10.0 Calibration

10.1 Calibrate the system using the gases described in Section 7.3. The initial 3-point calibration error test as described in Section 8.1.2 is required and must meet the specifications in Section 13 before you start the test. We recommend you conduct an initial system performance test described in Section 8.1.4 as well before the test to validate the sampling components and procedures before sampling. After the test commences, a system performance check is required after each run. You must include a copy of the manufacturer's certification of the calibration gases used in the testing as part of the test report. This certification must include the 13 documentation requirements in the EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards, September 1997, as amended August 25, 1999.

11.0 Analytical Procedure

Because sample collection and analysis are performed together (*see* Section 8.0), additional discussion of the analytical procedure is not necessary.

12.0 Calculations and Data Analysis

12.1 Nomenclature

ACE = Analyzer calibration error, percent of calibration span.
B_{WO} = Fraction of volume of water vapor in the gas stream.
CD = Calibration drift, percent.
C_{Dir} = Measured concentration of a calibration gas (low, mid, or high) when introduced in direct calibration mode, ppmv.
C_{H2S} = Concentration of the system performance check gas, ppmv H_2S.
C_S = Measured concentration of the system performance gas when introduced in system calibration mode, ppmv H_2S.
C_V = Manufacturer certified concentration of a calibration gas (low, mid, or high), ppmv SO_2.
C_{SO2} = Sample SO_2 concentration, ppmv.
C_{TRS} = Total reduced sulfur concentration corrected for system performance and adjusted to dry conditions, ppmv.
SP = System performance, percent.

12.2 Analyzer Calibration Error. Use Equation 16C–1 to calculate the analyzer calibration error for the low-, mid-, and high-level calibration gases.

$$ACE = \frac{C_{Dir} - C_v}{C_v} \times 100 \qquad \text{Eq. 16C-1}$$

12.3 System Performance. Use Equation 16C–2 to calculate the system performance.

$$SP = \frac{C_S - C_{H2S}}{C_{H2S}} \times 100 \qquad \text{Eq. 16C-2}$$

12.4 Calibration Drift. Use Equation 16C–3 to calculate the calibration drift at a single concentration level after a run or series of runs (not to exceed a 24-hr period) from initial calibration. Compare the calibration gas response to the original response obtained for the gas in the initial analyzer calibration test (ACE_i).

$$CD = \left| ACE_i - ACE_n \right| \qquad \text{Eq. 16C-3}$$

12.5 TRS Concentration as SO_2. For each sample or test run, calculate the arithmetic average of SO_2 concentration values (*e.g.,* 1-minute averages). Then calculate the sample TRS concentration using Equation 16C–4.

$$C_{TRS} = \frac{\overline{C_{SO2}}}{1 - |SP| - B_{WO}} \qquad \text{Eq. 16C-4}$$

13.0 Method Performance

13.1 Analyzer Calibration Error. At each calibration gas level (low, mid, and high), the calibration error must either not exceed 5.0 percent of the calibration gas concentration or $|C_s - C_v|$ must be ≤ 0.5 ppmv.

13.2 System Performance. The system performance check result must be within 20 percent of the system performance gas concentration. Alternatively, the results are acceptable if $|C_s - C_{dir}|$ is ≤ 0.5 ppmv .

13.3 Calibration Drift. The calibration drift at the end of any run or series of runs within a 24-hour period must not differ by more than 3 percent from the original ACE at that level or $|ACEi - ACE_n|$ must not exceed 0.5 ppmv.

13.4 Interference Check. For the analyzer, the total interference response (*i.e.,* the sum of the interference responses of all tested gaseous components) must not be greater than 2.50 percent of the calibration span. The results are also acceptable if the sum of the responses does not exceed 0.5 ppmv for a calibration span of 5 to 10 ppmv, or 0.2 ppmv for a calibration span < 5 ppmv.

14.0 Pollution Prevention [Reserved]

15.0 Waste Management [Reserved]

16.0 References

1. The references are the same as in Section 16.0 of Method 16, Section 17.0 of Method 16A, and Section 17.0 of Method 6C.

2. National Council of the Paper Industry for Air and Stream Improvement, Inc., A Study of TRS Measurement Methods. Technical Bulletin No. 434. New York, NY. May 1984. 12p.

3. Margeson, J.H., J.E. Knoll, and M.R. Midgett. A Manual Method for TRS Determination. Draft available from the authors. Source Branch, Quality Assurance Division, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711.

17.0 Tables, Diagrams, Flowcharts, and Validation Data [Reserved]

[FR Doc. 2010–21954 Filed 9–1–10; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 140

[EPA–R09–OW–2010–0438; FRL–9196–3]

RIN 2009–AA04

Marine Sanitation Devices (MSDs): Proposed Regulation To Establish a No Discharge Zone (NDZ) for California State Marine Waters

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is proposing to establish a No Discharge Zone (NDZ) for sewage discharges from: Large passenger vessels; and oceangoing vessels of 300 gross tons or more (referred to throughout this proposed rule as "Large oceangoing vessels") with two days or more sewage holding capacity to California State marine waters pursuant to Section 312(f)(4)(A) of the Clean Water Act (CWA), 33 U.S.C. 1322(f)(4)(A). This action is being taken in response to an April 5, 2006 application from the California State Water Resources Control Board (State) requesting establishment of this NDZ. Under Section 312(f)(4)(A), if EPA determines upon application by a State that the protection and enhancement of the quality of specified waters within such State requires such a prohibition, then EPA shall by regulation completely prohibit the discharge of any sewage (whether treated or not) from a vessel into such waters. California State marine waters would be defined as the territorial sea measured from the baseline, as determined in accordance with the Convention on the Territorial Sea and the Contiguous Zone, and extending seaward a distance of three miles, and would also include all enclosed bays and estuaries subject to tidal influences from the Oregon border to the Mexican border. (Federal Clean Water Act Section 502(8)). State marine waters also extend three miles from State islands, including the Farallones and the Northern and Southern Channel Islands. A map of California State marine waters can be obtained or viewed at the EPA's Web site at *http://www.epa.gov/region9/water/no-discharge/overview.html,* or by calling (415) 972–3476. It should be noted that effective March 2009, the National Oceanic and Atmospheric Administration (NOAA) established prohibitions on the discharge of sewage from large vessels in waters within the boundaries of the four National Marine

Sanctuaries along the California coast (73 FR 70487).

DATES: Comments must be submitted to EPA on or before November 1, 2010.

ADDRESSES: Submit comments, identified by docket number EPA–R09–OW–2010–0438, by one of the following methods: 1. *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the on-line instructions. 2. *E-mail: ota.allan@epa.gov.* 3. *Mail or deliver:* Allan Ota (WTR–8), U.S. Environmental Protection Agency Region IX, 75 Hawthorne Street, San Francisco, CA 94105–3901.

Instructions: All comments will be included in the public docket without change and may be made available online at *http://www.regulations.gov,* including any personal information provided, unless the comment includes Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Information that you consider CBI or otherwise protected should be clearly identified as such and should not be submitted through *http://www.regulations.gov* or e-mail. *http://www.regulations.gov* is an "anonymous access" system, and EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send e-mail directly to EPA, your e-mail address will be automatically captured and included as part of the public comment. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment.

Docket: The index to the docket for this action is available electronically at *http://www.regulations.gov* and in hard copy at EPA Region IX, 75 Hawthorne Street, San Francisco, California. While all documents in the docket are listed in the index, some information may be publicly available only at the hard copy location (*e.g.,* copyrighted material), and some may not be publicly available in either location (*e.g.,* CBI). To inspect the hard copy materials, please schedule an appointment during normal business hours with the contact listed in the **FOR FURTHER INFORMATION CONTACT** section.

