Meeting Date: 08/25/21
Work Order Number: W9777.234
Staff: L. Ceballos-Osuna, P. Huber

Staff Report 37

PARTY:

California State Lands Commission

PROPOSED ACTION:

Consider approval of modifications to proposed amendments to sections 2291, 2292, 2293, 2294, 2295, and 2296 of the California Code of Regulations, Title 2, Division 3, Chapter 1, Article 4.7.

AREA, LAND TYPE, AND LOCATION:

Statewide

BACKGROUND:

The California Marine Invasive Species Program (MISP) is a multiagency program designed to reduce the risk of introducing nonindigenous species (NIS) into State waters from vessels 300 gross registered tons or greater that are capable of carrying ballast water. The MISP was established by the Ballast Water Management for Control of Nonindigenous Species Act of 1999 and reauthorized and expanded by the Marine Invasive Species Act of 2003. The purpose of the MISP is to move the State expeditiously toward elimination of the discharge of NIS into the waters of the state (Public Resources Code, § 71201, subd. (d)). The MISP is funded exclusively through fees assessed on vessels arriving at California ports and penalties assessed for violations of the Marine Invasive Species Act. Fees and penalties are deposited in the Marine Invasive Species Control Fund; the MISP uses no State General Fund dollars.

NIS are organisms that have been transported by humans to locations where they do not naturally or historically occur. Once established, NIS can have adverse economic, ecological, and public health consequences. To prevent species introductions in State waters, the Marine Invasive Species Act regulates ballast water and biofouling management, recordkeeping, and reporting for oceangoing vessels arriving at the State's ports.

The Commission is authorized by statute to implement and enforce ballast water discharge performance standards to limit the allowable concentration of living organisms in ballast water discharged in California waters. California's ballast water discharge performance standards were first codified in 2006. Those standards were based on recommendations from the majority of members of a technical advisory panel consisting of scientists, regulators, representatives from the shipping industry, and environmental organizations. California's standards were aspirational and set to be phased in over time to allow for the development of technologies that would enable vessels to meet them.

California's interim performance standards were slated to be implemented in January 2020. Prior to implementing the performance standards, the Commission prepared a report to the Legislature, in accordance with Public Resources Code section 71205.3, assessing the efficacy, availability, and environmental impacts of available ballast water treatment technologies (https://www.slc.ca.gov/wp-content/uploads/2019/01/2018.pdf). The report found that there were no available ballast water treatment technologies to enable implementation of the interim California ballast water discharge performance standards.

Based on recommendations in the report, the Legislature enacted AB 912 (Chapter 433, Statutes of 2019), which delayed implementation of the interim and final California ballast water discharge performance standards until January 1, 2030, and January 1, 2040, respectively. Further, AB 912 mandates that the Commission adopt regulations requiring vessels to comply with the federal ballast water discharge performance standards so that the Commission could enforce the federal standards until such time that technologies become available to enable vessels to meet the California interim standards. AB 912 also authorizes the Commission to sample vessels' ballast water and sediments for research purposes to help inform revisions to the discharge standards in the future.

PROJECT DESCRIPTION:

The purpose of the proposed rulemaking is to amend Article 4.7 of Title 2, Division 3, Chapter 1 of the California Code of Regulations (Article 4.7) to implement the provisions of AB 912. These proposed regulatory amendments would delay the implementation dates for the California interim and final ballast water discharge performance standards, incorporate the federal ballast water discharge standards and associated implementation schedule into California regulations, establish requirements for vessel owners and operators to monitor the functionality of ballast water treatment systems, and establish conditions for the collection of ballast water and sediment samples for research purposes and compliance assessment. The

regulated community for this requirement includes owners and operators of vessels 300 gross registered tons or greater that are capable of carrying ballast water.

SUMMARY OF PROPOSED MODIFICATIONS:

At its public meeting on April 27, 2021, the Commission adopted proposed amendments to Article 4.7 and directed staff to finalize the amendments (Item 42, April 27, 2021). Subsequently, staff received feedback from the Office of Administrative Law (OAL) for improvements to the proposed amendments. To further improve Article 4.7 and strengthen the rulemaking file, staff recommends the following substantial and sufficiently related modifications to the proposed regulations:

- Section 2291: removal of subdivision (c), which would have made the proposed amendments effective on January 1, 2022. Pursuant to Government Code section 11343.4, subdivision (a), the regulations will take effect on that date, making the originally proposed amendment unnecessary.

- Section 2292, subdivision (j): modifications to the definition of "Public Water System" to include the incorporation by reference of the following document: "Title 40 of the Code of Federal Regulations, section 141.2" (7-1-20 Edition) to improve clarity.

- Section 2293: removal of duplicated federal standards and implementation schedule. Because the standards and implementation schedule already appear in federal law, it is unnecessary and potentially confusing to list them in State regulations.

Staff also recommends additional minor changes, including improving consistency with the Marine Invasive Species Act and more clearly indicating regulatory changes with underline and strikeout. The full extent of the recommended modifications can be seen in Exhibit A. The document incorporated by reference can be viewed in Exhibit B.

SUMMARY OF NOTIFICATION AND RULEMAKING PROCESS:

Following the Commission's adoption of the proposed amendments to Article 4.7, staff submitted the proposed amendments and rulemaking file to OAL. OAL suggested various modifications to the proposed amendments, which would improve clarity and statutory consistency. Staff incorporated these suggestions and published the proposed modifications for a 15-day comment period on August 2,

2021, as required under Government Code section 11346.8; that comment period ended on August 17, 2021.

SUMMARIES OF AND RESPONSES TO PUBLIC COMMENTS

The Commission received 22 written comments from six commenters during this second Public Comment Period, as identified in Table 1.

Table 1. Comments received during Public Comment Period.

Comments	Name	Affiliation
1.1 - 1.7	Lisa Drake	SGS
2.1 - 2.4	Maureen Hayes	Cruise Lines International Association
3.1 - 3.2	Joseph Kramek	World Shipping Council
4.1 - 4.6	Arthur Mead	Crowley Maritime Corporation
5.1	John McLaurin	Pacific Merchant Shipping Association
6.1 – 6.2	Marcie Merksamer	EnviroManagement, Inc.

Comments received during the Public Comment Period that were not directed at the proposed modifications are summarized in Table 2 with a response in the following paragraph. Comments directed at the proposed modifications are summarized and responded to in Table 3.

Table 2. Summaries of comments received during the Public Comment Period not directed at the modifications.

Comment Number	Comment Summary
1.1	The commenter supports the requirement to collect and analyze samples to test the efficacy of the BWTS.
1.2	The commenter emphasizes that the only way to determine compliance with the performance standards is by direct sampling.
1.3	The commenter recommends removing the requirement in section 2294 to conduct indicative analyses prior to detailed analyses and proposes to use detailed analysis if possible.
1.4	The commenter suggests using units to the interim and final standards (sections 2293, subdivision (b)(1) and 2293, subdivision (c)).

