

# No. 13-1745

with Nos. 13-2393, 13-2757, and 14-0039 *Consolidated*

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UNITED STATES COURT OF APPEALS  
FOR THE SECOND CIRCUIT

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NATURAL RESOURCES DEFENSE COUNCIL *et al.*, Petitioners,  
v.  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Respondent,  
LAKE CARRIERS' ASSOCIATION and CANADIAN SHIPOWNERS  
ASSOCIATION, Intervenors

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ON PETITION FOR REVIEW OF FINAL ACTION OF THE  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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**PETITIONERS NATURAL RESOURCES DEFENSE COUNCIL,  
NORTHWEST ENVIRONMENTAL ADVOCATES,  
AND THE CENTER FOR BIOLOGICAL DIVERSITY  
OPENING BRIEF IN PAGE PROOF FORM**

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## CORPORATE DISCLOSURE STATEMENT

Pursuant to Fed. R. App. P. 26.1, Petitioners Northwest Environmental Advocates, Center for Biological Diversity, and Natural Resources Defense Council submit the following Corporate Disclosure Statements.

Petitioner Northwest Environmental Advocates is not publicly traded and has no parent corporation. There is no publicly held corporation that owns 10 percent or more of its stock.

Petitioner the Center for Biological Diversity is not publicly traded and has no parent corporation. There is no publicly held corporation that owns 10 percent or more of its stock.

Petitioner Natural Resources Defense Council is not publicly traded and has no parent corporation. There is no publicly held corporation that owns 10 percent or more of its stock.

Dated this 31st day of January, 2014.

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## STATEMENT OF THE ISSUES

Whether the U.S. Environmental Protection Agency's ("EPA") issuance of the National Pollutant Discharge Elimination System ("NPDES") Vessel General Permit ("VGP") was arbitrary, capricious, and contrary to the Clean Water Act and implementing regulations. Specifically:

- I. Whether EPA violated its duty to set technology-based effluent limitations in the VGP that reflect Best Available Technology;
- II. Whether the VGP's "narrative water quality-based effluent limitation" is unlawful; and
- III. Whether EPA unlawfully failed to establish monitoring requirements in the VGP as necessary to ensure VGP compliance and enforcement.

## JURISDICTIONAL STATEMENT

This Court has original jurisdiction over this case pursuant to Clean Water Act ("CWA" or "Act") section 509(b)(1)(F), 33 U.S.C. § 1369(b)(1)(F). EPA signed the final 2013 VGP on March 28, 2013, and published the permit in the Federal Register on April 12, 2013, EPA. 78 Fed. Reg. 21,938 (April 12, 2013). Petitions for review of NPDES permits must be filed within 120 days from the date of permit issuance. 33 U.S.C. § 1369(b)(1). NPDES permits are considered "issued" for purposes of judicial review two weeks after the date of publication in the Federal Register, here April 26, 2013. 40 C.F.R. § 23.2; *see also* 78 Fed. Reg.

at 21,939. Thus, the 120-day period to file petitions for review of the VGP ran on August 26, 2013.

Petitioner Natural Resources Defense Council (“NRDC”) filed a petition for review of the VGP in this Court on May 3, 2013 (Case No. 13-1745). Also on May 3, 2013, Petitioners Northwest Environmental Advocates (“NWEA”) and the Center for Biological Diversity (“the Center”) jointly filed a petition for review in the Ninth Circuit (9th Cir. Case No. 13-71565). On July 3, 2013, Petitioner National Wildlife Federation (“NWF”) filed a petition for review in the D.C. Circuit (D.C. Cir. Case No. 13-1206). Thus, all petitions were filed within 120 days of the VGP’s issuance and are timely under 33 U.S.C. § 1369(b)(1).

On May 23, 2013, EPA notified the Judicial Panel on Multidistrict Litigation that two petitions seeking review of the same EPA permit had been filed in different circuit courts of appeal. The next day, the Panel issued a Consolidation Order assigning final venue for the petitions (and for any subsequently filed petitions) to this Court. On June 18, 2013, the Ninth Circuit transferred NWEA and the Center’s petition to this Court, which consolidated the case with No. 13-1745 and designated that transferred matter as Case No. 13-2393. On July 15, 2013, the D.C. Circuit transferred NWF’s petition, which this Court designated as Case No. 13-2757, and consolidated it with the two earlier petitions. Petitioners

NRDC, NWEA and the Center herein submit a joint brief in support of their respective petitions for review.<sup>1</sup>

## STATEMENT OF THE CASE

### I. Legal Background

#### A. The Clean Water Act and Technology-Based Effluent Limits

The Clean Water Act, 33 U.S.C. §§ 1251–1387, “is a cornerstone of the federal effort to protect the environment.” *Waterkeeper Alliance, Inc. v. U.S. Evtl. Prot. Agency*, 399 F.3d 486, 490 (2d Cir. 2005). Congress passed the Act with the goal of not just reducing, but *eliminating*, all water pollution. *Id.* (citing 33 U.S.C. § 1251(a)(1)). To achieve this goal, the CWA prohibits the “discharge of

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<sup>1</sup> Petitioners NRDC, NWEA, and the Center, along with Petitioner NWF, have contemporaneously filed a Joint Motion for Leave to File Standing Declarations, and have appended thereto five standing declarations (Exhibits 1–5) that establish Petitioners’ standing in this case. *See Nw. Evtl. Def. Ctr. v. Bonneville Power Admin.*, 117 F.3d 1520, 1527–28 (9th Cir. 1997) (“Because Article III’s standing requirement does not apply to agency proceedings, petitioners had no reason to include facts sufficient to establish standing as a part of the administrative record. We therefore consider the affidavits . . . to determine whether petitioners can satisfy a prerequisite to this court’s jurisdiction.”). These declarations demonstrate that Petitioners use and enjoy the coastal and fresh water ecosystems that have been, and continue to be, destroyed by the introduction of invasive species through ballast water from ships. Petitioners’ injuries are caused by EPA’s failure to effectively regulate the discharges of ballast water from ships, and such injuries could be redressed, at least in part, by a favorable decision from this Court. These declarations establish Petitioners’ standing. *See In re Methyl Tertiary Butyl Ether (MTBE) Products Liab. Litig.*, 725 F.3d 65, 104–05 (2d Cir. 2013) (quoting *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560–61 (1992)) (internal quotations and citations omitted).

any pollutant” from a point source—“any discernible, confined and discrete conveyance”—to navigable waters “except in compliance with law.” 33 U.S.C. §§ 1311, 1362. Discharges of polluted water from vessel ballast tanks are “point source” discharges subject to the CWA’s general prohibition. *See Nw. Env’tl. Advocates v. U.S. E.P.A.*, 537 F.3d 1006, 1021 (9th Cir. 2008).

The main way to achieve compliance with the CWA’s general pollutant discharge prohibition is by obtaining an NPDES permit. 33 U.S.C §§ 1311(a), 1342. Every NPDES permit must establish “effluent limitations” for the pollutants being discharged. *Waterkeeper Alliance*, 399 F.3d at 491 (citing *S. Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, 541 U.S. 95, 102 (2004)).