FOR FURTHER INFORMATION CONTACT: Allan Ota, Wetlands Office, Water Division, EPA Region 9, 75 Hawthorne Street (WTR–8), San Francisco, CA 94105, *(ota.allan@epa.gov).*

SUPPLEMENTARY INFORMATION:

I. Background of Clean Water Act Section 312

Clean Water Act Section 312, 33 U.S.C. 1322, (hereafter referred to as "Section 312"), regulates the discharge of sewage from vessels into the navigable waters. Pollutants most frequently associated with sewage discharges include solids, nutrients, pathogens, petroleum products, heavy metals, pesticides, pharmaceuticals, and other potentially harmful compounds.[1] Sewage discharges contaminate shellfish beds, pollute drinking water supplies, harm fish and other aquatic wildlife, and cause damage to coral reefs.

Direct contact with these pollutants can have serious human health effects, with children, the elderly, and individuals with compromised immune systems being most susceptible. While data specifically associating disease outbreaks with sewage discharges from vessels are not available, data summarizing disease outbreaks and beach closures due to waterborne pathogens are available. During 2005–2006, the most recent period for which data are available, waterborne disease outbreaks associated with pathogen exposures in recreational water were reported by 31 States and territories through the Centers for Disease Control's Waterborne Disease and Outbreak Surveillance System.[2] During this period, 4,412 people were reported ill, resulting in 116 hospitalizations and five deaths. Thirty of these outbreaks were reported in California.[3] These data include exposures to pathogens at beaches and other natural swimming locations, but pathogen sources were not specifically identified.

When pathogen levels exceed water quality standards, States and territories may issue swimming advisories or close beaches to swimming. EPA's Beach Monitoring and Notification program reports that of the 3,740 coastal beaches monitored in 2008, 1,210 (32 percent) had at least one swimming closure or advisory and coastal beaches were under swimming closures or advisories about 5 percent of the time, similar to the previous two years. For 2007, the last year for which data was available, 138 of the 424 monitored beaches in California had at least one water quality advisory due to water quality standard exceedances.[4] According to the State's California Beach Water Quality Information Page in 2005, the last year reported, there were 104 beach closure events for a total of 486 beach days because monitoring indicated elevated bacteria levels.[5]

Shellfish beds are also vulnerable to coastal pollutants resulting in closures when water quality standards are exceeded. In 2001, the last comprehensive national study of water quality data at shellfish beds revealed that 40 percent were unsuitable for harvesting.[6] Pathogens from a variety of sources, including urban and agricultural runoff, vessel discharges, sewage treatment plants and septic systems can contribute to shellfish bed contamination, closure, and illness in human shellfish consumers.[7]

Section 312(h) prohibits vessels equipped with installed toilet facilities from operating on the navigable waters (which include the three mile territorial seas), unless the vessel is equipped with an operable marine sanitation device (MSD), certified by the Coast Guard to meet applicable performance standards. 33 U.S.C. 1322(h). The provisions of section 312 are implemented jointly by EPA and the Coast Guard. EPA sets performance standards for MSDs and is involved in varying degrees in the establishment of no discharge zones (NDZs) for vessel sewage. 33 U.S.C. 1322(b) and (f). The Coast Guard is responsible for developing regulations governing the design, construction, certification, installation and operation of MSDs, consistent with EPA's performance standards. 33 U.S.C. 1322(b) and (g); see also 33 CFR part 159. The Coast Guard's responsibility includes certifying MSDs for installation on U.S. flagged vessels. There are three types of MSDs:

- Type I MSDs are flow-through treatment devices that commonly use maceration and disinfection for the treatment of sewage. Type I devices may be installed only on vessels less than or equal to 65 feet in length. The performance standard applied to Type I MSDs is to produce an effluent with no more than 1000 fecal coliform count per 100 mL, with no visible floating solids.
- Type II MSDs are also flow-through treatment devices, which may employ biological treatment and disinfection, although some Type II MSDs use maceration and disinfection. Type II MSDs may be installed on vessels of any

[1] Page 33 of the April 5, 2006 State Application/

[2] Yoder, *et al.,* 2008, Surveillance for Waterborne Disease and Outbreaks Associated with Recreational Water Use and Other Aquatic Facility-Associated Health Events—United States, 2005–2006. Centers for Disease Control, Surveillance Summaries, 57(SS09), September 12, 2008.

[3] Yoder, *et al.,* 2008.

[4] EPA, 2009, National Summary: 2008 Swimming Season Update. EPA 823–F–09–005, May 2009.

[5] State Water Resources Control Board, California Beach Water Quality Information page: *http://www.swrcb.ca.gov/water_issues/programs/beaches/beach_water_quality/.*

[6] EPA, 2001. National Coastal Condition Report. United States Environmental Protection Agency. Office of Research and Development and Office of Water, Washington, DC EPA–620/R–01/005.

[7] EPA National Estuary Program: *http://www.epa.gov/nep/challenges.html.*

length. The performance standard applied to Type II MSDs is to produce an effluent with no more than 200 fecal coliform per 100 mL, and no more than 150 mg total suspended solids per liter.

• Type III MSDs are holding tanks, where sewage is stored until it can be disposed of shore-side or at sea (beyond three miles from shore). Type III MSDs may be installed on vessels of any length. [33 U.S.C. 1322 (b and h), 40 CFR 140.3; 33 CFR part 159].

CWA section 312 generally preempts State regulation of the discharge of sewage from vessels: "no State or political subdivision thereof shall adopt or enforce any statute or regulation of such State or political subdivision with respect to the design, manufacture, or installation or use of any [MSD] on any vessel subject to the provision of [CWA section 312]." CWA § 312(f)(1)(A), 33 U.S.C. 1322(f)(1)(A). Under Section 312(f), however, States may, in certain circumstances, request that EPA establish no discharge zones ("NDZs") for vessel sewage or, after required findings are made by EPA, establish such zones themselves.

There are three types of NDZ designations. First, under section 312(f)(3) States may designate portions or all of their waters as NDZs if the State determines that the protection and enhancement of the quality of the waters require greater environmental protection than provided by current Federal standards. However, no such prohibition applies to discharges until EPA determines that adequate facilities for the safe and sanitary removal and treatment of sewage from all vessels are reasonably available for the waters in the NDZ. Second, a State may apply under section 312(f)(4)(A) for EPA's determination that the protection and enhancement of the quality of specified waters within such State requires a prohibition. In contrast to section 312(f)(3) NDZ designations, section 312(f)(4) does not require EPA to determine that adequate pump out facilities are reasonably available for all vessels. Upon this determination, EPA shall by regulation completely prohibit the discharge from a vessel of any sewage (whether treated or not) into such waters. Lastly, a State may apply under section 312(f)(4)(B) for EPA to establish, by regulation, a drinking water intake zone which prohibits the discharge of sewage into that zone. [33 U.S.C. 1322(f), 40 CFR 140.4] California applied to EPA to establish the proposed NDZ under CWA section 312(f)(4)(A).

While section 312(f)(3) has been used to prohibit discharges in an entire State's waters, today's NDZ, if finalized, would be the first CWA section 312(f)(4)(A) NDZ to cover an entire State's waters. It would also be the first NDZ to only apply to discrete classes of vessels. Today's proposed rule would apply to all California marine waters and to two specific types of vessels—(1) passenger vessels of 300 gross tons or more having berths or overnight accommodations, and (2) oceangoing vessels of 300 gross tons or more with two days or more of sewage holding capacity. As discussed in Sections V and VI of the preamble, the proposed NDZ will not alter existing NDZs in California, all of which were enacted pursuant to 312(f)(3). Those NDZs remain in effect for all vessels. These NDZs cover a relatively small portion of California's marine waters, although as discussed below, certain discharges of sewage are also prohibited under NOAA regulations for marine sanctuaries in California waters.

