environmental Protection Agency, Office of Water (4706M), EPA 815-R-12-004, Exhibit 7.6, September 2012.
20. USEPA, 2012. Technology and Cost Document for the Final Revised Total Coliform Rule, United States Environmental Protection Agency, Office of Water (4707M), EPA-815-R-12-005, December 2012.
21. USEPA, 2013. “National Primary Drinking Water Regulations: Revisions to the Total Coliform Rule,” 78 Fed. Reg. 10270 (February 13, 2013).
22. USEPA, 2014. “National Primary Drinking Water Regulations: Minor Corrections to the Revisions to the Total Coliform Rule,” 79 Fed. Reg. 10665 (February 26, 2014).
23. USEPA, 2014. The Revised Total Coliform Rule (RTCR) State Implementation Guidance – Interim Final, United States Environmental Protection Agency, Office of Water, EPA 816-R-14-004, page 137, Item A17, December 2014.
24. USEPA, 2019. National Primary Drinking Water Regulations, 40 C.F.R. §§ 141.23 through 141.41, 141.66 and 141.89 (2019).
25. USGSA, 2017. Privately Owned Vehicle Mileage Reimbursement Rate, Automobile (Effective January 1, 2017), United States General Services Administration, October 2, 2017.