1.5	The commenter states that the basis for the requirement in section 2297 to retain two years of testing records on board is unclear. The commenter suggests accepting test results from other states or administrators.
1.6	The commenter states that it is critical that the 3rd party service provider collecting and analyzing samples are both qualified and credible. The provider must have access to nearby facilities to conduct the testing.
1.7	The commenter suggests including a provision requiring quality assurance/quality control documentation for laboratory analyses of samples.
2.1	The commenter requested clarification about the definition of "California Waters."
2.2	The commenter asked whether the data collected for compliance assessment and for research will be kept confidential and anonymous.
2.3	Section 2294 requires that the Commission be granted access to sampling ports to collect ballast water samples for compliance purposes, unless collection would be unsafe. The commenter requested that language be added to Section 2294, subdivision (a)(2) to recognize operational reasons that would prevent collection of ballast water for compliance purposes, in addition to safety concerns.
2.4	The commenter suggested including specific references for the methodologies to be used to collect and analyze ballast water samples for compliance assessment.
3.1 and 3.2	The commenter requested to schedule a phone call to clarify the timeline for compliance and recordkeeping requirements.

The comments summarized in Table 2 were not directed at the proposed modifications. Instead, these comments were directed at changes that were the subject of the original comment period, November 20, 2020 through January 19, 2021. Consequently, none of these comments require a response, pursuant to Government Code section 11346.8.

Table 3. Summaries and responses to comments received during the Public Comment Period that are relevant to the modifications.

Comment Number	Comment summary	Response
4.1	The commenter requests to keep section 2291, subdivision (c), which would establish an effective date of January 1, 2022.	Pursuant to Government Code section 11343.4, subdivision (a), the regulations, if approved, will take effect on January 1, 2022, anyway, making section 2291, subdivision (c) unnecessary. No change has been made in response to this comment.
4.2	The commenter states that the inclusion of Code of the Federal Regulations, title 40, section 141.2 (in section 2292, subdivision (j)) leaves vessels at risk of being unable to load public water systems as ballast water if federal law changes.	Because Code of Federal Regulations (CFR), title 40, section 141.2 (7-1-20 Edition) is incorporated by reference, a change in the federal law would not affect the application of the proposed regulations. Thus, a change in federal law would not necessarily require an amendment to Article 4.7. No change has been made in response to this comment.
4.3	The commenter requests to maintain the inclusion of Health Canada's "Guidelines on Canadian Drinking Water Quality" in the definition of "Public Water System" (in section 2292, subdivision (j)) to allow for the use of water sourced from Canadian Public Water Systems as ballast water	The proposed definition, which incorporates CFR, title 40, section 141.2 (7-1-20 Edition), is broad enough to include Canadian drinking water. Thus, including reference to Health Canada's "Guidelines on Canadian Drinking Water Quality" is unnecessary. No change has been made in response to this comment.
4.4	Regarding section 2292, subdivision (k), the commenter requested that the Commission consider incorporating by reference the federal definition of "Sample Port" from CFR, title 46, section 162.060-3,	The proposed definition in subdivision (k) is the best option to implement the regulations as a whole. Thus, if the federal definition changes, the Commission may not want to adopt the new federal definition. Moreover, the proposed definition is short enough to codify in the CCR. It would not "be

	including any amendments to this section.	cumbersome, unduly expensive, or otherwise impractical to publish it" as a subdivision in the CCR. (Cal. Code Regs., title 1, § 20, subd. (c)(1).). No change has been made in response to this comment.
4.5	The commenter requested clarification regarding the removal of "master" and "or person in charge" from section 2293.	Some sections in the MISA refer to the "master" and "person in charge" of vessels. However, the MISA section requiring the Commission to complete these regulations excludes these terms. (Pub. Resources Code, § 71205.3.) Thus, these terms were excluded from the proposed regulations to maintain statutory consistency. No change has been made in response to this comment.
4.6	The commenter requests rearrangement and modification of the language in section 2294 to clarify that the directive "shall" is used when referring to samples collected for compliance assessment purposes and that the directive "may" is used when referring to samples collected for research purposes.	Although Public Resources Code section 71213, subdivision (b) states that the Commission "may" take research samples, the Commission chooses to exercise its discretion to ensure that it "shall" take such samples. This is because a stronger commitment to research is necessary to measure the success of NIS prevention methods and better achieve the mandate of the MISA: "to move the state expeditiously toward elimination of the discharge of nonindigenous species into the waters of the state or into waters that may impact the waters of the state" (Pub. Resources Code, § 71201, subd. (d)(1)). No change has been made in response to this comment.
5.1	The commenter supports the comments submitted by Crowley Maritime Corporation (Comments 4.1 to 4.7).	The Commission staff notes the support for the letter submitted by Crowley Maritime Corporation. No change has been made in response to this comment.

6.1	The commenter is questioning if the interpretation of the definition of "Public Water System" in section 2292, subdivision (j) implies that the water can be sourced at any country (not limited to U.S. or Canada).	The proposed modification is more inclusive and would allow for water sourced from a Public Water System from any country to be used as ballast water if it meets the requirements of the federal law incorporated by reference. See also response for comment 4.3 above. No change has been made in response to this comment.
6.2	The commenter asks to consider removing throughout the text the use of "master" and "person in charge" to be consistent with the changes proposed in section 2293.	See response to comment 4.5 above. No change has been made in response to this comment.

STAFF ANALYSIS AND RECOMMENDATION:

AUTHORITY:

Public Resources Code sections 71201.7, 71204.3, 71204.5, and 71205.3.

PUBLIC TRUST AND STATE'S BEST INTERESTS:

The proposed modifications will further the interests of the Public Trust by clarifying the adopted amendments, thereby providing greater protection to Public Trust resources. The improved clarity will help ensure that the regulated community can easily understand and comply with the proposed regulatory changes.

The proposed modifications satisfy the purpose of the Marine Invasive Species Act: "to move the State expeditiously toward elimination of the discharge of nonindigenous species into the waters of the State." (Pub. Resources Code, § 71201, subd. (d).) Thus, staff believes that adoption of the proposed modifications would further enhance and protect Public Trust resources and is in the State's best interests.

CONCLUSION:

For these reasons, staff believes that the proposed amendments would benefit existing Public Trust uses and resources and are in the best interests of the State.

OTHER PERTINENT INFORMATION:

1. Approval or denial of the proposed modifications is a discretionary action by the Commission.

2. The proposed modifications interpret, implement, and make specific the provisions of Public Resources Code sections 71201.7, 71202, 71204.3, 71204.5, and 71205.3.

3. No alternatives would be more effective in carrying out the purposes for which the regulations are proposed, would be as effective as and less burdensome, or would more greatly lessen any adverse economic impact on small businesses or affected private persons, than the proposed amendments.

4. The proposed regulatory action is not a major regulation as defined by Government Code section 11342.548.

5. This action is consistent with the "Meeting Evolving Public Trust Needs" Strategic Focus Area of the Commission's 2021-2025 Strategic Plan.

6. Staff recommends that the Commission find that this activity is exempt from the requirements of the California Environmental Quality Act (CEQA) as a categorically exempt project. The project is exempt under Class 8, Actions by Regulatory Agencies for Protection of the Environment; California Code of Regulations, title 14, section 15308.

   Authority: Public Resources Code section 21084 and California Code of Regulations, title 14, section 15300.

EXHIBITS:

A. Text of the proposed regulations
B. Title 40 of the Code of Federal Regulations, section 141.2 (7-1-20 Edition), incorporated by reference

RECOMMENDED ACTION:

It is recommended that the Commission:

CEQA FINDING:

Find that the activity is exempt from the requirements of CEQA pursuant to California Code of Regulations, title 14, section 15061 as a categorically exempt project, Class 8, Actions by Regulatory Agencies for Protection of the Environment; California Code of Regulations, title 14, section 15308.