II. Enforcement

The U.S. Coast Guard and the States are authorized to enforce the requirements of Section 312. 33 U.S.C. 1322(k). Persons who tamper with an installed certified MSD, or who operate vessels subject to section 312 without operable MSDs, are subject to civil penalties of up to $5,000 and $2,000, respectively, for each violation; manufacturers who sell a non-certified MSD, or who sell a vessel subject to section 312 that is not equipped with a certified MSD, are subject to civil penalties of up to $5,000 for each violation. 33 U.S.C. 1322(j). For more information see 33 U.S.C. 1322(j) and the U.S. Coast Guard's regulations at 33 CFR part 159.[8]

III. The State's Application for This NDZ

The State of California declared the importance of protecting and enhancing coastal water quality when it enacted legislation in 2003–2004 to limit pollution from large passenger vessels Assembly Bill (AB) 121, AB 906, AB 2093, and AB 2672 (available in the docket for today's proposal). The new legislation required a number of actions to address and reduce sewage and other pollution discharges from large vessels. Specifically, AB 2672 required the State Water Resources Control Board (State Board) to submit an application to the EPA seeking Federal prohibition of discharges of sewage from large passenger vessels to State waters.[9] Similarly, the State enacted the California Clean Coast Act of 2005 (Senate Bill (SB) 771) to address and reduce sewage and other pollution discharges from large oceangoing vessels with sufficient holding tank capacity. SB 771 directed the State Board to submit an application to the EPA seeking prohibition of sewage discharges from large oceangoing vessels with "sufficient holding tank capacity" to contain sewage while the vessels are within the marine waters of the State. In enacting this legislation, the State found that California's coastal waters warrant a higher level of protection and determined that protection and enhancement of coastal water quality requires a reduction in vessel sewage discharges to the State's coastal waters. The legislation also provided that "[i]t is not the Legislature's intent to establish for the marine waters of the State a no discharge zone for sewage from all vessels, but only for a class of vessels."[10]

The information submitted by the State in its application for this NDZ (available in the docket for today's proposal) documents the importance of California's marine waters, the sensitivity of all of California's marine waters to sewage discharges, and the need for the proposed NDZ to protect and enhance those waters.

IV. Who is affected by this rule?

The proposed rule would completely prohibit the discharge of sewage (whether treated or not) from all large passenger vessels, as defined by 46 U.S.C. 2101(22), of 300 gross tons or more and which have berths or overnight accommodations, and private, commercial, government, and military oceangoing vessels of 300 gross tons or more. The State's definition of large passenger vessels in AB 2672 excluded all noncommercial, government and military vessels, treating them as "oceangoing ships." For this proposed rule EPA uses the generally applicable definition of "passenger vessel" from Title 46 of the US Code, but, like the State, applies the rule only to passenger vessels of 300 gross tons or more and which have berths or overnight accommodations. A large oceangoing vessel means a private, commercial, government, or military vessel of 300 gross tons or more.

Certain Department of Defense (DoD) vessels and activities may be exempt from these requirements. Pursuant to CWA Section 312(d), the Secretary of

[8] U.S. Coast Guard MSD Requirements: *http://www.uscg.mil/hq/cg5/cg5213/msd.asp.*

[9] California State Assembly Bill 2672, Section 1(c).

[10] California Senate Bill 771, Chapter 588, Section 21.

Defense promulgated DoD 4715.06–R1 "Regulations on Vessels Owned or Operated by the Department of Defense" (January 2005), which explains the circumstances under which DoD may exempt its vessels from the sewage discharge requirements of Section 312, including NDZs, because compliance would excessively and unreasonably detract from the vessel's military characteristics, effectiveness, or safety, and not be in the interest of national security. Exempted vessels are nonetheless required to limit sewage discharges into U.S. navigable waters, territorial seas, and NDZs to the maximum extent practicable without endangering the health, safety, or welfare of the crew or other personnel aboard.

The State legislation limits the prohibition on discharges of sewage to large oceangoing vessels with "sufficient holding tank capacity." SB 771 defined "sufficient holding tank capacity" to mean a holding tank of sufficient capacity to contain sewage while the oceangoing ship is within the marine waters of the State.[11] For the purposes of this proposed rule, "sufficient holding tank capacity" means two days or more of sewage holding capacity based on the ability to hold at least two day's sewage while in State marine waters. A suitable holding tank is a tank that was designed, constructed, and certified by the ship's flag administration to hold sewage. Two days of sewage holding capacity is consistent with California State Lands Commission 2006 Vessel Survey Data, required under SB 771, that showed oceangoing vessel port calls averaged two days in duration.[12] The two day duration was established based on this data and through consultation with the State. For purposes of this proposed rule, the two-day holding tank capacity would be determined by multiplying the crew capacity of a vessel by the average sewage generation rate of 8.4 gallons of sewage per day, per person.[13] Oceangoing vessel capacity is determined by: (1) A certificate of inspection issued by the US Coast Guard for US flagged vessels; or (2) a MARPOL Annex 4 certificate issued by the signatory State for foreign flagged vessels. For either certificate, the maximum number of passengers and crew is identified for the vessel.

V. EPA's Determination That the Protection and Enhancement of the Quality of California Coastal Waters Requires This NDZ

Importance of California Waters: California's coastal waters contain a wide variety of unique, nationally important marine environments that support rich biological communities and a wide range of recreational, commercial, conservation, research, educational, and aesthetic values. Coastal areas contain the greatest variety of habitats in California, including tidepools, estuaries, embayments, headlands, sandy beaches, mudflats, tidal wetlands, eelgrass beds, kelp forests, and deep ocean floor. California's highly varied marine environments support high levels of biological diversity and habitat for several dozen species listed as endangered, threatened, or of concern under Federal or State law, including 10 species of marine mammals, 4 species of anadromous fish, and 9 species of sea birds. The State has also established essential habitat along much of the coast for nearly 100 species of fish.

The unique values associated with California's coastal marine environment have been recognized through the creation of a network of more than 200 protected areas, reserves, sanctuaries, and monuments that together afford special resource protection status to the vast majority of California coastal waters. For example, the four Federally designated National Marine Sanctuaries (Cordell Bank, Gulf of the Farallones, Monterey Bay, and Channel Islands) in California occupy approximately one-third of the coastline and over 9,373 square miles of marine waters (1,726 within State waters) while the California Coastal National Monument protects more than 20,000 small islands, reefs, and pinnacles. The National Park Service manages 6 park facilities along the California coast including the Channel Islands and Redwood National Parks and Golden Gate National Recreation Area. Thirteen national wildlife refuges and 22 marine reserves have been established along the California coast, several of which cover substantial portions of marine embayments and estuarine areas. Three National Estuarine Research Reserves have been designated under the Coastal Zone Management Act as a partnership between the National Oceanic and Atmospheric Administration (NOAA) and the State, including San Francisco Bay; Elkhorn Slough; and Tijuana River. NOAA, has also established Essential Fish Habitat for several species along the entire California coast. The State has designated more than 80 Marine Protected Areas, 34 Areas of Special Biological Significance—Water Quality Protection Areas, 14 Ecological Reserves, 17 State and University of California Reserves, 20 Marine Refuges, and 14 Underwater Parks and Preserves intended to preserve and enhance living marine resources, cultural and historical resources, and recreational and research opportunities. The State, pursuant to CWA 312(f)(3), previously established ten individual NDZs along the California coast. These NDZs were established after EPA made the necessary finding that adequate pump out facilities are reasonably available in the areas of the NDZs.

Following establishment of the four federally recognized National Marine Sanctuaries along the California Coast, NOAA promulgated regulatory revisions to better address their concerns with potential impacts from vessel discharges by prohibiting discharges of treated and untreated sewage from cruise ships, and from large vessels with sufficient holding tank capacity to hold sewage while within the Sanctuaries.[14] NOAA Stated that both treated and untreated vessel sewage are more concentrated than domestic land-based sewage and may introduce disease causing microorganisms into the marine environment and increase nutrients that can lead to eutrophication and oxygen-depleted "dead zones." As shown in Table 1, the four National Marine Sanctuaries combined with the ten existing NDZs account for over 33 percent of State marine waters (38 percent including proposed expansions at the Gulf of the Farallones and Cordell Bank). These protected areas account for approximately 51 percent of the 1,624 mile California coastline. The proposed NDZ would apply to all State marine waters and would increase protections by prohibiting treated sewage discharges from the regulated classes of vessels in the remaining 67 percent of State marine waters. A map illustrating these areas can be obtained or viewed at the EPA's Web site at "http://www.epa.gov/region9/water/no-discharge/overview.html, " or by calling (415) 972–3476.