Technology-based effluent limitations (“TBELs”) are based on “a series of increasingly stringent technology-based standards,” depending on the type of pollutant being discharged. *NRDC v. U.S. E.P.A.*, 822 F.2d 104, 123–24 (D.C. Cir. 1987); *see also Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208, 219–21 (2009).

The most stringent technology-based standard is known as “best available technology economically achievable” (“BAT”), which requires “implementation of pollution controls to the full extent of the best technology which would become available.” *NRDC v. U.S. E.P.A.*, 822 F.2d at 123–24. Ballast water discharges are subject to the BAT standard. *See* Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 48.

The CWA’s technology-based standards are designed to be “technology-forcing.” *See NRDC v. U.S. E.P.A.*, 822 F.2d at 123 (“[T]he most salient characteristic of this statutory scheme, articulated time and again by its architects and embedded in the statutory language, is that it is technology-forcing.”). In *NRDC v. U.S. E.P.A.*, the D.C. Circuit emphasized that the CWA seeks “not only to stimulate but to press development of new, more efficient and effective technologies,” which is the “essential purpose of this series of progressively more demanding technology-based standards.” *Id.* Underscoring this point, the Supreme Court has explained that “Congress wished to mandate the greatest feasible reduction in water pollution” with the BAT standard because the “plain language” of the CWA “requires the EPA to set ‘effluent limitations [which] shall require the elimination of discharges of all pollutants if the Administrator finds . . . that such elimination is technologically and economically achievable[.]’” *Entergy Corp.*, 556 U.S. at 219 (quoting 33 U.S.C. § 1311(b)(2)(A)).

#### **B. The CWA and Water Quality-Based Effluent Limits**

If the TBELs in an NPDES permit are not sufficient to meet established water quality standards, permits must also contain water quality-based effluent limitations (“WQBELs”) to ensure compliance with water quality standards. *See* 33 U.S.C. §§ 1311(b)(1)(C), 1342(a)(2). EPA “is under a specific obligation to require that level of effluent control which is needed to implement existing water



quality standards without regard to the limits of practicability.” S. Rep. No. 92-414, at 43 (1971). Because WQBELs are set irrespective of costs and technology availability, they further the technology-forcing policy of the CWA. *See NRDC v. U.S. E.P.A.*, 859 F.2d 156, 208 (D.C. Cir. 1987) (“A technology-based standard discards its fundamental premise when it ignores the limits inherent in the technology. By contrast, a water quality-based permit limit begins with the premise that a certain level of water quality will be maintained, come what may, and places upon the permittee the responsibility for realizing that goal.”); *see also Riverkeeper, Inc. v. U.S. E.P.A.*, 475 F.3d 83, 108 (2d Cir. 2007) (Sotomayor, J.) (referencing the Act’s “technology-forcing imperative”), *rev’d sub nom by Entergy Corp.*, 556 U.S. 208.

WQBELs must be set at a level that achieves water quality standards developed by the states for waters within their boundaries. *See* 33 U.S.C. § 1313(a)(3), (c)(2)(a); 40 C.F.R. Part 131; *PUD No. 1 of Jefferson Cnty. v. Wash. Dept. of Ecology*, 511 U.S. 700, 704–707 (1994). Such standards consist of designated uses for waters and water quality criteria (both numeric and narrative) necessary to protect those uses. 33 U.S.C. § 1313(c)(2)(a); 40 C.F.R. §§ 131.10–.11. Under the CWA’s “antidegradation policy,” state standards must also protect existing uses of waters and prevent their further degradation. 40 C.F.R. § 131.12. EPA must approve each state’s standards. *See* 33 U.S.C. § 1313(a)(3). Even

where a state has not established numeric criteria for a particular pollutant, NPDES permits must still ensure compliance with designated uses, anti-degradation policy, and applicable narrative water quality criteria impacted by that pollutant. *See* EPA, 2013 Final Issuance of National Pollutant Discharge Elimination System Vessel General Permit for Discharges Incidental to the Normal Operation of Vessels Fact Sheet (“Fact Sheet”), EPA-HQ-OW-2011-0141-0950 at 111. Additionally, under CWA section 401, states may certify that permits issued by EPA will meet state water quality standards. *See* 33 U.S.C. § 1341.

EPA’s regulations mirror the statutory requirement for WQBELs. 40 C.F.R. § 122.44(d). NPDES effluent limitations must control all pollutants that are or may be discharged at a level “which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.” 40 C.F.R. § 122.44(d)(1)(i). WQBELs in NPDES permits must be “derived from” all applicable water quality standards. 40 C.F.R. § 122.44(d)(1)(vii). WQBELs are typically expressed numerically, but when “numeric effluent limitations are infeasible,” a permit may instead require “[b]est management practices (BMPs) to control or abate the discharge of pollutants.” 40 C.F.R. § 122.44(k)(3). However, “[n]o permit may be issued: . . . [w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States.” 40 C.F.R. § 122.4(d).

When EPA or states establish WQBELs, they must translate applicable water quality standards into permit limitations. *See Trustees for Alaska v. U.S. E.P.A.*, 749 F.2d 549, 556–57 (9th Cir. 1984) (holding that a permit must do more than merely incorporate state water quality standards—it must translate state water quality standards into the end-of-pipe effluent limitations necessary to achieve those standards). As the D.C. Circuit put it, “the rubber hits the road when the state-created standards are used as the basis for specific effluent limitations in NPDES permits.” *American Paper Inst., Inc. v. U.S. E.P.A.*, 996 F.2d 346, 350 (D.C. Cir. 1993). Although numeric criteria are easier to translate into a permit limitation, permit writers must also translate state narrative standards. *See id.*

EPA has explained that a WQBEL is “[a]n effluent limitation determined by selecting the most stringent of the effluent limits calculated using all applicable water quality criteria (e.g., aquatic life, human health, wildlife, *translation of narrative criteria*) for a specific point source to a specific receiving water.” EPA, NPDES Permit Writers’ Manual, Appendix A at A-17 (Sept. 2010) (emphasis added).<sup>2</sup> As relevant here, EPA concluded that no states have established numeric water quality criteria for living organisms or aquatic nuisance species. Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 111. Thus, for the VGP, EPA was required to establish WQBELs that ensure compliance with the narrative criteria, designated

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<sup>2</sup> Available at [http://www.epa.gov/npdes/pubs/pwm\\_app-a.pdf](http://www.epa.gov/npdes/pubs/pwm_app-a.pdf) (last visited Jan. 30, 2014).

uses, and antidegradation policies that comprise state water quality standards. As EPA noted, “[w]hile State [water quality standards] do not specifically address [invasive species], many narrative criteria and anti-degradation and general policies of applicable state water quality standards do seek to prevent the types of degradation that is associated with the introduction of [invasive species] into receiving waters. *Id.*

### **C. The CWA’s Monitoring and Reporting Requirements**

NPDES permits must contain conditions requiring both monitoring and reporting of monitoring results. 33 U.S.C. § 1342(a)(2); 40 C.F.R. § 122.44(i)(1) & (2). EPA’s regulations specify that permits shall include conditions requiring monitoring “[t]o assure compliance with permit limitations.” 40 C.F.R. § 122.44(i)(1). More specifically, a permit must include “requirements to monitor . . . each pollutant limited in the permit” to ascertain whether the pollutants in the discharge stay within the limitations the permit prescribes. *Id.* at § 122.44(i)(1)(i). Such conditions are necessary to verify compliance with effluent limitations and to facilitate permit enforcement. *NRDC v. Cnty. of Los Angeles*, 725 F.3d 1194, 1208 (9th Cir. 2013).