ALTERNATIVES FINDING:

Find that no alternatives would be more effective in carrying out the purposes for which the regulations are proposed, would be as effective as and less burdensome, or would more greatly lessen any adverse economic impact on small businesses or affected private persons, than the proposed regulations.

PUBLIC TRUST AND STATE'S BEST INTERESTS:

Find that adoption of the proposed regulations, or regulations substantially in the same form, will not substantially interfere with the public rights to navigation or the Public Trust needs and values at this time; is consistent with the common law Public Trust Doctrine; and is in the best interests of the State.

AUTHORIZATION:

1. Approve the proposed modifications of sections 2291, 2292, 2293, 2294, 2295, and 2296 of the California Code of Regulations, Title 2, Division 3, Chapter 1, Article 4.7, substantially in the form as set forth in the attached Exhibits A and B.

2. Authorize staff to make nonsubstantive modifications to the proposed amendments in response to recommendations by the Office of Administrative Law.

3. Authorize staff to take those actions that are necessary and appropriate to comply with provisions of the Government Code regarding the lawful adoption and publication of the regulations and to ensure that the regulations become effective.

4. Authorize staff to take those actions that are necessary and appropriate to implement the regulations at such time as they become effective.

Title 2. ADMINISTRATION
DIVISION 3. STATE PROPERTY OPERATIONS
CHAPTER 1. STATE LANDS COMMISSION
ARTICLE 4.7 PERFORMANCE STANDARDS AND COMPLIANCE ASSESSMENT FOR THE DISCHARGE OF BALLAST WATER FOR VESSELS OPERATING IN CALIFORNIA WATERS

Staff has illustrated changes to the original text in the following manner: proposed language is underlined; deletions from the original text are shown in strikeout using a "-". Post-notice modifications are shown in double underline for additions and double strikeout for deletions.

Section 2291. Purpose, Applicability, and Date of Implementation.

(a) The purpose of the regulations in Title 2, Division 3, Chapter 1, Article 4.7 of the California Code of Regulations is to move the state expeditiously toward elimination of the discharge of nonindigenous species into the waters of the state or into waters that may impact the waters of the state, based on the best available technology economically achievable.

(b) The provisions of Article 4.7 apply to all vessels, 300 gross registered tons or more, carrying, or capable of carrying ~~that discharge~~ ballast water, ~~in California waters~~ except those that are exempt under Section 71202, Public Resources Code.

~~(c) The provisions of Article 4.7 are effective on January 1, 2022.~~

Note: Authority cited: Sections 71201.7, 71202 and 71205.3, Public Resources Code. Reference: Sections 71201, 71201.7, 71202 and 71205.3, Public Resources Code.

Section 2292. Definitions.

Unless the context otherwise requires, the following definitions shall govern the construction of this Article:

(a) "Ballast Water Capacity" means the total volumetric capacity of any tanks, spaces, or compartments on a vessel used for carrying, loading or discharging ballast water, including any multi-use tank, space or compartment designed to allow carriage of ballast water.

(b) "Ballast Water Sample" means a unit of ballast water that may be collected ~~and assessed~~ for compliance assessment or research ~~verification~~ purposes.

(c) "Ballast Water Treatment System," also referred to as a "Ballast Water Management System," means any system that processes ballast water to remove, kill, or render nonviable organisms in ballast water prior to discharge or to avoid the uptake or discharge of organisms.

~~(c) "Board" means the State Water Resources Control Board~~

(d) "Colony Forming Unit" means a measure of viable bacteria in a sample. ~~bacterial numbers.~~

(e) "Commission" means the California State Lands Commission.

~~(f) "Constructed" means a stage of vessel construction where:~~

~~(1) the keel is laid; or~~

~~(2) construction identifiable with a specific vessel begins; or~~

~~(3) assembly of the vessel has commenced comprising at least 50 tonnes or 1 percent of the estimated mass of all structural material, whichever is less; or~~

~~(4) the vessel undergoes a major conversion.~~

~~(g) "Isokinetic Sampling Facility" means a sampling apparatus in which the velocity (or speed) of the sample stream does not change from the pipe being sampled to the sample pipe itself.~~

~~(h) "Isokinetic Diameter" assumes a circular main flow pipe and circular sampling pipe of which the diameter is designed to maintain the fluid velocity from the main flow to the sample flow.~~

~~(i) "Major Conversion" means a conversion of a vessel;~~

~~(1) which changes its ballast water carrying capacity by 15 percent or greater; or~~

~~(2) which changes the vessel type; or~~

~~(3) which, in the opinion of the Commission, is projected to prolong its life by ten years or more; or~~

~~(4) which results in modifications to its ballast water system other than component replacement-in-kind. Conversion of a vessel to meet the provisions of this Article shall not be deemed to constitute a major conversion for the purposes of this Section.~~

~~(j) "Sampling Facilities" means the equipment installed to take the ballast water sample.~~

(f) "Detailed Analysis" means a direct measurement of the organism's concentration in a representative sample to assess compliance with the discharge standards.

(g) "Functionality Monitoring" means monitoring of the applicable operational performance parameters to verify that the ballast water treatment system is operating according to the manufacturers' specifications.

(h) "Indicative Analysis" means a rapid preliminary assessment of the organism concentration in a representative sample of the ballast water volume of interest using biological, chemical, or physical parameters.

(i) "mL" means milliliter.

(j) "Public Water System" ~~means a U.S. system for the provision of water to the public for human consumption, as~~ is defined the same as in Title 40 of the Code of Federal Regulations, section 141.2 (7-1-20 Edition), which is hereby incorporated by reference. ~~and subject to the requirements of 40 CFR parts 141 and 143, or a Canadian drinking water system that meets Health Canada's "Guidelines on Canadian Drinking Water Quality."~~

(k) "Sampling ~~Point~~Port" means the equipment installed in the ballast water piping through which representative samples of the ballast water being discharged are extracted~~that place in the ballast water piping where the sample is taken~~.

(l) "System Design Limitations" or "SDLs" are the physical or operational parameters important to the proper operation of the ballast water treatment system and designed to achieve the discharge performance standards (for example, minimum and maximum flow rates, time between ballast uptake and discharge, water quality limitations, operating environmental conditions, filter pressure, or ultraviolet transmittance).

~~(l)~~ (m) "Vessel" ~~means a vessel of 300 gross registered tons or more.~~ has the same meaning as in Section 71200, Public Resources Code, subdivision (r).

Note: Authority cited: Sections 71201.7 and 71205.3, Public Resources Code. Reference: Sections 71200, 71201.7, 71204, 71206 and 71205.3, Public Resources Code.

Section 2293. ~~Interim~~ Performance Standards for Ballast Water Discharges.

The provisions under this Section apply only to vessels that discharge ballast water in California waters.

(a) Federal Performance Standards for Ballast Water Discharges.