[11] California Senate Bill 771, Chapter 588, Section 6 (72401(a)).

[12] California State Lands Commission 2006 Vessel Survey.

[13] EPA's December 29, 2008 *Cruise Ship Discharge Assessment Report* found that average reported sewage generation rates were 8.4 gallons/day/person.

[14] Department of Commerce, NOAA, **Federal Register**/Vol. 73, No. 225 Published November 20, 2008/15 CFR part 922 and **Federal Register**/Vol. 74, No. 11/Friday, January 16, 2009/Rules and Regulations.

TABLE 1—STATUS OF CALIFORNIA MARINE WATERS AND TREATED SEWAGE PROTECTION

California marine protected area	Area of California marine waters (miles 2)	Percent of California marine waters	Sewage discharges prohibited
National Marine Sanctuaries*	**1,726	33.05	Yes
Existing NDZs***	29	0.5	Yes
Proposed NDZ	5,222	100	Proposed

*Office of NMS—NOAA, 2009.
**Area of existing NMS off California's coast and occurring outside State marine waters equals 7,647 square miles.
***EPA Region 9 GIS Center, September 2006.

Waters along the California coastline (including islands) support equally important economic, recreational, and aesthetic values. Many of these values are heavily dependent upon clean water. California's ocean economy is the largest in the nation and in 2000 alone, directly provided approximately 408,000 jobs and contributed $42.9 billion to gross State product. Seventy-seven percent of the State's population lives on or near the coast and annually, over 150 million visitor-days are spent at California beaches. California ranks first in the nation as a travel destination and its beaches are the leading destination for tourists. Coastal tourism and recreation generate more than $10 billion per year in wages and more than $20 billion per year in gross State product. In 2000, California's commercial marine fishing industry generated more than $400 million.[15]

California coastal waters are home to more than 889 water contact recreational facilities including 450 public beaches, of which 63 are units of the State Parks system. As noted above, over one third (138 out of 424) of beaches monitored in California in 2007 reported at least one water quality advisory due to water quality standard exceedances, and 104 incidents in 2005 resulted in 486 closure days at California beaches because of elevated bacteria levels.

The shellfish industry in California is vulnerable to water quality impacts from pathogens from a variety of sources including vessel discharges. For example, in 2007, the State adopted a TMDL (total maximum daily load) for pathogens to protect recreational uses and shellfish harvesting in Tomales Bay, north of San Francisco, where leases exist for nearly half of the State's shellfish growers and production of almost 20 percent of the State's oysters.[16, 17]

Coastal waters are increasingly more important for potable water supply as desalination measures are used to meet demands. There are more than 40 desalination plants in various stages of planning and operation in California.[18] Given that net potable water demand exceeds supply in many years, it is anticipated that desalination will increase as a means to meet California's projected population growth.[19] CWA Section 312(f)(4)(B) recognized the importance of prohibiting vessel sewage near drinking water intakes by authorizing States to apply to the EPA Administrator for establishment of NDZs at intake zones.

Pollutants Affecting California Marine Waters: These aquatic resource uses and values are threatened and impaired by pollutant discharges to most California coastal waters from a variety of land and marine activities. In addition to marine vessel discharges, other important pollutant sources include land-based wastewater treatment plant ocean outfalls, stormwater discharges, rivers and streams, thermal discharges from power plants, dredging and dredged material disposal operations, wind transport, and construction activities. Pollutants causing water quality impairment include chemicals, metals, nutrients, pathogens, sediments, and heat. Table 2 shows the current status of impaired water body segments along the California coast. In California coastal waters, 222 beach and water body segments have been designated as impaired under Section 303(d) of the CWA. Among the 222 segments, 592 pollutant-impairments that have been identified as exceeding State water quality standards still require a TMDL limit. TMDLs for an additional seventy-nine impairments have already been approved by EPA.[20] Information on impaired waters in California can be found at EPA's National Summary of Impaired Waters and TMDLs Web site at "*http://www.epa.gov/owow/tmdl/*", or by calling (415) 972–3476.

Of the 671 impairments, at least 162 are for pollutants commonly associated with sewage, including nutrients, fecal coliform, and pathogens. Pathogens alone account for approximately 120 miles of impaired coast line in the State.

TABLE 2—CALIFORNIA MARINE IMPAIRED WATER BODY SEGMENTS AND TMDLS*

Impaired water body segments	Total pollutant impairments	Impairments associated with sewage	Approved TMDL
222	671	162	79

*2006 CWA 303(d) list.

Large Passenger Vessel Sewage Generation and Pollutants: Large passenger vessels continue to increase in size and can now accommodate as many as 6,300 passengers and 2,400 crew members.[21] Because these vessels generate large volumes of sewage, the State has requested that all large passenger vessels of 300 gross tons or

[15] California's Ocean Economy, Report to the Resources Agency, State of California, The National Ocean Economics Program, 2005.

[16] West Marin Chamber of Commerce.

[17] The Tomales Bay Watershed Stewardship Plan: A Framework for Action. Tomales Bay Watershed Council, July 2003. 137 pp.

[18] June 2007 Pacific Institute Desalination Report.

[19] April 5, 2006 State Application.

[20] 2006 CWA 303(d) List.

[21] Royal Caribbean Press Release—Fast Facts *Oasis of the Seas/Allure of the Seas-http://www.oasisoftheseas.com/press-materials.php.*

greater, regardless of sewage holding capacity, be subject to the proposed rule. As mandated by SB 771, in 2006 the California State Lands Commission conducted a survey (2006 Vessel Survey) of large passenger and large oceangoing vessels calling on California ports in order to better understand vessel sewage generation and discharges.[22] Based on the 33 large passenger vessels reporting, an average sized passenger vessel holds nearly 2,900 passengers and crew (2,154 and 709 respectively). At a daily per person sewage generation rate of 8.4 gallons, an average sized large passenger vessel is capable of generating as much as 24,360 gallons of sewage per day.[23]

In 2008, 48 large passenger vessels made 788 calls to California ports and spent an average of one day in port per arrival.[24] As illustrated in Table 3, at an estimated 24,360 gallons per day and an average stay of one day, these vessels could potentially generate 19.2 million gallons of treated sewage annually while in State marine waters. EPA has no way of verifying how much treated large passenger vessel sewage is actually discharged in State marine waters; this depends on actual numbers of passengers and crew and how much treated sewage is discharged to treatment facilities on land and/or held for discharge outside State waters. However, it is likely that a significant portion of this estimated 19.2 million gallons is in fact currently being discharged in State waters. The intent of this proposed rule is to prohibit all sewage generated from large passenger vessels from entering State marine waters.

TABLE 3—CALIFORNIA LARGE PASSENGER VESSEL (LPV) DATA FOR 2008

LPVs*	Passengers & crew**	Port calls*	Average port days**	Estimated sewage generation (g/day)***	Estimated treated vessel sewage generated while in State waters (g/year)***
48	2,900	788	1	24,360	19,195,680

* State's January 27, 2009 Application Addendum.
** State Lands Commission 2006 Vessel Survey Data.
*** EPA calculations.

Treated sewage discharges from vessels generally contain higher concentrations of pollutants than discharges of treated sewage from land-based wastewater treatment plants and can cause or contribute to water quality impairments and impacts to highly sensitive marine habitats. This can be attributed to lower dilution rates for large passenger vessel sewage discharges, especially in cases where these vessels employ vacuum flushing and conveyance to reduce water use.

Based on data collected in 2000 for the Alaska Cruise Ship Initiative (21 vessels), the average fecal coliform concentrations in traditional Type II MSD effluent was 2.04 million MPN (most probable number)/100 mL.[25] As shown in Table 4, of the 92 samples collected, 51 exceeded EPA's performance standard for Type II effluent fecal coliform count of 200 MPN/100 ml. Of the 92 samples collected, 35 exceeded 100,000 MPN/100 mL and 22 exceeded 1 million MPN/100 mL. The range of fecal coliform concentrations ranged between <2 MPN/100 mL and 24 million MPN/100 mL. Based on these results, the average concentration was as much as 20 times greater than un-treated municipal wastewater (ranges from 10,000 to 100,000 MPN/100 mL)[26] and over 10,000 times greater than the Federal MSD fecal coliform standard of <200 MPN/100 mL.