## **II. Factual Background**

### **A. Ballast Water Discharges Pose Serious Environmental and Economic Threats**

Aquatic vessels take on and discharge ballast water to assist with draft, buoyancy, and stability. *See* Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 25. The volumes for individual ships can be as high as 24 million gallons (equivalent to six Olympic swimming pools). *Id.* at 25. When vessels take on ballast, they inadvertently transport small live organisms and their eggs and larvae, sediment, and chemicals. *See, e.g.*, EPA-HQ-OW-2011-0141-0332 (“A single ballast tank can contain hundreds of species.”) As vessels move from port to port, the discharge of this contaminated ballast water becomes “one of the primary sources . . . for the spread of aquatic invasive species[.]” Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 68. These discharged invasive species often out-compete native species, damage habitats, alter existing food webs, damage human infrastructure, and destroy the chemical and physical balance of their new environments. *See* Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 19.

#### **1. Ecological Harm**

The changes wrought by invasive species have had profound environmental consequences. Invasions have been increasing over time, and the numbers are staggering. According to the National Marine Fisheries Service (“Fisheries Service”):

Annually, reproductively viable populations of non-native species were being introduced at the rate of one species per year in the early 1800s, increasing to approximately 3 new species a year in San Francisco Bay alone between the 1960s and 1990s. By the early 1990s, non-native species comprised 40 to 100% of the common species in the San Francisco Bay, 97% of the total organisms, and 99% of the biomass there. This story was similar throughout the US as habitat alteration and economic globalization led to increasing reports of ecological and economic impacts from invasive species.

EPA-HQ-OW-2011-0141-1035 at 310 (internal citations omitted). Moreover, according to the U.S. Fish and Wildlife Service, the number of known invasions is a “gross underestimate” because of inadequate surveys. *See, e.g.*, EPA-HQ-OW-2011-0141-0955 at 104; EPA-HQ-OW-2011-0141-0212 at 5–8. And “[i]ncreasing the number of reproductive members of an invasive population increases the probability that a successful establishment will occur[.]” EPA-HQ-OW-2011-0141-1035 at 307.

“Today, ballast water of ships appears to be the leading source of invasions for coastal habitats in the U.S. and elsewhere.” EPA-HQ-OW-2011-0141-0294 at 8. The Fisheries Service reports that “globally between 3,000 and 7,000 individual species are likely being transported in ballast tanks . . . [a] level of inoculation [that] is critical to the risks of non-native species establishing viable reproductive populations,” once discharged. *Id.* at 308. As a result, invasions are on a steeply increasing trajectory in all coastal regions. EPA-HQ-OW-2011-0141-0286 at 14, 20; EPA-HQ-OW-2011-0141-1035 at 310; *id.* at 309 (“The amount of shipping

traffic and the number of incidents of invasions per year are both increasing.”).

“Estuaries and coastlines are particularly susceptible to invasives because of their proximity to sources of invasives, such as ballast discharge[.]” *Id.* at 307.

The ecological damage, and increasing threat, from invasives in the Great Lakes region is equally alarming. Invasive zebra mussels, introduced from ballast water in 1988, took under ten years to spread to all five Great Lakes and into the Mississippi, Tennessee, Hudson, and Ohio River Basins. EPA-HQ-OW-2011-0141-0578 (Attachment 11). Zebra mussels, and a subsequent invader, the quagga mussel, have since spread from the Great Lakes to California, Nevada, Colorado, and Arizona. EPA-HQ-OW-2011-0141-0578 (Attachment 20) at 2. Numerous other species have invaded the Great Lakes, causing “very real environmental and economic impacts.” *See, e.g.*, EPA-HQ-OW-2011-0141-0578 (Attachment 5) at 5.

Vessels that ply the Great Lakes exclusively, termed “lakers,” move billions of gallons of ballast water annually within the Great Lakes, spreading invasive species. *See* EPA-HQ-OW-0141-0578 (Attachment 41) at 4, 10–12. Lakers account for over 95 percent of ballast water volumes transferred in the Great Lakes, posing a specific threat because their short trips result in a high survival rate for organisms in their ballast. *Id.* at 4, 11.

The degradation by invasives in the Great Lakes is just one of countless such stories. The Fish and Wildlife Service estimates that invasive species are “a

contributing factor in the listing as threatened or endangered of more than 50% of fish species and 33% of invertebrates[.]” EPA-HQ-OW-2011-0141-0955 at 118. During the twentieth century, invasive species contributed to 68 percent of fish extinctions. *Id.* at 120; *see also* EPA-HQ-OW-2011-0141-0040 at 17, 46, 53 (explaining that “the total number of aquatic species introductions to Florida and Texas is nearly 2-3 times the U.S. 50-state average,” and ballast water is a vector for invasive shrimp and shrimp viruses in the Gulf of Mexico).

The ecological threats posed by invasives are likely to worsen in light of other considerations. Climate change, for instance, will increase the potential for invasive colonization by “favoring the colonization, survival, and growth of some invasive species over native species.” EPA-HQ-OW-2011-0141-0172; *see also* EPA-HQ-OW-2011-0141-1035 at 307. In addition, “[t]he scale, intensity, and rate of human activities and associated impacts” make aquatic and coastal systems “more vulnerable to invasions by non-native species.” EPA-HQ-OW-0141-1035 at 307.

Harm from invasives is often indirect, and therefore not susceptible to prediction. For example, multiple invasive species can create unexpected additive ecological impacts. *See, e.g., id.* at 309; EPA-HQ-OW-2011-0141-0040 at 46 (in the Gulf Coast ballast water’s “mix of crustaceans” may “amplify” the possibility of viral transmission between species). The zebra mussel, forming colonies up to



one foot thick, has increased water clarity to such a degree as to cause “explosive growth of harmful algal blooms,” which in turn decimate native species. EPA-HQ-OW-2011-0141-0578 (Attachment 20) at 2.

## 2. Economic Harm

Invasive species also cause significant economic harm. Commercial and recreational fisheries have been devastated by invasives. *See, e.g.*, EPA-HQ-OW-2011-0141-0004 at 130–31. Zebra mussels alone have destroyed the \$3 billion Mississippi River shellfishing industry. *Id.* at 131. Invasive species also harm water-based recreation and tourism. *See, e.g., id.* at 132. Zebra mussels have degraded beaches with sharp shells, rotting flesh, and algal growth. *Id.* Invasives cause billions of dollars of damage to American infrastructure, largely through fouling of water intake structures. *See id.* at 137. And costs associated with ballast water discharges of human pathogens, such as cholera, are of “increasing concern.” *Id.* at 134.