(1) Notwithstanding section 2296, the ~~master,~~ owner~~,~~ or operator~~, or person in charge~~ of a vessel shall not discharge ballast water in California waters unless the ~~following~~ ballast water discharge performance standards~~, which are~~ set forth in Section 151.2030(a) of Title 33 of the Code of Federal Regulations, or as that regulation may be amended, are met.~~:~~

~~(A) For organisms greater than or equal to 50 micrometers in minimum dimension: discharge must include fewer than 10 organisms per cubic meter of ballast water.~~

~~(B) For organisms less than 50 micrometers and greater than or equal to 10 micrometers: discharge must include fewer than 10 organisms per mL of ballast water.~~

~~(C) Indicator microorganisms must not exceed:~~

~~(1) For toxicogenic *Vibrio cholerae* (serotypes O1 and O139): a concentration of less than 1 colony forming unit (cfu) per 100 mL.~~
~~(2) For *Escherichia coli*: a concentration of fewer than 250 cfu per 100 mL.~~
~~(3) For intestinal enterococci: a concentration of fewer than 100 cfu per 100 mL.~~

(2) The performance standards in Section 2293, subdivision (a)(1), must be met according to the ~~following~~ implementation schedule in Section 151.2035(b) of Title 33 of the Code of Federal Regulations, or as that regulation may be amended, unless either of the follow conditions are met:

(A) ~~t~~The ~~master,~~ owner~~,~~ or operator~~, or person in charge~~ of a vessel has been granted an extension to the vessel's compliance date by the United States Coast Guard pursuant to Section 151.2036 of Title 33 of the Code of Federal Regulations, or as that regulation may be amended; or ~~unless~~

(B) ~~t~~The vessel is using water from a Public Water System as ballast water pursuant to Section 2296.

	Vessel's ballast water capacity in cubic meters (m^3)	Date constructed	Vessel's compliance date
New vessels	All	On or after December 1, 2013	On delivery
Existing vessels	Less than 1,500 m^3	Before December 1, 2013	First scheduled drydocking after January 1, 2016
	1,500-5,000 m^3	Before December 1, 2013	First scheduled drydocking after January 1, 2014
	Greater than 5,000 m^3	Before December 1, 2013	First scheduled drydocking after January 1, 2016

(b) Interim California Performance Standards for Ballast Water Discharges.

Subject to the Implementation Schedule in Section 2294, before discharging ballast water in waters subject to the jurisdiction of California, No later than January 1, 2030, the master, owner, or operator, or person in charge of a vessel to which this section applies shall conduct ballast water treatment so must comply with the interim California performance standards for the discharge of ballast water. The interim performance standards for the discharge of ballast water in California require that ballast water discharged will contain:

(a) (1) No detectable living organisms that are greater than or equal to 50 micrometers in minimum dimension;

(b) (2) Less Fewer than 0.01 living organisms per milliliter mL that are less than 50 micrometers in minimum dimension and greater than or equal to more than 10 micrometers in minimum dimension;

(c) (3) For living organisms that are less than 10 micrometers in minimum dimension:

(1) (A) lessfewer than 1,000 bacteria per 100 milliliter mL;
(2) (B) lessfewer than 10,000 viruses per 100 milliliter mL;
(3) (C) concentrations of microbes that are less than:
(A) 1. 126 colony forming units per 100 milliliters mL of *Escherichia coli*;

~~(B)~~ 2. 33 colony forming units per 100 ~~milliliters~~ mL of Intestinal enterococci~~.~~; and

~~(C)~~ 3. 1 colony forming unit per 100 ~~milliliters~~ mL or 1 colony forming unit per gram of wet weight of zoological samples of Toxicogenic *Vibrio cholerae* (serotypes ~~0~~O1 and ~~0~~O139).

(c) Final California Performance Standards for Ballast Water Discharges.

No later than January 1, 2040, the ~~master,~~ owner~~,~~ or operator~~, or person in charge~~ of a vessel to which this Article applies, must implement and meet the final performance standards for the discharge of ballast water. The final performance standards for the discharge of ballast water in California waters require that the ballast water discharged must have zero detectable living organisms for all organism size classes.

Note: Authority cited: Sections 71201.7 and 71205.3, Public Resources Code. Reference: Sections 71201.7 and 71205.3, Public Resources Code.

~~**Section 2294. Implementation Schedule for Interim Performance Standards for Ballast Water Discharges.**~~

~~Sections 2293 and 2297 apply to vessels in accordance with the following schedule:~~

~~(a) Beginning January 1, 2010, for vessels constructed on or after that date with a ballast water capacity of less than or equal to 5,000 metric tons.~~

~~(b) Beginning January 1, 2012, for vessels constructed on or after that date with a ballast water capacity greater than 5,000 metric tons.~~

~~(c) Beginning January 1, 2014, for vessels constructed before January 1, 2010, with a ballast water capacity of 1,500 metric tons or more but not more than 5,000 metric tons.~~

~~(d) Beginning January 1, 2016, for vessels constructed before January 1, 2010, with a ballast water capacity of less than 1,500 metric tons, and for vessels constructed before January 1, 2012, with a ballast water capacity greater than 5,000 metric tons.~~

~~Note: Authority cited: Sections 71201.7 and 71205.3, Public Resources Code. Reference: Sections 71201.7 and 71205.3, Public Resources Code.~~

~~**Section 2295. Implementation Schedule for Final Performance Standards for Ballast Water Discharges.**~~

~~Beginning January 1, 2020, before discharging ballast water in waters subject to the jurisdiction of California, the master, owner, operator, or person in charge of a vessel to which this section applies shall conduct ballast water treatment so that ballast water discharged will contain zero detectable living organisms for all organism size classes.~~

~~Note: Authority cited: Sections 71201.7 and 71205.3, Public Resources Code. Reference: Section 71201.7 and 71205.3, Public Resources Code.~~

~~Section 2296. Delay of Application for Vessels Participating in Promising Technology Evaluations.~~

~~If an owner or operator of a vessel applies to install an experimental ballast water treatment system, and the Commission approves that application on or before January 1, 2008, the Commission shall deem the system to be in compliance with any future treatment standard adopted, for a period not to exceed five years from the date that the interim performance standards would apply to that vessel.~~

~~(a) The Commission may rescind its approval of the system at any time if the Commission, in consultation with the Board and the United States Coast Guard, and after an opportunity for administrative appeal with the executive officer of the Commission, determines that the system has not been operated in accordance with conditions in the agreed upon application package, or that there exists a serious deficiency in performance, human safety, or environmental soundness relative to anticipated performance, or that the applicant has failed to provide the Commission with required test results and evaluations.~~

~~Note: Authority cited: Sections 71201.7, 71204.7 and 71205.3, Public Resources Code. Reference: Sections 71201.7, 71204.7 and 71205, Public Resources Code.~~

Section ~~2297~~ 2294. Collection and Analysis of Ballast Water and Sediment Samples.

~~Subject to the implementation schedule in Section 2294 and taking into account the following considerations, a vessel to which this section applies shall install sampling facilities to enable collection of ballast water samples in order to assess compliance with Section 2293.~~

~~(a) Technical specifications for design of in-line sampling facilities:~~

~~(1) The sampling facility shall not damage and/or induce substantial incidental mortality to organisms to be collected in ballast water.~~

(2) The isokinetic sample port diameter shall be determined according to the equation:

$$D_{iso} = D_m \sqrt{\frac{Q_{iso}}{Q_m}}$$

where D_{iso} and D_m are the diameters of the sample port opening and the main flow in the discharge line, respectively; and Q_{iso} and Q_m represent the respective volumetric flow rates through the two pipes.

Sample port size shall be based on the combination of maximum sample flow rate and minimum ballast flow rate that yields the largest isokinetic diameter.

(3) The opening of the sampling pipe shall be chamfered to provide a smooth and gradual transition between the inside and outside pipe diameters.