EPA's 2008 Cruise Ship Discharge Assessment Report found that Type II MSD effluent concentrations of fecal coliform also could lead to exceedences of EPA's 2006 National Recommended Water Quality Criteria (NRWQC) established for shellfish harvesting waters. This bacteria standard States that median fecal coliform concentrations should not exceed 14 MPN/100 mL, with not more than 10 percent of samples exceeding 43 MPN/100 mL. EPA notes that these are ambient water quality criteria not discharge standards, and that depending on the amount of mixing, discharges exceeding the numeric level of the criterion at the point of discharge would not necessarily lead to an exceedence of the NRWQC. However, given the levels of fecal coliform in some of the samples discussed above, sewage discharges from cruise ships could be causing or contributing to violations of these NRWQC as well as State water quality criteria. For example, California has adopted the NRWQC for fecal coliform for shellfish in some coastal waters and for all coastal waters has adopted criteria for contact recreation not to exceed 200 MPN/100 mL with not more than 10 percent of samples exceeding 400 MPN/100 mL.

For suspended solids, values detected in effluent from Type II MSDs were substantially higher than levels that would generally be considered to comply with narrative NRWQC land-based discharge standards. Data for residual chlorine concentrations from Type II MSDs and advanced wastewater treatment systems (AWTs) also exceeded levels that would violate NWRQC standards if found in the ambient water. Site-specific evaluations would be needed to determine whether these vessel discharges would cause, have the potential to cause, or contribute to non-attainment of water quality standards.[27]

[22] California State Lands Commission 2006 Vessel Survey data was dictated under SB 771.

[23] California State Lands Commission 2006 Vessel Survey reported 33 large passenger vessels making port calls in California with an average 709 crew and 2,154 passengers for an average of 2,864 people on board.

[24] Number and frequency of port calls for large passenger vessels based on the January 27, 2009 State Application Addendum.

[25] 2000 Alaska Cruise Ship Initiative, reported in 2008 EPA Cruise Ship Discharge Assessment Report. Two of the 21 vessels sampled were using reverse osmosis treatment systems.

[26] 2003 Metcalf & Eddy Wastewater Engineering.

[27] 2000 Alaska Cruise Ship Initiative, reported in 2008 EPA Cruise Ship Discharge Assessment Report.

TABLE 4—FECAL COLIFORM CONCENTRATIONS IN LARGE PASSENGER VESSEL EFFLUENT*

Number of samples	Federal type II MSD standard (MPN/100 ml)	Samples >200 MPN/100 ml	Samples >100,000 MPN/100 ml	Samples >1,000,000 MPN/100 ml
92	<200	51	35	22

* 2000 Alaska Cruise Ship Initiative, reported in 2008 EPA Cruise Ship Discharge Assessment Report.

Some large passenger vessels, especially those traveling to Alaska, have installed AWTs that provide sewage treatment effectiveness greater than Type I and II MSDs; however, the extent to which vessels operating in California waters operate AWTs is unknown. In 2006, 23 of 28 large passenger vessels that operated in Alaskan waters had AWTs to treat both sewage and graywater in order to meet the more stringent discharge requirements in effect there. Analyses of sampling results from 2003–2005 indicate that AWTs are very effective in removing pathogens, oxygen demanding substances, suspended solids, oil and grease, and particulate metals.[28] AWTs can remove some of the dissolved metals, and can remove most volatile and semi-volatile organics to levels below detection limits but achieve moderate nutrient removals and do not remove all contaminants. According to EPA study results of a representative vessel, toxic pollutants such as ammonia, copper, nickel, selenium, and zinc were still discharged at concentrations above their toxicity criteria.[29] Again, site specific evaluations would be needed to determine whether these vessel discharges would cause, have the potential to cause, or contribute to non-attainment of water quality standards.

This proposed rule would address anticipated increases in large passenger vessel sewage discharges as the industry grows in future years. In 2007, nearly 1.5 million passengers departed from California ports making the State the second largest cruise market in the nation.[30] This is significant considering North America accounted for more than 75 percent of the overall global cruise market in 2009. According to the Cruise Lines International Association (CLIA), 14 new passenger vessels were introduced globally in 2009, 12 will be introduced in 2010, with a total of 23 on order between 2010 and 2012.[31] Large passenger vessel traffic is increasing as average annual growth of the global cruise industry has continued at almost eight percent since 1980. At this rate, the number of cruise ship passengers is expected to triple to 15 million by 2020, while the current number of cruise ships globally is projected to double by 2020,[32] which will significantly increase the number of vessel trips in California marine waters.

Vessel Sewage Generated from Large Oceangoing Vessels with two days or more sewage holding capacity: Table 5 provides data used to determine sewage discharges from large oceangoing vessels with two days or more sewage holding capacity. Based on 2006 Vessel Survey data, approximately 35 percent of the 1,384 vessels reporting had two days or more of sewage holding capacity.[33] This represents the approximate percentage of large oceangoing vessels that would likely be subject to the proposed rule. According to the State's application, in 2008, 1,753 large oceangoing vessels made 9,620 port calls to California. Based on the 2006 survey, 35 percent of those port calls (3,367 port calls) would have been made by vessels that are subject to the proposed rule.[34, 35] Larger oceangoing vessels typically carry 15 to 25 crew members. The average, based on the 2006 Vessel Survey, was 21 crew members. The average port stay was two days. At an average rate of 8.4 g/person/day, an oceangoing vessel with an average sized crew would generate approximately 176 gallons of sewage per day. EPA multiplied the 176 g/day average sewage generation rate, with the estimated 3,367 annual port calls, and the average two-day port visit, to estimate that large oceangoing vessels calling on California ports generate almost 1.2 million gallons of sewage per year. As with large passenger vessels, EPA does not have data for determining how much of this sewage is discharged in State marine waters, however it is likely to be a significant portion. Unlike large passenger vessels, EPA does not have treated sewage sampling data for large oceangoing vessels, but lacking any data that would demonstrate otherwise, we assume that sewage from large oceangoing vessels has similar pollutant concentrations as large passenger vessels. The intent of the proposed rule is to prohibit all treated sewage from large oceangoing vessels with adequate holding capacity from being discharged to State marine waters.

TABLE 5—CALIFORNIA OCEANGOING VESSEL (LOV) DATA FOR 2008

LOVs*	Port calls*	Port calls by LOVs with sufficient holding tank capacity***	Crew**	Average port days**	Sewage (g/day)***	Sewage Generated while in State waters (g/year)***
1,753	9,620	3,367	21	2	176	1,185,184

* State's January 27, 2009 Application Addendum.
** State Lands Commission 2006 Vessel Survey Data.

[28] Sampling results used include EPA sampled wastewater from cruise ships in 2004 and 2005, cruise ship compliance monitoring data for AWT effluent provided by the Alaska Department of Environmental Conservation and the Coast Guard for 2003–2005, and self-monitoring data for AWT effluent submitted by the cruise industry in response to EPA's 2004 cruise ship survey.

[29] March 2006, EPA Sampling Episode Report Princess Cruise Lines—Island Princess, Sampling Episode 6505.

[30] July 8, 2009 letter from Congress to Administrator Jackson.

[31] CLIA Forecasts Continued Growth in Cruise Industry, January 12, 2010. *http://www.travelpulse.com/Resources/Editorial.aspx?n=66206.*

[32] GlobalSecurity.org: *http://www.globalsecurity.org/military/systems/ship/passenger-cruise.htm.*

[33] According to the California State Lands Commission 2006 Vessel Survey, 35 percent of vessels had sewage capacity of two days or more. This was extrapolated to estimate sewage capacity of vessels calling in 2008 as reported in the State's January 27, 2009 Application Addendum.

[34] California State Lands Commission 2006 Vessel Survey.