The total costs attributable to aquatic invasive species are, in EPA’s own words, “staggering.” *Id.* at 130. One study estimates that nationwide costs for invasive species control alone amount to \$9 billion annually. *Id.* They cost the Great Lakes region over \$200 million every year. U.S. E.P.A., 2013 VGP: EPA’s Response to Public Comments (“Response”), EPA-HQ-OW-2011-0141-0926 at 352. States have assumed an immense economic burden to control aquatic

invasive species. *See e.g.* EPA-HQ-OW-2011-0141-0573 at 2–3. And the National Park Service notes that these already extraordinary cost estimates “do not account for significant changes in the large lakes’ food webs, nor the potential costs of long term impacts from new diseases that cannot be eradicated.” EPA-HQ-OW-2011-0141-0742 at 1.

### **3. Treating Ballast Water Discharges**

Ballast can be treated to kill or remove live invasive species in two ways. First, before discharging ballast in and around ports, vessels can use shipboard treatments, including flushing ballast tanks in the open ocean, a method called “exchange.” Despite some measurable success, “the number of organisms being released [after exchange] in small geographic locations is very high.” EPA-HQ-OW-2011-0141-1035 at 311. Likewise, shipboard technology is predicted to cause significant numbers of invasions. *See infra*, fn. 19. Alternatively, ballast could be treated at onshore facilities. *See, e.g.*, EPA-HQ-OW-2011-0141-0013 at 63 (ballast treated to remove oil at Valdez Marine Terminal in Alaska); EPA Science Advisory Board, Efficacy of Ballast Water Treatment Systems: a Report by the EPA Science Advisory Board (July 11, 2011) (“SAB Report”) EPA-HQ-OW-2011-0141-0229 at 80. Similar facilities have been used over “decades of successful water treatment and sewage treatment.” *Id.* at 7. The SAB thought the efficacy of onshore treatment would be 1,000 times international standards for all

organisms. *Id.* at 53. Significantly, while shipboard technologies can be used on shore, the converse is not true; many onshore technologies would not work on vessels. *Id.* at 7.

## **B. EPA's History Regarding Ballast Water Discharges**

### **1. Years of EPA's Failure to Regulate**

For more than 30 years, EPA categorically, and unlawfully, exempted vessel discharges from CWA permit requirements. *See* 40 C.F.R. § 122.3(a). The facts in this case demonstrate that EPA's original justification for the exemption—that “this type of discharge generally causes little pollution,” 38 Fed. Reg. 13,528 (May 22, 1973)—was drastically misguided.

On January 13, 1999, Petitioner NWEA and other organizations petitioned EPA to repeal the vessel discharge exemption based on its inconsistency with the plain language of the CWA. After years waiting for EPA's response, and then five more years of litigation challenging EPA's denial of the petition, on July 23, 2008, the Ninth Circuit upheld a district court's ruling that the exemption was unlawful and ordered its repeal. *Nw. Env'tl. Advocates v. U.S. E.P.A.*, No. C-03-05760-SI, 2005 WL 756614 (N.D. Cal. Mar. 30, 2005), *aff'd*, 537 F.3d 1006 (9th Cir. 2008); *see also Nw. Env'tl. Advocates v. U.S. E.P.A.*, No. C-03-05760-SI, 2006 WL 2669042 (N.D. Cal. Sept. 18, 2006) (remedy order).

## 2. The 2008 VGP

Following the Ninth Circuit's ruling, EPA issued the 2008 Vessel General Permit ("2008 VGP"). 73 Fed. Reg. 34,296 (June 17, 2008). The 2008 VGP included exclusively narrative provisions aimed at ballast discharges. Petitioners in this case challenged the 2008 VGP, resolving the litigation through settlement in 2011.<sup>3</sup> Under the 2011 settlement with Petitioners and the State of Michigan, EPA agreed that the next VGP would include "numeric concentration-based effluent limits for discharges of ballast water expressed as organisms per unit of ballast water volume." Settlement Agreement ¶ 9 (Mar. 8, 2011), Docket No. 1296922, *NRDC v. U.S. E.P.A.*, D.C. Cir. No. 09-1089. EPA also agreed to set numeric effluent limits that "represent the applicable levels of technology-based controls" and to "include more stringent water quality-based effluent limitations" if necessary to meet applicable water quality standards. *Id.* ¶ 13.

## 3. Establishing the Effluent Limits in the 2013 VGP

To develop appropriate effluent limits in a new permit, EPA requested the assistance of two scientific panels, one from EPA's Science Advisory Board ("SAB") and the other from the National Academy of Sciences ("NAS").

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<sup>3</sup> The shipping industry also unsuccessfully challenged the 2008 VGP. *Lake Carriers' Ass'n v. EPA*, 652 F.3d 1, 12 (D.C. Cir. 2011).

**a. The Science Advisory Board**

The SAB advised EPA on treatment technology issues. To comply with the CWA and 2011 settlement, EPA needed to evaluate BAT for discharged ballast water. Yet EPA artificially constrained its BAT analysis and restricted the “charge” it gave to the SAB. Specifically, EPA told the SAB to analyze “the effectiveness of *existing* technologies for *shipboard* treatment of vessel ballast water, how these technologies might be improved in the future, and how to overcome limitations in existing data.” SAB Report, EPA-HQ-OW-2011-0141-0229 at 3 (emphasis added). EPA expressly limited the SAB’s work to evaluating technologies that can be installed on individual ships, thereby excluding the consideration of onshore treatment facility technologies like those used to treat industrial and domestic wastewater. *Id.* at 4–8, 30; *see also* EPA-HQ-OW-2011-0141-0029 at 17–20 (EPA presentation describing SAB charge).

Consistent with this narrowly-drawn mandate, the SAB assessed 15 shipboard technologies. SAB Report, EPA-HQ-OW-2011-0141-0229 at 1. During this process, EPA “consistently opposed” the inclusion of a detailed assessment of onshore treatment technology in the SAB’s report. EPA-HQ-OW-2011-0141-0487 at 5 (comment letter signed by eight SAB members). Consequently, “relevant information and analysis that could have been developed by the [Board] was not,

and some of what was developed by [Board] members was excluded or deleted from the final draft.” *Id.* at 5.

Nonetheless, the SAB found that onshore technologies appear to be “technically feasible, and . . . likely . . . more reliable and more readily adaptable than shipboard treatment.” SAB Report, EPA-HQ-OW-2011-0141-0229 at 7.

Ultimately, the SAB recommended that EPA

conduct a comprehensive analysis comparing biological effectiveness, cost, logistics, operations, and safety associated with both shipboard [treatment systems] and reception facilities. If the analysis indicates that treatment at reception facilities is both economically and logistically feasible and is more effective than shipboard treatment systems, it should be used as the basis for assessing the ability of available technologies to remove, kill, or inactivate living organisms to meet a given discharge standard.

*Id.* at 8.