(4) The length of the straight sample pipe facing into the flow can vary, but shall not be less than one diameter of the sampling pipe. The sampling port shall be oriented such that the opening is facing upstream and its lead length is parallel to the direction of flow and concentric to the discharge pipe, which may require sampling pipes to be “L” shaped with an upstream facing leg if installed along a straight section of discharge pipe.

(5) The design of the sample facility shall allow for the servicing and/or cleaning of the sampling facility without impacting the safety of the vessel. The sampling pipe should be retrievable either manually or mechanically, or it should be in a system which can be isolated.

(6) The sample facility and all associated parts of the sampler that come into contact or near proximity with the ballast piping shall be constructed of galvanically compatible materials and generally corrosion resistant.

(7) When control of the sample flow rate is required, appropriate valves shall be used that do not result in organism mortality due to sharp velocity transitions. Ball, gate or butterfly valves shall not be used.

(8) If a pump must be used to sample the discharge side of a tank, an appropriate sampling pump shall be used to minimize organism mortality.

(9) The Master of the vessel must maintain positive control (e.g. tamper evident lockout seals) over the ballast water sampling facility when compliance verification or scientific sampling is not being conducted.

~~(b) Technical specifications for installation of a sample point in the ballast water discharge line:~~

~~(1) The sampling point shall be safely accessible to Commission staff, and shall not be in a confined space.~~

~~(2) The sampling point shall be installed in a straight part of the discharge line, downstream of the last treatment process, as near to the ballast water overboard discharge as practicable.~~

~~(3) The sample shall be removed from the main pipeline at a location where the flowing stream at the sample point is representative of the contents of the stream. The sample facility should be placed at a point where the flow in the main pipe is fully mixed and fully developed.~~

~~(4) As many sample points shall be provided as necessary to draw a ballast water sample during typical deballasting of the vessel.~~

~~(5) In cases where the ballast system design does not enable sampling from the discharge line, other arrangements for a sampling point may be made on a vessel-specific basis with prior approval of Commission staff.~~

~~(c) Existing sampling facilities~~

~~Vessels may use existing sampling facilities, installed prior to January 1, 2010, to fulfill the requirements of this Section with prior approval of Commission staff.~~

In accordance with the inspection mandate under Public Resources Code section 71206, subdivision (a), ~~T~~the Commission ~~may~~shall collect and analyze ballast water and sediment samples from vessels that discharge in California waters, in accordance with the following provisions:

(a) Collection and Analysis of Samples for Compliance Assessment

(1) The Commission ~~may~~shall collect ballast water samples to assess compliance of ballast water discharges with the performance standards set forth in Section 2293.

(2) To facilitate the Commission's collection of ballast water samples for compliance assessment, the Commission ~~must~~shall be provided access to all sampling ports unless access is restricted due to safety concerns.

(3) Compliance assessment ~~may~~shall be performed in two steps:

(A) An indicative analysis of a ballast water discharge sample ~~may~~shall be performed prior to detailed analysis to establish whether the ballast water discharge is potentially non-compliant with the applicable ballast water discharge performance standards.

(B) If non-compliance is suspected, a detailed analysis ~~may~~shall be performed to determine if the ballast water meets the applicable ballast water discharge performance standards.

(4) All methods used to analyze any ballast water discharge sample for compliance with the performance standards in Section 2293 shall follow scientifically reliable and verifiable quality assurance and quality control procedures.

~~(a)~~ (b) Collection and Analysis of Samples for Research Purposes

(1) The Commission ~~may~~shall collect and analyze ballast water and sediment samples for research purposes.

(2) The Commission ~~must~~shall be given access to ballast water tanks and sampling ports when feasible.

Note: Authority cited: Sections 71201.7, 71205.3 ~~and 71206~~, Public Resources Code. Reference: Sections ~~71201.7,~~ 71204, 71205.3, ~~and~~ 71206 and 71213, Public Resources Code.

Section 2295. Monitoring, Calibration, and Functionality of Shipboard Ballast Water Treatment Systems.

The master, owner, operator, or person in charge of a vessel using a ballast water treatment system approved by the United States Coast Guard or designated as an "Alternate Management System" by the United States Coast Guard to comply with the performance standards in Section 2293 shall not discharge ballast water from a vessel in California waters unless:

(a) The system must be operated in accordance with the System Design Limitations stipulated by the manufacturer or set forth in the United States Coast Guard approval certification or the "Alternate Management System" acceptance letter.

(b) The operational parameters of the equipment have been monitored no less frequently than is recommended by the manufacturer.

(c) All the applicable sensors and other ballast water treatment system control equipment have been calibrated no less frequently than recommended by the manufacturer.

Note: Authority cited: Sections 71201.7, 71204.3 and 71204.5, Public Resources Code. Reference: Sections 71204.3 and 71204.5, Public Resources Code.

Section 2296. Alternative Ballast Water Management Methods.

To comply with the performance standards in Section 2293, the master, owner, operator, or person in charge of a vessel may use water from a Public Water System as an alternative ballast water management method if they:

(a) Exclusively use water from a Public Water System for ballast.
(b) Maintain a record of which Public Water System the water was received from, including any receipt, invoice, or other documentation from the Public Water System indicating that water came from that system.
(c) Either clean the ballast tanks (including removing all residual sediments) and supply lines to the tanks prior to using Public Water System water or have never previously introduced ambient water.

Note: Authority cited: Sections 71201.7, 71204.3, 71204.5 and 71205.3, Public Resources Code. Reference: Sections 71204.3, 71204.5 and 71205.3, Public Resources Code.

Section 2297. Recordkeeping.

In addition to the information required by Public Resources Code section 71205, subdivision (h), the master, owner, operator, or person in charge of a vessel shall maintain on board the vessel all the following documentation to demonstrate the proper functionality of the vessel's ballast water treatment system:

(a) Printed or electronic records of applicable functionality monitoring, including calibration records, shall be kept on board the vessel for a minimum of two (2) years.
(b) Printed or electronic records of any biological monitoring performed, from at least the past two (2) years, including dates of the monitoring, the individuals or entities who performed the tests, and methods used.
(c) The ballast water treatment system type approval certificate or "Alternate Management System" letter issued by the United States Coast Guard, as applicable.
(d) Procedures in case of equipment malfunction.

Note: Authority cited: Section 71201.7, Public Resources Code.
Reference: Sections 71205 and 71206, Public Resources Code.

AUTHORITY: 42 U.S.C. 300f, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–4, 300j–9, and 300j–11.

SOURCE: 40 FR 59570, Dec. 24, 1975, unless otherwise noted.

EDITORIAL NOTE: Nomenclature changes to part 141 appear at 69 FR 18803, Apr. 9, 2004.

NOTE: For community water systems serving 75,000 or more persons, monitoring must begin 1 year following promulation and the effective date of the MCL is 2 years following promulgation. For community water systems serving 10,000 to 75,000 persons, monitoring must begin within 3 years from the date of promulgation and the effective date of the MCL is 4 years from the date of promulgation. Effective immediately, systems that plan to make significant modifications to their treatment processes for the purpose of complying with the TTHM MCL are required to seek and obtain State approval of their treatment modification plans. This note affects §§141.2, 141.6, 141.12, 141.24 and 141.30. For additional information see 44 FR 68641, Nov. 29, 1979.

Subpart A—General

§ 141.1 Applicability.

This part establishes primary drinking water regulations pursuant to section 1412 of the Public Health Service Act, as amended by the Safe Drinking Water Act (Pub. L. 93–523); and related regulations applicable to public water systems.