[35] January 27, 2009 State Application Addendum.

*** EPA calculations.

Oceangoing vessel traffic is projected to increase significantly in California marine waters. San Pedro Bay Ports in Los Angeles and Long Beach comprise the highest volume port complex in the nation and project a 44 percent increase in the volume of container throughput between 2010 and 2020.[36] Vessel container capacity will increase with larger ships, but port calls are still projected to increase from nearly 3,600 in 2007 to as many as 5,600 in 2020.[37] The Port of Oakland, the second highest volume port in the State and fourth in the nation, hosted nearly 2,000 container ship calls in 2008 and is forecast to increase cargo throughput approximately 5 percent each year between now and 2017.[38] This increase in vessel traffic will result in increased generation of treated vessel sewage that could potentially be discharged to State marine waters.

Vessels Not Covered by the NDZ: As described in Section IV of this proposed rule, the State's application requested that the discharge prohibitions be limited to a certain class of vessels. Vessels not covered by the proposed rule include oceangoing vessels with less than two days of sewage holding capacity, and vessels less than 300 gross tons. Based on the State's 2006 Vessel Survey data and the number of vessels calling to California ports in 2008, approximately 65 percent (1,139) of the oceangoing vessels had less than two days of holding capacity and would not be subject to the rule as proposed.[39] Multiplying the estimated 176 g/day average sewage generation rate, with the estimated 6,253 annual port calls, and the average two-day port visit, EPA estimates that large oceangoing vessels without adequate holding capacity generate approximately 2.2 million gallons of sewage per year. The EPA and the State are aware that smaller vessels, including recreational and smaller commercial vessels, also discharge sewage to the State's coastal water. In deciding to request designation of an NDZ applicable only to larger vessels as specified above, but applicable to the entire California coast, the State legislature determined that prohibiting discharge from the largest vessels would provide a relatively efficient approach to reducing the vessel sewage waste stream along the entire coast because these vessels generate a significant amount of sewage compared to smaller vessels. Vessels equipped with installed toilets are currently prohibited from discharging untreated sewage in any navigable waters within 3 miles from shore. Based on State estimates for 2006, approximately 80 percent of the 841,000 recreational vessels in California did not have Type I (flow through treatment device for vessels 65 feet or less) or Type II MSDs and therefore would be prohibited from discharging sewage to State marine waters.[40] The remaining 20 percent (168,200) can discharge treated sewage from their MSDs to State waters. Applying the State's data for small vessel usage, two persons per vessel, an average of one full "recreation day" (four 6-hour trips per year), and an 8.4 gallons of sewage per person per day, the total amount of treated sewage potentially discharged from recreational vessels to State marine waters in one year could amount to approximately 2.8 million gallons, if all discharges were within State waters.[41]

In addition to current MSD requirements, the ten NDZs previously approved along the California coast address small vessel pollution in high density recreational boating areas.[42] Instead of seeking an NDZ applicable to all vessels, the State legislation enacted companion provisions designed to improve sewage pump out capacity and utilization rates for vessel pump out facilities by recreational and small commercial vessels as alternative approaches to reducing sewage discharges from smaller vessels.

VI. Effect on Current Vessel Sewage Controls

Today's proposed rule does not alter existing vessel sewage discharge prohibitions in California waters. All existing NDZs in California remain in effect for all vessels operating in those waters.

The proposed rule complements the discharge prohibitions recently passed by NOAA for all four of California's NMSs. Those discharge prohibitions were adopted pursuant to California's application to NOAA and became effective March 9, 2009 for the Gulf of the Farallones, Monterey Bay, and Cordell Bank National Marine Sanctuaries (74 FR 12088 (Mar. 23, 2009)) and March 19, 2009 for the Channel Islands National Marine Sanctuary (74 FR 12087 (Mar. 23, 2009)). The new Sanctuary management plans prohibit "discharges/deposits of treated and untreated sewage from vessels 300 gross registered tons or more, except oceangoing ships without sufficient holding tank capacity to hold sewage and graywater, respectively, while within the Sanctuary. Large passenger vessels are not provided an exception and, therefore, are prohibited from discharging/depositing treated or untreated sewage and graywater in the Sanctuary." *See Gulf of the Farallones National Marine Sanctuary Regulations; Monterey Bay National Marine Sanctuary Regulations; and Cordell Bank National Marine Sanctuary Regulations; Final Rule,* 73 FR 70488 (Nov. 20, 2008) and *Channel Islands National Marine Sanctuary Regulations; Final Rule,* 74 FR 3216 (Jan. 16, 2009). Like the Sanctuary prohibitions, today's proposed rule would not require oceangoing vessels without sufficient holding tank capacity, as defined, to hold treated vessel sewage while within State marine waters.

The four California National Marine Sanctuaries cover over 33 percent of all California marine waters (nearly 38 percent with proposed Cordell bank and Gulf of the Farallones expansions). This proposal would cover all California waters. The discharge prohibitions in California's National Marine Sanctuaries cover a total of 1,726 square miles of ocean (and would be expanded by almost 232 square miles with the proposed expansions) in addition to nearly 30 square miles of existing NDZs. In total, sewage discharges are currently prohibited within 1,755 square miles of the 5,222 square miles of California marine waters. Today's prohibition would apply to the entire 5,222 square miles.

Other Existing Vessel Pollutant Controls: Following several confirmed sewage discharge violations, the Cruise Lines International Association (CLIA), representing the 25 major cruise lines serving North America, adopted voluntary industry standards to address cruise industry waste management. Under the CLIA 2006 "Cruise Industry Waste Management Practices and Procedures", Association members have agreed to comply with requirements to process all sewage through an MSD certified in accordance with U.S. or international regulations prior to discharge. For ships that do not have

[36] San Pedro Bay Ports Long-Term Cargo Forecast, Mercer Management Consulting, 2001.

[37] Container Vessel Forecast for San Pedro Bay Ports, Mercator Transport Group, 2000.

[38] Port of Oakland Website: *http://www.portofoakland.com.*

[39] California State Lands Commission 2006 Vessel Survey.

[40] January 27, 2009 State Application Addendum.

[41] January 27, 2009 State Application Addendum.

[42] USEPA No Discharge Zones for Vessel Sewage: *HTTP://www.epa.gov/region09/water/no-discharge/index.html.*

AWTs traveling regularly on itineraries beyond territorial coastal waters, (CLIA) standards provide that discharge will take place only when the ship is more than four miles from shore and when the ship is traveling at a speed of not less than six knots (for vessels operating under sail, or a combination of sail and motor propulsion, the speed shall not be less than four knots). For vessels whose itineraries are fully within U.S. territorial waters, CLIA standards provide that discharge shall comply fully with U.S. and individual State legislation and regulations.

To EPA's knowledge, CLIA voluntary measures are not monitored or reported and the degree of compliance with these voluntary measures is unknown. The State of California states that existing MSD requirements and voluntary discharge limitations are not fully effective.[43] While the number of vessels actually discharging partially or untreated sewage in State marine waters can only be estimated, the Government Accountability Office 2000 report to Congress[44] and the State confirm discharges of untreated sewage from large passenger vessels and other oceangoing vessels in State marine waters.

A majority of large oceangoing vessels operating in U.S. waters are registered in foreign countries and subject to the "International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto" ("MARPOL"). The principal international instrument regulating discharges of sewage from vessels is Annex IV to MARPOL. While the United States is not a Party to MARPOL Annex IV, and thus is not bound by its provisions, a vessel flying the flag of a country who is a Party to Annex IV remains subject to the Annex's requirements (as implemented and enforced by the flag State) no matter where the vessel sails, including when the vessel is operating in U.S. waters.