Despite the SAB’s recommendation, EPA did not compare onshore and shipboard technologies. See Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 92. Instead, EPA declared onshore treatment “unavailable” because it was “unaware of any such onshore treatment facilities” that are both “capable of meeting the VGP’s ballast water standards” and “currently available in the U.S.” *Id.* EPA discounted evidence supporting the availability and superior efficacy of onshore technology, on the grounds such evidence was based on other types of wastewater facilities. *See, e.g.*, Response, EPA-HQ-OW-2011-0141-0926 at 900. EPA identified potential obstacles to onshore treatment, but neither

analyzed them nor compared them against obstacles and limitations associated with shipboard technologies. Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 91-93. Nor did EPA consider whether the advantages of onshore treatment might outweigh its disadvantages. *Id.*

EPA further narrowed the SAB's focus to the question of whether various technologies would meet existing international treatment standards. Specifically, EPA instructed the SAB to use as "performance benchmarks" the so-called "IMO D-2" (hereinafter "IMO") standards drafted in 2004 by the International Maritime Organization. SAB Report, EPA-HQ-OW-2011-0141-0229 at 2. EPA did not ask the SAB to consider the appropriateness of these standards in light of their age and the U.S. delegation's having urged stricter requirements. EPA-HQ-OW-2011-0141-0536 at 4. Nor did it task the SAB with assessing the maximum reduction in pollutant discharges achievable with today's technologies, potentially beyond the levels set years ago by an international body.

**b. The NAS Committee**

The National Research Council's Committee on Assessing Numeric Limits for Living Organisms in Ballast Water (hereinafter "NAS Committee") was formed to help EPA understand "the relationship between the concentration of living organisms in ballast water discharges and the probability of nonindigenous organisms successfully establishing populations in U.S. waters." National

Research Council, *Assessing the Relationship Between Propagule Pressure and Invasion Risk in Ballast Water*, Washington, D.C.: The National Academies Press, 2011 (“NAS Report”), EPA-HQ-OW-2011-0141-0578 (Attachment 14) at 2.<sup>4</sup> The NAS Committee was asked to evaluate the “*state of the science* of various approaches that assess the risk of establishment of aquatic nonindigenous species given certain concentrations of living organisms in ballast water discharges.” *Id.* at vii (emphasis added). The Committee concluded that “[t]he current state of science does not allow a quantitative evaluation of the relative merits of various discharge standards in terms of invasion probability.” *Id.* at 110.

**c. The Final 2013 VGP**

On March 28, 2013, EPA issued the 2013 VGP at issue in this case; it became effective on December 19, 2013. 78 Fed. Reg. 21,938 (April 12, 2013). The VGP sets numeric technology-based effluent limitations, or TBELs, consistent with the IMO treatment standards. The IMO standard includes numeric concentration limits for: (1) organisms larger than 50 micrometers (“large organisms”); (2) organisms between 10 and 50 micrometers in size (“medium organisms”); and (3) three types of pathogen and pathogen indicators. VGP § 2.2.3.5, EPA-HQ-OW-2011-0141-0880.

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<sup>4</sup> Available at [http://www.epa.gov/npdes/pubs/nas\\_final\\_report\\_prepublication\\_version.pdf](http://www.epa.gov/npdes/pubs/nas_final_report_prepublication_version.pdf) (last visited Jan. 31, 2014).



Citing the SAB Report, EPA explained that some shipboard technologies could meet the IMO standards, and that “no current ballast water treatment technologies were considered likely to meet” more stringent treatment levels. EPA-HQ-OW-2011-0141-0030 at 76; *see also id.* at 73. Eight SAB members responded that EPA had mischaracterized the Board’s conclusions, because EPA had charged the SAB with answering the “much narrower question of whether shipboard treatment systems could meet a certain specific set of standards.” EPA-HQ-OW-2011-0141-0487 at 1; *see also* EPA-HQ-OW-2011-0141-0229 at 11.

EPA also concluded that, even with the TBELS, discharges still had “reasonable potential to cause or contribute to an exceedance of water quality standards.” Fact Sheet, EPA-HQ-OW-2011-0141-0003 at 120. EPA’s “reasonable potential” determination obligated the agency to include water quality-based effluent limitations, or WQBELs, “as stringent as necessary” to meet water quality standards. *Id.* at 110. EPA acknowledged this obligation but claimed that “[s]uch limits may be expressed non-numerically where numeric limits are ‘infeasible to calculate.’” *Id.* at 120. EPA relied on the NAS Report as the basis for its determination that numeric WQBELs were infeasible to calculate. *Id.* As a result, EPA included a so-called “narrative WQBEL” that provides: “Your discharge must be controlled as necessary to meet applicable water quality standards[.]” VGP § 2.3.1, EPA-HQ-OW-2011-0141-0949.

Although the evidence before EPA clearly demonstrated that discharges of both ballast water and invasive species are increasing, as are the established populations of invasive species, EPA developed effluent limits in the VGP that “do not improve significantly upon ballast water exchange (the current *status quo*).” EPA-HQ-OW-2011-0141-0633 at 2. The sheer numbers of invasive species allowed to be discharged under the VGP remain extraordinarily high. *See, e.g.*, EPA-HQ-OW-2011-0141-0573 at 7; EPA-HQ-OW-2011-0141-0313 at A-39–40; EPA-HQ-OW-2011-0141-1035 at 311–313, 309 (even meeting the TBELS makes possible “per-ship discharges in excess of  $10^6$  total zooplankton[.]”).

### STANDARD OF REVIEW

While Petitioners’ right of action is provided by CWA section 509(b)(1), 33 U.S.C. § 1369(b)(1), the standard of review for this case is provided by the Administrative Procedure Act (“APA”). *See Native Vill. of Kivalina IRA Council v. U.S. E.P.A.*, 687 F.3d 1216, 1219 (9th Cir. 2012) (setting forth the APA standard of review governing a challenge to an EPA-issued NPDES permit brought pursuant to CWA section 509(b)(1)(F)); *Hooker Chemicals & Plastics Corp. v. Train*, 537 F.2d 620, 630–31 (2d Cir. 1976) (applying the APA’s standards in a challenge to an EPA regulation brought pursuant to CWA section 509). Under the APA, this Court reviews EPA’s action to determine whether it is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. §

706(2)(A); *Islander E. Pipeline Co., LLC v. McCarthy*, 525 F.3d 141, 150 (2d Cir. 2008). The Court must determine whether “the agency . . . examine[d] the relevant data and articulate[d] a satisfactory explanation for its action.” *Motor Vehicle Mfrs. Assn. v. State Farm Mutual Ins. Co.*, 463 U.S. 29, 43 (1983). The agency’s decision must show “a rational connection between the facts found and the choice made.” *Id.* An agency action found wanting “shall” be “set aside.” 5 U.S.C. § 706(2).

### SUMMARY OF THE ARGUMENT

The CWA and EPA’s implementing regulations mandate that NPDES permits contain three fundamental requirements: (1) effluent limitations that reflect the best available technology; (2) effluent limitations that ensure discharges will achieve water quality standards; and (3) monitoring and reporting requirements that enable permittees, EPA, and the public to determine compliance with the permit’s terms. 33 U.S.C. §§ 1311(b)(1)(C), 1311(b)(2)(A), 1314(b)(2)(B), 1342(a)(2); 40 C.F.R. §§ 122.4(d), 122.44(d), 122.44(i)(1)&(2), 125.3(a)(2). In issuing the VGP, EPA failed on all three counts.