§ 141.2 Definitions.

As used in this part, the term:

Act means the Public Health Service Act, as amended by the Safe Drinking Water Act, Public Law 93–523.

Action level, is the concentration of lead or copper in water specified in §141.80(c) which determines, in some cases, the treatment requirements contained in subpart I of this part that a water system is required to complete.

Bag filters are pressure-driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed of a non-rigid, fabric filtration media housed in a pressure vessel in which the direction of flow is from the inside of the bag to outside.

Bank filtration is a water treatment process that uses a well to recover surface water that has naturally infiltrated into ground water through a river bed or bank(s). Infiltration is typically enhanced by the hydraulic gradient imposed by a nearby pumping water supply or other well(s).

Best available technology or *BAT* means the best technology, treatment techniques, or other means which the Administrator finds, after examination for efficacy under field conditions and not solely under laboratory conditions, are available (taking cost into consideration). For the purposes of setting MCLs for synthetic organic chemicals, any BAT must be at least as effective as granular activated carbon.

Cartridge filters are pressure-driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed as rigid or semi-rigid, self-supporting filter elements housed in pressure vessels in which flow is from the outside of the cartridge to the inside.

Clean compliance history is, for the purposes of subpart Y, a record of no MCL violations under §141.63; no monitoring violations under §141.21 or subpart Y; and no coliform treatment technique trigger exceedances or treatment technique violations under subpart Y.

Coagulation means a process using coagulant chemicals and mixing by which colloidal and suspended materials are

destabilized and agglomerated into flocs.

Combined distribution system is the interconnected distribution system consisting of the distribution systems of wholesale systems and of the consecutive systems that receive finished water.

Community water system means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

Compliance cycle means the nine-year calendar year cycle during which public water systems must monitor. Each compliance cycle consists of three three-year compliance periods. The first calendar year cycle begins January 1, 1993 and ends December 31, 2001; the second begins January 1, 2002 and ends December 31, 2010; the third begins January 1, 2011 and ends December 31, 2019.

Compliance period means a three-year calendar year period within a compliance cycle. Each compliance cycle has three three-year compliance periods. Within the first compliance cycle, the first compliance period runs from January 1, 1993 to December 31, 1995; the second from January 1, 1996 to December 31, 1998; the third from January 1, 1999 to December 31, 2001.

Comprehensive performance evaluation (CPE) is a thorough review and analysis of a treatment plant's performance-based capabilities and associated administrative, operation and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant's capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements. For purpose of compliance with subparts P and T of this part, the comprehensive performance evaluation must consist of at least the following components: Assessment of plant performance; evaluation of major unit processes; identification and prioritization of performance limiting factors; assessment of the applicability of comprehensive technical assistance; and preparation of a CPE report.

Confluent growth means a continuous bacterial growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete.

Consecutive system is a public water system that receives some or all of its finished water from one or more wholesale systems. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.

Contaminant means any physical, chemical, biological, or radiological substance or matter in water.

Conventional filtration treatment means a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal.

Corrosion inhibitor means a substance capable of reducing the corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.

CT or *CTcalc* is the product of ''residual disinfectant concentration'' (C) in mg/1 determined before or at the first customer, and the corresponding ''disinfectant contact time'' (T) in minutes, *i.e.*, ''C'' × ''T''. If a public water system applies disinfectants at more than one point prior to the first customer, it must determine the CT of each disinfectant sequence before or at the first customer to determine the total percent inactivation or ''total inactivation ratio.'' In determining the total inactivation ratio, the public water system must determine the residual disinfectant concentration of each disinfection sequence and corresponding contact time before any subsequent disinfection application point(s). ''$CT_{99.9}$'' is the CT value required for 99.9 percent (3–log) inactivation of *Giardia lamblia* cysts. $CT_{99.9}$ for a variety of disinfectants and conditions appear in tables 1.1–1.6, 2.1, and 3.1 of §141.74(b)(3).

$$\frac{CTcalc}{CT_{99.9}}$$

is the inactivation ratio. The sum of the inactivation ratios, or total inactivation ratio shown as

$$\sum \frac{(\text{CTcalc})}{(\text{CT}_{99.9})}$$

is calculated by adding together the inactivation ratio for each disinfection sequence. A total inactivation ratio equal to or greater than 1.0 is assumed to provide a 3-log inactivation of *Giardia lamblia* cysts.

Diatomaceous earth filtration means a process resulting in substantial particulate removal in which (1) a precoat cake of diatomaceous earth filter media is deposited on a support membrance (septum), and (2) while the water is filtered by passing through the cake on the septum, additional filter media known as body feed is continuously added to the feed water to maintain the permeability of the filter cake.

Direct filtration means a series of processes including coagulation and filtration but excluding sedimentation resulting in substantial particulate removal.

Disinfectant means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines, and ozone added to water in any part of the treatment or distribution process, that is intended to kill or inactivate pathogenic microorganisms.

Disinfectant contact time (''T'' in CT calculations) means the time in minutes that it takes for water to move from the point of disinfectant application or the previous point of disinfectant residual measurement to a point before or at the point where residual disinfectant concentration (''C'') is measured. Where only one ''C'' is measured, ''T'' is the time in minutes that it takes for water to move from the point of disinfectant application to a point before or at where residual disinfectant concentration (''C'') is measured. Where more than one ''C'' is measured, ''T'' is (a) for the first measurement of ''C'', the time in minutes that it takes for water to move from the first or only point of disinfectant application to a point before or at the point where the first ''C'' is measured and (b) for subsequent measurements of ''C'', the time in minutes that it takes for water to move from the previous ''C'' measurement point to the ''C'' measurement point for which the particular ''T'' is being calculated. Disinfectant contact time in pipelines must be calculated based on ''plug flow'' by dividing the internal volume of the pipe by the maximum hourly flow rate through that pipe. Disinfectant contact time within mixing basins and storage reservoirs must be determined by tracer studies or an equivalent demonstration.

Disinfection means a process which inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

Disinfection profile is a summary of *Giardia lamblia* inactivation through the treatment plant. The procedure for developing a disinfection profile is contained in §141.172 (Disinfection profiling and benchmarking) in subpart P and §§141.530–141.536 (Disinfection profile) in subpart T of this part.

Domestic or other non-distribution system plumbing problem means a coliform contamination problem in a public water system with more than one service connection that is limited to the specific service connection from which the coliform-positive sample was taken.

Dose equivalent means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (ICRU).

Dual sample set is a set of two samples collected at the same time and same location, with one sample analyzed for TTHM and the other sample analyzed for HAA5. Dual sample sets are collected for the purposes of conducting an IDSE under subpart U of this part and determining compliance with the TTHM and HAA5 MCLs under subpart V of this part.

Effective corrosion inhibitor residual, for the purpose of subpart I of this part only, means a concentration sufficient to form a passivating film on the interior walls of a pipe.

Enhanced coagulation means the addition of sufficient coagulant for improved removal of disinfection byproduct precursors by conventional filtration treatment.

Enhanced softening means the improved removal of disinfection byproduct precursors by precipitative softening.

Filter profile is a graphical representation of individual filter performance, based on continuous turbidity measurements or total particle counts versus time for an entire filter run, from startup to backwash inclusively, that includes an assessment of filter performance while another filter is being backwashed.

Filtration means a process for removing particulate matter from water by passage through porous media.