Annex IV applies to subject vessels engaged in international voyages of 400 gross tonnage and above, and to subject vessels of less than 400 gross tonnage which are certified to carry more than 15 persons (passengers and crew). The Annex contains, among other requirements, limits on the discharge of sewage into the sea, and provisions for the survey and certification of a vessel's sewage treatment device. In particular, Annex IV prohibits the discharge of sewage into the sea except when:

The vessel is discharging comminuted and disinfected sewage from an approved system at a distance of more than three miles (nm) from the nearest land; or

The vessel is discharging sewage which is not comminuted or disinfected (*i.e.,* untreated sewage), at a distance of more than 12 nm from the nearest land, provided that sewage that has been stored in holding tanks, or sewage originating from spaces containing living animals, is not discharged instantaneously but at a moderate rate when the ship is *en route* and proceeding at a speed of at least four knots; or

The vessel is using a type-approved sewage treatment plant (STP) that has been certified to meet the applicable International Maritime Organization's recommendations and regulations, the test results are laid down in the ship's International Sewage Pollution Prevention Certificate, and the effluent does not produce visible floating solids or cause discoloration of the surrounding water.

VII. Conclusion

EPA has reviewed the State's application for the establishment of an NDZ, and other information summarized above, and has determined that an NDZ is required to protect and enhance the quality of these waters. As shown in Table 6, by prohibiting large passenger vessels and large oceangoing vessels with two days or more of sewage holding tank capacity from discharging sewage in State marine waters, a significant pollutant waste stream of up to 20.4 million gallons of treated sewage per year would be prohibited from waters that support a variety of unique, nationally important and biologically significant environments that contribute to California's recreational, economic, and aesthetic values. As a result, improved water quality would likely benefit human health by reducing pollutant exposure from recreation and provide benefits to wildlife and their habitats, commercial fisheries and shell bed operations, and water intakes for desalination plants.

TABLE 6—CALIFORNIA VESSEL SEWAGE CONTRIBUTIONS AND NDZ PROHIBITIONS

Sewage Source	Treated vessel sewage generation in State waters (gallons/year)	Treated vessel sewage prohibited by this proposed NDZ (gallons/year)
Large Passenger Vessels	19.2 million	19.2 million.
Large Oceangoing Vessels (with two days or more sewage holding capacity)	1.2 million	1.2 million.
Combined Large Passenger and Large Oceangoing Vessels	20.4 million	20.4 million.
Not addressed by this rule		
Large Oceangoing Vessels without holding capacity	2.2 million	No Change.
Recreational Vessels	2.8 million	No Change.
Combined Large Oceangoing Vessels without holding capacity and Recreational Vessels[45].	5 million	No Change.

[45] The proposed rule would not apply to non-recreational oceangoing vessels less than 300 gross tons in size. Insufficient data were available to estimate sewage generation from these smaller oceangoing vessels. Based on a review of available data describing the sizes of oceangoing vessels operating in US ports, it appears very few oceangoing vessels are less than 300 gross tons in size (*see*, e.g., Commercial Marine Activity for Deep Sea Ports in the United States, EPA420–R–99–020, September, 1999). Therefore, we do not expect that sewage discharges from oceangoing vessels less than 300 gross tons are significant in comparison with other types of oceangoing vessels.

Section 312(f)(4)(A) states "If the EPA Administrator determines upon application by a State that the protection and enhancement of the quality of specified waters within such State requires such a prohibition, he

[43] April 5, 2006 State Application.

[44] Marine Pollution, Progress Made to Reduce Marine Pollution by Cruise Ships but Important Issues Remain, GAO 2000.

shall, by regulation completely prohibit the discharge from a vessel of any sewage (whether treated or not) into such waters." This authority has been delegated to EPA Regional Administrators. On April 5, 2006, the California State Water Resources Control Board, pursuant to State statutory mandates, requested that EPA Region 9 establish an NDZ for all State waters along the California coast that applies to large passenger vessels of 300 gross tons or more, and oceangoing vessels of 300 gross tons or more that have two days or more of sewage holding capacity. For the reasons discussed above, the EPA Region 9 Administrator finds that the protection and enhancement of the quality of California's marine waters requires the requested NDZ.

VIII. Public Comment

EPA invites public comment on all aspects of the proposed rule and will accept all comments for the next 60 days. Particular parts of the rule may benefit from attention and comment from reviewers with expertise and knowledge and opinions on the following subjects: EPA's conclusion that the protection and enhancement of California State marine waters require the requested prohibition on sewage discharges; EPA's prohibition of sewage discharges from specific classes of vessels; EPA's use of a two-day sewage holding capacity, and the generation rate of 8.4 gallons per day per person, as the basis for applying the proposed rule to large oceangoing vessels; the definitions used in the proposed rule, including the definition of "large oceangoing vessel" to include private, commercial, government or military vessels of 300 gross tons or more; EPA's economic analysis for vessel retrofit and operational costs; and whether vessels subject to the proposed rule are owned by companies that are "small entities" under the Regulatory Flexibility Act.

IX. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, Oct. 4, 1993), this action is a "significant regulatory action." Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under EO 12866 and any changes made in response to OMB recommendations have been documented in the docket for this action.

In addition, EPA prepared an analysis, summarized in Table 7, of the potential costs associated with this action to determine whether the rule would have an annual effect on the economy of $100 million or more, or adversely affect in a material way the economy or a sector of the economy.

Vessels that are equipped with MSDs and that navigate throughout California State Waters are already subject to the EPA MSD Standard at 40 CFR part 140 and the U.S. Coast Guard MSD Standard at 33 CFR part 159. These standards prohibit the overboard discharge of untreated vessel sewage in State waters and require that vessels with installed toilets be equipped with U.S. Coast Guard certified MSDs which either retain sewage or treat sewage to the applicable standards. There are three types of MSDs, but only Type II and Type III MSDs apply to vessels affected by this rule.

Vessels subject to this rule include large passenger vessels of 300 gross tons or more and oceangoing vessels of 300 gross tons or more with two days or more sewage holding capacity. According to the State's 2006 Vessel Survey data, approximately 35 percent of oceangoing vessels that made port calls in California had holding capacity for at least two days and, therefore, would be subject to the proposed rule. Based on an average two-day port call, EPA does not anticipate oceangoing vessels subject to the proposed rule would be required to employ operational or structural changes, such as making special trips beyond State marine waters to discharge, or increasing their holding capacity. If vessels subject to the proposed rule were to stay in State marine waters for a period of time beyond their sewage holding capacity operators may choose to make additional trips to discharge beyond State waters, and/or vessel owners may decide to retrofit their current holding tank capacities in order to comply with the rule.

Although the proposed rule would not require vessel owners to retrofit any oceangoing vessels, EPA evaluated the potential costs of retrofitting holding tanks to increase capacity. Based on an industry estimate obtained by the EPA, the cost of holding tank retrofits could be approximately $100,000 each but would vary from vessel to vessel.[46] EPA was unable to estimate an annual cost of retrofits for oceangoing vessels subject to the proposed rule. Data was not available for determining how many oceangoing vessel owners with vessels subject to the proposed rule might choose to implement retrofits.

According to responses to EPA's 2004 cruise ship survey, large passenger vessels operating in Alaska had an average of 62 hours of sewage holding capacity greatly exceeding average port stays of one day[47] However, according to the State's 2006 Vessel Survey 40 percent of the large passenger vessels had less than one day holding capacity. As a result, some large passenger vessels may need to install sewage holding capacity retrofits to avoid discharging sewage in State marine waters. Based on 2008 vessel calls, if 40 percent, or 48, large passenger vessels chose to retrofit their vessels at a cost of $200,000 per vessel, the resulting cost would be approximately $3.8 million.

As an alternative to expanding holding capacity, vessels that would be regulated by the proposed rule may choose to comply by traveling outside of State marine waters to discharge sewage. For large passenger vessels, EPA estimates the cost of each trip would be approximately $2,000. This estimate assumes the use of 800 gallons of diesel fuel at $2.50 per gallon to travel beyond 3 miles, discharge, and return to port at a cruising speed of 25 knots.[48] Based on the 2008 data, if all 788 port calls required extra trips to discharge sewage outside State marine waters, the total fuel cost would be approximately $1.6 million per year. This is likely a conservative estimate considering there are volunteer vessel speed reduction programs in place and under development along the California coast that provide incentives to vessel operators to reduce speeds within 20 nautical miles of the coast to reduce air pollutant emissions.[49] Lower speeds could reduce fuel consumption costs by as much as 30 percent.[50]

Vessels calling at ports within the San Francisco Bay, and Suisun Bay further inland, would have to travel beyond 3 miles to discharge beyond the NDZ limit. At most, a small percentage of oceangoing vessels calling at the Shell

[46] Estimate from third party industry group, 11/3/2009.