First, EPA violated its duty to establish effluent limitations in the VGP that reflect the best available technology. The CWA required EPA to identify the best available technology *and then* establish permit effluent limitations that the technology could meet. Instead, EPA—apparently determined to achieve the

outcome it desired—took a backwards approach to setting these permit limits. EPA chose outdated treatment standards previously adopted by an international organization under a different statutory scheme, and then defined “best available technology” as the technology that could meet only those standards. In doing so, EPA ignored its own scientific panel’s recommendation that more protective standards are achievable today and that a more detailed investigation into onshore treatment technologies, in particular, was warranted by the scientific evidence. As a result, limitations in the VGP do not reflect the best available technology, as required by the CWA.

Second, EPA issued a permit that does not ensure that water quality standards will be met. EPA determined that, even if vessels meet the VGP’s technology-based effluent limitations, their discharges may violate water quality standards. EPA was therefore required to establish additional effluent limitations to protect applicable water quality standards and designated uses. The VGP contains no such limits. It simply states, “[y]our discharge must be controlled as necessary to meet applicable water quality standards[.]” VGP § 2.3.1, EPA-HQ-OW-2011-0141-0880. Contrary to the CWA and EPA’s own regulations, this provision puts the burden on vessel operators to determine how to control their discharges to meet water quality standards—a burden impossible for them to meet. In rationalizing its approach, EPA improperly hid behind the uncertainties inherent

in the science of predicting invasions. Neither the record nor the law supports EPA's "narrative" approach to meeting the unequivocal statutory requirement that NPDES permits assure compliance with water quality standards.

Third, EPA failed to include adequate monitoring and reporting requirements in the VGP. The "indirect" monitoring provisions for the technology-based limits in the VGP do not comply with EPA's governing regulations. And the VGP contains no monitoring requirements pertaining to its narrative water quality-based provision. The lack of any meaningful monitoring requirements in the VGP renders it effectively unenforceable, contrary to the CWA, the implementing regulations, and well-established precedent.

## **ARGUMENT**

### **I. EPA Violated its Duty to Set Technology-Based Limits that Reflect Best Available Technology**

As discussed above, the CWA requires EPA to set effluent limits for ballast water discharges that reflect the "best available technology economically achievable." This standard is "technology-forcing"—meant to push agencies and permittees to adopt feasible technology that achieves the greatest reductions in pollutants and to keep innovating toward a zero discharge outcome. In this case, EPA's own scientific panel concluded that existing onshore treatment technologies for municipal and industrial sources, developed over several decades while EPA unlawfully exempted vessels discharges from the CWA permitting requirements,

might well constitute BAT (as opposed to new technologies being developed for installation on vessels) because onshore technologies can achieve drastically lower pollution outputs. EPA, however, ignored the panel's recommendation to conduct a more detailed investigation, providing only cursory, unconvincing reasons for its actions.

In addition, while the CWA required EPA to identify the best technology that is available today and then set standards based on the pollution reduction levels achieved by that technology, EPA did precisely the opposite: It established as its performance metric the ability to meet outdated international consensus standards and then defined BAT as technologies that were just barely able to meet those treatment standards. EPA's decisions, and the record upon which they are based, are arbitrary and capricious.

**A. EPA Failed to Fully Consider a Technology that May Achieve the Greatest Feasible Reduction in Water Pollution**

**1. The BAT Standard**

The CWA requires EPA to include technology-based permit limits that are "necessary to carry out" the requirements under section 301. 33 U.S.C. § 1342(a)(1)(B). Where, as here, there are no national guidelines for the industrial sector being regulated, EPA must use its "best professional judgment" in setting individual permit limits to reflect the "best available technology economically achievable." 33 U.S.C. § 1314(b)(2)(B); 40 C.F.R. § 125.3(a)(2)(v). And as with

every agency action, EPA's exercise of that judgment must consider all relevant factors and be based on substantial evidence in the record.

BAT mandates "a commitment of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges." *U.S. E.P.A. v. Nat'l Crushed Stone Ass'n*, 449 U.S. 64, 74 (1980). Because the CWA is designed to be technology-forcing, BAT necessarily must consider technologies that are not yet being used for a particular type of discharge, but *could* potentially be used in that industry. In *Kennecott v. U.S. E.P.A.*, 780 F.2d 445, 453 (4th Cir. 1985), the Fourth Circuit required EPA to "survey related industries and current research" in order to identify BAT for the industrial source in that case, consistent with the CWA's goal of "pushing industries toward the [statutory] goal of zero discharge as quickly as possible." *Id.* at 448. Progress toward this objective "would be slowed if EPA were invariably limited to treatment schemes already in force." *Id.* at 453; *see also Tanners' Council of Am., Inc. v. Train*, 540 F.2d 1188, 1195 (4th Cir. 1976) ("[T]he Agency may . . . assess technologies that have not been applied so long as the record demonstrates that there is a reasonable basis to believe that the technology will be available."); *cf. NRDC v. U.S. E.P.A.*, 822 F.2d at 123 ("[T]he most salient characteristic of [the] statutory scheme . . . is that it is technology-forcing.").

In other words, “available” for purposes of BAT means generally available in a technological sense, not merely available to a particular industry for a particular discharge. *See Am. Petroleum Inst. v. U.S. E.P.A.*, 858 F.2d 261, 264–65 (5th Cir. 1988) (explaining that “available” does not mean widely used in the same industry); *Kennecott v. U.S. E.P.A.*, 780 F.2d at (Congress “contemplated that EPA might use technology from other industries”). Indeed, EPA itself has repeatedly argued, and the courts have agreed, that it may and should adopt as BAT appropriate treatment technologies developed for use in other industries. *See, e.g., Kennecott*, 780 F.2d at 453 (upholding EPA’s use of a manufacturing technology from one industry as part of a BAT determination for treating wastewater in another industry); *Reynolds Metals Co. v. U.S. E.P.A.*, 760 F.2d 549, 555, 560–61 (4th Cir. 1985) (upholding EPA’s use of a manufacturing technology to treat wastewater).

**2. EPA’s Selection of BAT was Arbitrary and Capricious Because EPA Did Not Conduct an Independent Analysis of Onshore Treatment**

**a. EPA Foreclosed the SAB from Considering Onshore Treatment**

From the outset, EPA instructed the SAB to consider only existing *shipboard* treatment systems, *see* SAB Report, EPA-HQ-OW-2011-0141-0229 (cover letter) at 3–5, 30, and “consistently opposed” the SAB’s attempts to assess onshore treatment technology. EPA-HQ-OW-2011-0141-0487 at 5. Having



foreclosed SAB's meaningful evaluation of technologies that are routinely used by municipalities and other industries, EPA then relied on the SAB Report to justify its decision to ignore these same technologies in setting BAT. *See, e.g.*, EPA-HQ-OW-2011-0141-0926 at 899–901. When EPA claimed that “no current ballast water treatment technologies were considered likely to meet” standards more stringent than the IMO standards, Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 73, 76, eight SAB panel members objected that EPA had mischaracterized their conclusions. EPA, they explained, had asked them to answer only “whether *shipboard* treatment systems could meet *certain specific sets of standards*[.]” EPA-HQ-OW-2011-0141-0487 at 1.