Finished water is water that is introduced into the distribution system of a public water system and is intended for distribution and consumption without further treatment, except as treatment necessary to maintain water quality in the distribution system (e.g., booster disinfection, addition of corrosion control chemicals).

First draw sample means a one-liter sample of tap water, collected in accordance with §141.86(b)(2), that has been standing in plumbing pipes at least 6 hours and is collected without flushing the tap.

Flocculation means a process to enhance agglomeration or collection of smaller floc particles into larger, more easily settleable particles through gentle stirring by hydraulic or mechanical means.

Flowing stream is a course of running water flowing in a definite channel.

GAC10 means granular activated carbon filter beds with an empty-bed contact time of 10 minutes based on average daily flow and a carbon reactivation frequency of every 180 days, except that the reactivation frequency for GAC10 used as a best available technology for compliance with subpart V MCLs under §141.64(b)(2) shall be 120 days.

GAC20 means granular activated carbon filter beds with an empty-bed contact time of 20 minutes based on average daily flow and a carbon reactivation frequency of every 240 days.

Ground water under the direct influence of surface water (GWUDI) means any water beneath the surface of the ground with significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia lamblia* or *Cryptosporidium*, or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. Direct influence must be determined for individual sources in accordance with criteria established by the State. The State determination of direct influence may be based on site-specific measurements of water quality and/or documentation of well construction characteristics and geology with field evaluation.

Gross alpha particle activity means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.

Gross beta particle activity means the total radioactivity due to beta particle emission as inferred from measurements on a dry sample.

Haloacetic acids (five) (HAA5) mean the sum of the concentrations in milligrams per liter of the haloacetic acid compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid), rounded to two significant figures after addition.

Halogen means one of the chemical elements chlorine, bromine or iodine.

Initial compliance period means the first full three-year compliance period which begins at least 18 months after promulgation, except for contaminants listed at §141.61(a) (19)–(21), (c) (19)–(33), and §141.62(b) (11)–(15), initial compliance period means the first full three-year compliance period after promulgation for systems with 150 or more service connections (January 1993–December 1995), and first full three-year compliance period after the effective date of the regulation (January 1996–December 1998) for systems having fewer than 150 service connections.

Lake/reservoir refers to a natural or man made basin or hollow on the Earth's surface in which water collects or is stored that may or may not have a current or single direction of flow.

Large water system, for the purpose of subpart I of this part only, means a water system that serves more than 50,000 persons.

Lead service line means a service line made of lead which connects the water main to the building inlet and any lead pigtail, gooseneck or other fitting which is connected to such lead line.

Legionella means a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires Disease.

Level 1 assessment is an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. It is conducted by the system operator or owner. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (e.g., whether a ground water system is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing. The system must conduct the assessment consistent with any State directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system.

Level 2 assessment is an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. A Level 2 assessment provides a more detailed examination of the system (including the system's monitoring and operational practices) than does a Level 1 assessment through the use of more comprehensive investigation and review of available information, additional internal and external resources, and other relevant practices. It is conducted by an individual approved by the State, which may include the system operator. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (e.g., whether a ground water system is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing. The system must conduct the assessment consistent with any State directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system. The system must comply with any expedited actions or additional actions required by the State in the case of an *E. coli* MCL violation.

Locational running annual average (LRAA) is the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

Man-made beta particle and photon emitters means all radionuclides emitting beta particles and/or photons listed in Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure, NBS Handbook 69, except the daughter products of thorium–232, uranium–235 and uranium–238.

Maximum contaminant level means the maximum permissable level of a contaminant in water which is delivered to any user of a public water system.

Maximum contaminant level goal or *MCLG* means the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. Maximum contaminant level goals are nonenforceable health goals.

Maximum residual disinfectant level (MRDL) means a level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of

adverse health effects. For chlorine and chloramines, a PWS is in compliance with the MRDL when the running annual average of monthly averages of samples taken in the distribution system, computed quarterly, is less than or equal to the MRDL. For chlorine dioxide, a PWS is in compliance with the MRDL when daily samples are taken at the entrance to the distribution system and no two consecutive daily samples exceed the MRDL. MRDLs are enforceable in the same manner as maximum contaminant levels under Section 1412 of the Safe Drinking Water Act. There is convincing evidence that addition of a disinfectant is necessary for control of waterborne microbial contaminants. Notwithstanding the MRDLs listed in §141.65, operators may increase residual disinfectant levels of chlorine or chloramines (but not chlorine dioxide) in the distribution system to a level and for a time necessary to protect public health to address specific microbiological contamination problems caused by circumstances such as distribution line breaks, storm runoff events, source water contamination, or cross-connections.

Maximum residual disinfectant level goal (MRDLG) means the maximum level of a disinfectant added for water treatment at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. MRDLGs are nonenforceable health goals and do not reflect the benefit of the addition of the chemical for control of waterborne microbial contaminants.

Maximum Total Trihalomethane Potential (MTP) means the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after 7 days at a temperature of 25 °C or above.

Medium-size water system, for the purpose of subpart I of this part only, means a water system that serves greater than 3,300 and less than or equal to 50,000 persons.

Membrane filtration is a pressure or vacuum driven separation process in which particulate matter larger than 1 micrometer is rejected by an engineered barrier, primarily through a size-exclusion mechanism, and which has a measurable removal efficiency of a target organism that can be verified through the application of a direct integrity test. This definition includes the common membrane technologies of microfiltration, ultrafiltration, nanofiltration, and reverse osmosis.

Near the first service connection means at one of the 20 percent of all service connections in the entire system that are nearest the water supply treatment facility, as measured by water transport time within the distribution system.

Non-community water system means a public water system that is not a community water system. A non-community water system is either a ''transient non-community water system (TWS)'' or a ''non-transient non-community water system (NTNCWS).''

Non-transient non-community water system or *NTNCWS* means a public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year.

Optimal corrosion control treatment, for the purpose of subpart I of this part only, means the corrosion control treatment that minimizes the lead and copper concentrations at users' taps while insuring that the treatment does not cause the water system to violate any national primary drinking water regulations.

Performance evaluation sample means a reference sample provided to a laboratory for the purpose of demonstrating that the laboratory can successfully analyze the sample within limits of performance specified by the Agency. The true value of the concentration of the reference material is unknown to the laboratory at the time of the analysis.

Person means an individual; corporation; company; association; partnership; municipality; or State, Federal, or tribal agency.

Picocurie (pCi) means the quantity of radioactive material producing 2.22 nuclear transformations per minute.

Plant intake refers to the works or structures at the head of a conduit through which water is diverted from a source (e.g., river or lake) into the treatment plant.

Point of disinfectant application is the point where the disinfectant is applied and water downstream of that point is not subject to recontamination by surface water runoff.

Point-of-entry treatment device (POE) is a treatment device applied to the drinking water entering a house or building for the purpose of reducing contaminants in the drinking water distributed throughout the house or building.

Point-of-use treatment device (POU) is a treatment device applied to a single tap used for the purpose of reducing contaminants in drinking water at that one tap.

Presedimentation is a preliminary treatment process used to remove gravel, sand and other particulate material from the source water through settling before the water enters the primary clarification and filtration processes in a treatment plant.

Public water system means a system for the provision to the public of water for human consumption through pipes or, after August 5, 1998, other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year. Such term includes: any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system; and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Such term does not include any ''special irrigation district.'' A public water system is either a ''community water system'' or a ''noncommunity water system.''