[47] 2008 EPA Cruise Ship Discharge Assessment Report.

[48] Cunard Queen Elizabeth 2 Technical Information estimated fuel consumption rate of 49.5 feet per gallon: *http://www.cunard.com/uploads/QE2_Tech.pdf.*

[49] Ports of Los Angeles and Long Beach Vessel Speed Reduction Program: *http://www.portoflosangeles.org/environment/ogv.asp.*

Port of San Diego Voluntary Vessel Speed Reduction Program Showing Signs of Success: *http://www.portofsandiego.org/environment/1728-voluntary-vessel-speed-reduction-program-showing-signs-of-success.html.*

[50] New York Times, February 16, 2010, *Slow Trip Across Sea Aids Profit and Environment: http://www.nytimes.com/2010/02/17/business/energy-environment/17speed.html.*

Oil Terminal of Martinez and Port of Benicia would need to travel approximately 45 miles each way to go beyond the 3 mile NDZ limit and back. Vessels calling at the Ports of Oakland and Richmond would travel approximately 18 miles each way and for the Port of San Francisco, 9 miles each way. Greater travel distances to discharge beyond the NDZ limit could incur increased costs for this small percentage of vessels.

EPA was unable to estimate an annual cost of special trips for oceangoing vessels to discharge beyond State marine waters. Data was not available for determining how many oceangoing vessel owners with vessels subject to the proposed rule might choose to implement these operational changes.

TABLE 7—POTENTIAL INDUSTRY COSTS FROM THE PROPOSED RULE

	Expansion of holding tank**	Discharging outside of State marine waters ***
Large Oceangoing Vessels (with two days or more sewage holding capacity)*	$100,000/vessel	$2,000/trip.
Large Passenger Vessels	$3.8 million	$1.6 million.

* Oceangoing vessels subject to proposed rule that would make operational or structural changes could not be determined.
** One-time cost estimate.
*** Annual cost estimates.

B. Paperwork Reduction Act

This action does not impose an information collection burden under the provisions of the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* Burden is defined at 5 CFR 1320.3(b). Since today's rule would not establish or modify any information and record keeping requirements, it is not subject to the requirements of the Paperwork Reduction Act.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed regulation/rule on small entities, EPA certifies that this action will not have a significant economic impact on a substantial number of small entities. The small entities subject to the requirements of this proposed rule fall under Deep Sea Freight Transportation (NAICS Code 483111) and Deep Sea Passenger Transportation (NAICS 483112) classifications.[51] The US Small Business Administration size standard for these businesses is 500 or fewer employees. To determine the size of companies that own large passenger and large oceangoing vessels that call at California ports, the EPA reviewed owner profiles for all large passenger vessels and several oceangoing vessels that responded to the 2006 vessel survey. Based on this review, it was determined that no large passenger and oceangoing vessels that call at California ports are owned by companies that employ 500 or fewer people.

We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

This rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any one year, as demonstrated above in section A, Executive Order 12866: Regulatory Planning and Review.

Because the rule contains no regulatory requirements that might significantly or uniquely affect small governments, it is also not subject to the requirements of section 203 of the Act. Small governments are subject to the same requirements as other entities whose duties result from this rule and they have the same ability as other entities to retain and pump out treated sewage or discharge outside of the designated zones.

E. Executive Order 13132: Federalism

This action does not have Federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. Section 312(f) of the CWA generally preempts State regulation of sewage discharges in State waters. An NDZ allows the State to seek protection of its State waters that it would otherwise be preempted from providing on its own. The State of California is requesting that EPA take action to designate all State waters as an NDZ under CWA § 312(f)(4)(A). Therefore, Executive Order 13132 does not apply to this action.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed action from State and local officials.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have any known tribal implications, as specified in Executive Order 13175 (65 FR 67249, Nov. 9, 2000). The only expected impact on tribal rights or responsibilities is the improvement of ocean water quality. EPA has notified all California tribes with coastal reservations of this proposed action. EPA will consider any comments on this proposed action from tribal officials.

[51] U.S. Small Business Administration Table of Small Business Size Standards, North American Industry Classification System (NAICS)), *http://www.sba.gov/size*).

G. Executive Order 13045: Protection of Children From Environmental Health Risks & Safety Risks

The order applies to economically significant rules under *E.O. 12866* that concern an environmental health or safety risk that EPA has reason to believe may disproportionately affect children. This action is not subject to EO 13045 (62 FR 19885, April 23, 1997) because it is not economically significant as defined in EO 12866.

H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use

This action is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355, May 22, 2001), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.,* materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This proposed rulemaking does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629 (Feb. 16, 1994)) establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. The proposed rule would further regulate and reduce pollutants from sewage in California marine waters thus reducing the risk of exposure to all populations, including those covered under this Executive order.

Lists of Subjects in 40 CFR Part 140

Environmental protection, Sewage disposal, Vessels.

Dated: August 25, 2010.

Jared Blumenfeld,

Regional Administrator, Region IX.

In consideration of the foregoing, EPA is proposed to be amend part 140, chapter 1 of title 40 of the Code of Federal Regulations as follows:

PART 140—[AMENDED]

1. The authority citation for part 140 continues to read as follows:

Authority: 33 U.S.C. 1322.

2. Section 140.4 is amended by adding paragraph (b)(2)to read as follows:

§ 140.4 Complete prohibition.

* * * * *

(b) * * *

(2)(i) For the marine waters, of the State of California, including the territorial sea measured from the baseline as determined in accordance with the Convention on the Territorial Sea and the Contiguous Zone and extending seaward a distance of three miles, and also including all enclosed bays and estuaries subject to tidal influences from the Oregon border (41.999325 North Latitude, 124.212110 West Longitude, decimal degrees, NAD 1983) to the Mexican border (32.471231 North Latitude, 117.137814 West Longitude, decimal degrees, NAD 1983), the discharge of sewage (whether treated or not) from large passenger vessels and from large oceangoing vessels that have two days or more holding capacity is completely prohibited pursuant to CWA section 312(f)(4)(A). A map illustrating these waters can be obtained from EPA or viewed at *http://www.epa.gov/region9/water/no-discharge/overview.html.*

(ii) For purposes of paragraph (b)(2) of this section:

(A) A "large passenger vessel" means a passenger vessel, as defined in section 2101(22) of title 46, United States Code, of 300 gross tons or more, that has berths or overnight accommodations for passengers.

(B) A "large oceangoing vessel" means a private, commercial, government, or military vessel of 300 gross tons or more.

(C) Two days of holding capacity is the ability to hold in a holding tank of suitable design, construction and purpose, as determined by the vessel's flag Administration, at least two days of sewage per the vessel's crew capacity at a generation rate of 8.4 gallons per day per person.

(D) Oceangoing vessel crew capacity is determined by: a certificate of inspection issued by the US Coast Guard for US flagged vessels; or a MARPOL Annex 4 certificate issued by the signatory State for foreign flagged vessels. For either certificate, the maximum number of passengers and crew is identified for the vessel.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 223

[Docket No. 0808071080–91228–01]

RIN 0648–AW93

Sea Turtle Conservation; Shrimp and Summer Flounder Trawling Requirements

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS proposes to revise the turtle excluder device (TED) requirements to allow the use of new materials and modifications to existing approved TED designs. Specifically, proposed allowable modifications include the use of flat bar, rectangular pipe, and oval pipe as construction materials in currently-approved TED grids; an increase in maximum mesh size on escape flaps from 1⅝ to 2 inches (4.1 to 5.1 cm); the inclusion of the Boone Big Boy TED for use in the shrimp fishery; the use of three large TED and Boone Wedge Cut escape openings; and the use of the Chauvin