EPA's reliance on a study whose authors were expressly constrained from considering important aspects of the issue was inexcusable error. *See Humana of Aurora, Inc. v. Heckler*, 753 F.2d 1579, 1583 (10th Cir. 1985) (“When an agency adopts a regulation based on a study not designed for the purpose and which is limited and criticized by its authors on points essential to the use sought to be made of it, the administrative action is arbitrary and capricious.”); *see also Tex. Oil & Gas Ass'n v. U.S. E.P.A.*, 161 F.3d 923, 935 (5th Cir. 1998) (A “regulation cannot stand if it is based on a flawed, inaccurate, or misapplied study.”); *Almay, Inc. v. Califano*, 569 F.2d 674, 677 (D.C. Cir. 1977) (finding invalid an FDA regulation

that relied on a survey that was “silent in some important respects,” among other flaws).

**b. EPA’s Reasons for Failing to Analyze Onshore Treatment Were Arbitrary**

Notwithstanding EPA’s objections, the SAB considered onshore treatment technologies of sufficient merit to warrant some preliminary information and analysis in its final report. *See* SAB Report, EPA-HQ-OW-2011-0141-0229 at 80–88. The SAB concluded that “generations of successful water treatment and sewage treatment technologies” indicate that ballast water could be transferred for treatment in onshore facilities. *Id.* at 7. A majority of the studies discussed in an appendix in the SAB’s Report—including every study conducted in the last decade—found onshore treatment to be at least as feasible as shipboard treatment. *See id.*, Appendix B-2. The SAB also found that “studies suggest that treating ballast water in [onshore] reception facilities would be at least as economically feasible” as shipboard treatment. *Id.* at 96. The U.S. Coast Guard, for example, found onshore reception facilities to be “generally less expensive on a per metric ton basis than shipboard treatment.” *Id.* at 81. Overall, “the most detailed published comparisons” of onshore and shipboard treatments judged onshore to be “as effective or more effective, and generally cheaper.” *Id.* at Appendix B-3.

The SAB went on to explain that because onshore methods have proven highly effective in other water treatment contexts and would obviate many

shipboard-specific limiting factors, onshore systems “show promise to achieve more stringent ballast water treatment standards” than shipboard systems. SAB Report, EPA-HQ-OW-2011-0141-0229 at 80–81 (noting that onshore reception facilities are not impacted by the kind of “vibration, small and busy crews, limited space and weight allowances, limited power, potentially increased corrosion rates and sometimes short voyages” that limit shipboard systems and could therefore “use more effective technologies and processes such as those commonly used in water treatment”). Because a move to onshore facilities would centralize treatment and require less treatment capacity, the SAB analogized the move from onboard to onshore treatment to “a shift from household septic tanks to wastewater treatment plants.” *Id.* at 81.

The SAB emphasized that its preliminary analysis was incomplete, recommending that EPA study onshore technologies more thoroughly. *See id.* at 8, 97, cover letter (stating that “insufficient attention has been given” to “practices and technologies that could be used to systematically advance ballast water treatment,” including “treatment of ballast water in onshore reception facilities”). Despite the SAB’s recommendation, however, EPA did not engage in any analysis of its own. Thus, EPA not only foreclosed consideration of onshore treatment early in the SAB process, it rejected its own advisory board’s express

recommendation to further consider such technology and never even attempted to determine whether onshore treatment was available or economically achievable.

None of EPA's perfunctory reasons for eliminating onshore treatment technologies from consideration has merit. First, EPA asserted that onshore treatment technology is not "available" because onshore treatment facilities in the United States may not currently be treating ballast discharges and because "reliable data" are not available. Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 92; Response, EPA-HQ-OW-2011-0141-0926 at 551. In particular, it dismissed studies showing the feasibility of onshore wastewater technologies to treat the kinds of pollutants found in ballast water merely because those studies evaluated such technologies in the context of *other* industries. *See, e.g.*, EPA-HQ-OW-2011-0141-0926 at 900.

This was not a valid basis for failing to meaningfully evaluate possible technologies, particularly where the record shows that they may well be both available and economically achievable. The "technology-forcing" aspect of the CWA compels EPA, and therefore dischargers, to adopt those treatment technologies that can best reduce pollution, instead of reinforcing a less protective status quo. *NRDC v. U.S. E.P.A.*, 822 F.2d at 123. To satisfy this obligation, EPA must at the very least give meaningful consideration to environmentally superior technologies.

EPA's claim that it could ignore treatment technologies in use by other sectors merely because those technologies have not yet been deployed in the shipping industry is wrong as a matter of law. As this Circuit has explained,

[t]hat no plant in a given industry has [yet] adopted a pollution control device which could be installed does not mean that that device is not "available." Congress did not intend to permit continuance of pollution by industries which have failed to cope with and attempt to solve the problem of polluted water.

*Hooker Chem. & Plastics Corp.*, 537 F.2d at 636; *cf. Chem. Mfrs. Ass'n v. U.S. E.P.A.*, 870 F.2d 177, 264 (5th Cir. 1989) (stating that just because no plant has been shown to be able to meet all of the limitations does not demonstrate that all of the limitations are not achievable."); *Am. Petroleum Inst. v. U.S. E.P.A.*, 858 F.2d at 264–65 (explaining that "available" does not mean widely used in the same industry); *Kennecott v. U.S. E.P.A.*, 780 F.2d at 453 ("Congress contemplated that EPA might use technology from other industries"). Indeed, EPA itself has previously defined BAT as the "very best control and treatment that have been *or are capable of being achieved.*" R.C. Anderson & P. Kobrin, Regulatory Economic Analysis at the EPA, Prepared under EPA Cooperative Agreement CR822795-01 (June 2000) (emphasis added).<sup>5</sup>

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<sup>5</sup> Available at <http://yosemite.epa.gov/ee/epalib/riaepa.nsf/Table%20of%20Contents> (last visited Jan. 31, 2014).

The BAT requirement contemplates that EPA will look across the spectrum of wastewater treatment technologies for effective methods that could be transferred to the target industry, and then adopt those technologies. *See, e.g., Kennecott*, 780 F.2d at 453. That requirement is especially important here, where the target industry has enjoyed an unlawful regulatory exemption for decades. Of course there are no onshore treatment facilities dedicated specifically to ballast water treatment because, until now, ballast water did not have to be treated. EPA's logic is thus both circular and self-defeating, and it fails to carry out the CWA's strong technology-pushing mandate. Had EPA given meaningful consideration to existing onshore technologies, as the SAB urged, it might have determined that they are both "available" for deployment in the shipping industry and can achieve pollution reductions that are 1,000-times more protective of the environment than existing international standards.