Rem means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A ''millirem (mrem)'' is $1/1000$ of a rem.

Repeat compliance period means any subsequent compliance period after the initial compliance period.

Residual disinfectant concentration (''C'' in CT calculations) means the concentration of disinfectant measured in mg/l in a representative sample of water.

Sanitary defect is a defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place.

Sanitary survey means an onsite review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.

Seasonal system is a non-community water system that is not operated as a public water system on a year-round basis and starts up and shuts down at the beginning and end of each operating season.

Sedimentation means a process for removal of solids before filtration by gravity or separation.

Service connection, as used in the definition of *public water system*, does not include a connection to a system that delivers water by a constructed conveyance other than a pipe if:

(1) The water is used exclusively for purposes other than residential uses (consisting of drinking, bathing, and cooking, or other similar uses);

(2) The State determines that alternative water to achieve the equivalent level of public health protection provided by the applicable national primary drinking water regulation is provided for residential or similar uses for drinking and cooking; or

(3) The State determines that the water provided for residential or similar uses for drinking, cooking, and bathing is centrally treated or treated at the point of entry by the provider, a pass-through entity, or the user to achieve the equivalent level of protection provided by the applicable national primary drinking water regulations.

Service line sample means a one-liter sample of water collected in accordance with §141.86(b)(3), that has been standing for at least 6 hours in a service line.

Single family structure, for the purpose of subpart I of this part only, means a building constructed as a single-family residence that is currently used as either a residence or a place of business.

Slow sand filtration means a process involving passage of raw water through a bed of sand at low velocity (generally less than 0.4 m/h) resulting in substantial particulate removal by physical and biological mechanisms.

Small water system, for the purpose of subpart I of this part only, means a water system that serves 3,300 persons or fewer.

Special irrigation district means an irrigation district in existence prior to May 18, 1994 that provides primarily agricultural service through a piped water system with only incidental residential or similar use where the system or the residential or similar users of the system comply with the exclusion provisions in section 1401(4)(B)(i)(II) or (III).

Standard sample means the aliquot of finished drinking water that is examined for the presence of coliform bacteria.

State means the agency of the State or Tribal government which has jurisdiction over public water systems. During any period when a State or Tribal government does not have primary enforcement responsibility pursuant to section 1413 of the Act, the term ''State'' means the Regional Administrator, U.S. Environmental Protection Agency.

Subpart H systems means public water systems using surface water or ground water under the direct influence of surface water as a source that are subject to the requirements of subpart H of this part.

Supplier of water means any person who owns or operates a public water system.

Surface water means all water which is open to the atmosphere and subject to surface runoff.

SUVA means Specific Ultraviolet Absorption at 254 nanometers (nm), an indicator of the humic content of water. It is a calculated parameter obtained by dividing a sample's ultraviolet absorption at a wavelength of 254 nm (UV_{254}) (in m^{-1}) by its concentration of dissolved organic carbon (DOC) (in mg/L).

System with a single service connection means a system which supplies drinking water to consumers via a single service line.

Too numerous to count means that the total number of bacterial colonies exceeds 200 on a 47-mm diameter membrane filter used for coliform detection.

Total Organic Carbon (TOC) means total organic carbon in mg/L measured using heat, oxygen, ultraviolet irradiation, chemical oxidants, or combinations of these oxidants that convert organic carbon to carbon dioxide, rounded to two significant figures.

Total trihalomethanes (TTHM) means the sum of the concentration in milligrams per liter of the trihalomethane compounds (trichloromethane [chloroform], dibromochloromethane, bromodichloromethane and tribromomethane [bromoform]), rounded to two significant figures.

Transient non-community water system or *TWS* means a non-community water system that does not regularly serve at least 25 of the same persons over six months per year.

Trihalomethane (THM) means one of the family of organic compounds, named as derivatives of methane, wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.

Two-stage lime softening is a process in which chemical addition and hardness precipitation occur in each of two distinct unit clarification processes in series prior to filtration.

Uncovered finished water storage facility is a tank, reservoir, or other facility used to store water that will undergo no further treatment to reduce microbial pathogens except residual disinfection and is directly open to the atmosphere.

Virus means a virus of fecal origin which is infectious to humans by waterborne transmission.

Waterborne disease outbreak means the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a public water system which is deficient in treatment, as determined by the appropriate local or State agency.

Wholesale system is a public water system that treats source water as necessary to produce finished water and then delivers some or all of that finished water to another public water

system. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.

[40 FR 59570, Dec. 24, 1975]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §141.2, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.govinfo.gov*.

§ 141.3 Coverage.

This part shall apply to each public water system, unless the public water system meets all of the following conditions:

(a) Consists only of distribution and storage facilities (and does not have any collection and treatment facilities);

(b) Obtains all of its water from, but is not owned or operated by, a public water system to which such regulations apply:

(c) Does not sell water to any person; and

(d) Is not a carrier which conveys passengers in interstate commerce.

§ 141.4 Variances and exemptions.

(a) Variances or exemptions from certain provisions of these regulations may be granted pursuant to sections 1415 and 1416 of the Act and subpart K of part 142 of this chapter (for small system variances) by the entity with primary enforcement responsibility, except that variances or exemptions from the MCLs for total coliforms and *E. coli* and variances from any of the treatment technique requirements of subpart H of this part may not be granted.

(b) EPA has stayed the effective date of this section relating to the total coliform MCL of §141.63(a) for systems that demonstrate to the State that the violation of the total coliform MCL is due to a persistent growth of total coliforms in the distribution system rather than fecal or pathogenic contamination, a treatment lapse or deficiency, or a problem in the operation or maintenance of the distribution system. This is stayed until March 31, 2016, at which time the total coliform MCL is no longer effective.

NOTE TO PARAGRAPH (a): As provided in §142.304(a), small system variances are not available for rules addressing microbial contaminants, which would include subparts H, P, S, T, W, and Y of this part.

[78 FR 10346, Feb. 13, 2013]

§ 141.5 Siting requirements.

Before a person may enter into a financial commitment for or initiate construction of a new public water system or increase the capacity of an existing public water system, he shall notify the State and, to the extent practicable, avoid locating part or all of the new or expanded facility at a site which:

(a) Is subject to a significant risk from earthquakes, floods, fires or other disasters which could cause a breakdown of the public water system or a portion thereof; or

(b) Except for intake structures, is within the floodplain of a 100–year flood or is lower than any recorded high tide where appropriate records exist. The U.S. Environmental Protection Agency will not seek to override land use decisions affecting public water systems siting which are made at the State or local government levels.

§ 141.6 Effective dates.

(a) Except as provided in paragraphs (b) through (k) of this section, and in §141.80(a)(2), the regulations set forth in this part shall take effect on June 24, 1977.

(b) The regulations for total trihalomethanes set forth in §141.12(c) shall take effect 2 years after the date of promulgation of these regulations for community water systems serving 75,000 or more individuals, and 4 years after the date of promulgation for communities serving 10,000 to 74,999 individuals.

(c) The regulations set forth in §§141.11(d); 141.21(a), (c) and (i); 141.22(a) and (e); 141.23(a)(3) and (a)(4); 141.23(f); 141.24(e) and (f); 141.25(e); 141.27(a); 141.28(a) and (b); 141.31(a), (d) and (e); 141.32(b)(3); and 141.32(d) shall take effect immediately upon promulgation.

(d) The regulations set forth in §141.41 shall take effect 18 months from the date of promulgation. Suppliers