EPA's next basis for rejecting onshore treatment technologies is equally meritless. EPA points to differences between the pollutants found in ballast water and those in drinking water, but does not evaluate whether or how those differences might render onshore technologies ineffective or otherwise unavailable. *See* EPA-HQ-OW-2011-0141-0926 at 900. Courts have rejected the notion that different treatment technologies cannot be compared just because they address different waste streams. *See Kennecott*, 780 F.2d at 451. And the SAB Report

summarizes numerous scientific studies that support precisely this type of comparison. *See generally* SAB Report, EPA-HQ-OW-2011-0141-0229, Appendix B-2.

Finally, EPA justified its action on the basis of proffered obstacles to implementing onshore treatment technologies (*e.g.*, the difficulty of ensuring facilities are widely available, retrofitting ships with necessary pumps and pipes, and accommodating vessels that might need to discharge some ballast water before arriving at shore). EPA-HQ-OW-2011-0141-0950 at 92. But, as the SAB found, shipboard treatment faces many of these same obstacles and others; indeed, *all* ballast treatment technologies face obstacles to their implementation. *See, e.g.*, SAB Report, EPA-HQ-OW-2011-0141-0229 at 39–41, 80 (describing similar obstacles for shipboard treatment); EPA-HQ-OW-2011-0141-0101 at 2 (outlining high costs of shipboard treatment). But that fact does not provide an excuse for disregarding technologies out of hand. If EPA wanted to dismiss potential technologies as too difficult, it first needed to *evaluate* the posited obstacles to determine their legitimacy and compare them across all feasible onshore and shipboard technologies, as the SAB report urged. *See, e.g.*, SAB Report, EPA-HQ-OW-2011-0141-0229 at 85 (noting the need for ships to discharge ballast water before arriving at berth “has not been quantified,” and detailing possible solutions); EPA-HQ-OW-2011-0141-0003 at 102–04 (onshore feasibility report discussing

how the many advantages of onshore treatment may outweigh its disadvantages). Had EPA conducted the comparative evaluation recommended by the SAB and the “extensive economic analysis” that courts have required, it very well may have come to a different conclusion. *See Waterkeeper Alliance*, 399 F.3d at 516 (holding that EPA must “inquire into the initial and annual costs of applying the technology and make an affirmative determination” regarding whether it is economically achievable) (internal quotations omitted); *Nat’l Wildlife Fed’n v. U.S. E.P.A.*, 286 F.3d 554, 563 (D.C. Cir. 2002); *Chem. Mfrs. Ass’n*, 870 F.2d at 202.

In short, the CWA mandates that EPA adopt technology-based permit limits which move the nation toward zero pollution discharge “as quickly as possible.” *Kennecott v. U.S. E.P.A.*, 780 F.2d 445, 448 (4th Cir. 1985). Here, the agency excused the shipping industry from permit compliance for decades and then, when compelled by the courts to regulate vessels, inexplicably refused to consider readily available, more protective, and potentially more cost-effective technology, in use for years by the wastewater treatment industry, simply because that technology has not been used in the past to treat vessel discharges. The effect is to effectively “lock in” less effective treatment technology as the “best,” perhaps for decades to come, even though we know that much more protective technologies already exist and may well be suitable and economically superior for ballast water



treatment. By hastily adopting second-best shipboard technology and forcing the industry to bear the expense of installing it on every vessel over the next few years, EPA will find it difficult or impossible to move this industry toward the kind of environmentally superior onshore treatment that is necessary to halt the relentless spread of invasive species.

**B. EPA’s Decision to Require Compliance with the IMO Treatment Standards Was Arbitrary and Capricious**

EPA made a second fatal error in setting technology-based limits: By directing the SAB to use the IMO treatment standards as “performance benchmarks” and to work backwards from there, EPA further undermined the CWA’s technology-forcing mandate. The statute contemplates that EPA will first assess BAT and then use that identified technology to set appropriate treatment standards. Here, EPA defaulted at the outset to existing international consensus standards—which are not necessarily “best technology” standards and will not protect the nation’s waters from further invasions<sup>6</sup>—and then instructed the SAB to identify technologies that can meet them. Had EPA first considered the best

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<sup>6</sup> Several scientists who commented on the proposed permit stressed that the IMO standards are “inadequate to achieve full prevention of invasive species establishment through the ballast water vector.” EPA-HQ-OW-2011-0141-0446 at 6. Even the study group commissioned by the IMO recommended more stringent standards than were actually adopted. *See* EPA-HQ-OW-2011-0141-0497 at 3.

available technologies, including onshore treatment, it would have been guided to effluent limits that are far more protective than the IMO standards.

Even excluding onshore treatment technologies from the analysis, EPA ignored data indicating that some of the *shipboard* treatment systems evaluated by the SAB can achieve pollutant reductions of up to 10 times the IMO treatment standards. For example, the SAB cited 10 tests showing the Ecochlor system reduced medium size organisms to levels more than 100 times lower than the IMO standard and reduced large organisms to levels more than 30 times below IMO. *See* EPA-HQ-OW-2011-0141-0315 at 26–29; SAB Report, EPA-HQ-OW-2011-0141-0229 at A-1; EPA-HQ-OW-2011-0141-0105 at 9-12; *see also* EPA-HQ-OW-2011-0141-0480 at 3–4; EPA-HQ-OW-2011-0141-0030 at 3; EPA-HQ-OW-2011-0141-0010 at 1, 3–4; EPA-HQ-OW-2011-0141-0126 (Attachment 18) at 1–3; EPA-HQ-OW-2011-0141-1165 at 4. Although EPA admitted that some shipboard data were “promising” and showed “potential” to “perform better than [IMO] limits,” it claimed that improvements in testing methods were needed to support setting stricter technology-based limits. EPA-HQ-OW-2011-0141-0264 at 574, 480. That reasoning is contrary to EPA’s approach in the past and the CWA. *See FMC Corp. v. Train*, 539 F.2d 973, 983–84 (4th Cir. 1976) (holding that EPA correctly set BAT for chemical oxygen demand based on performance data from a single pilot plant).

Moreover, EPA directed the SAB to ignore evidence of technologies to meet any standards for viruses or protists—harmful one-celled organisms—smaller than ten micrometers. EPA-HQ-OW-2011-0141-0229 at 82. The SAB refused and warned EPA that that “[t]here is a critical need to consider harmful representative protists . . . in developing protective ballast water standards.” *Id.* at 65, 82–83. EPA ignored evidence that onshore and shipboard technologies could substantially reduce their concentrations. For example, drinking water treatment systems are currently required by law to reduce virus concentrations by factors of 10,000 or more. *Id.* at 83; EPA-HQ-OW-2011-0141-0487 at 4 (studies indicating that some shipboard treatment systems consistently reduce bacterial concentrations by factors of 100 to 100,000).

EPA, in short, erroneously concluded that “no current ballast water treatment technologies were considered likely to meet standards more stringent than IMO,” in the face of evidence that technologies exist to reduce living organisms by 10, 30, 100, and 1,000 times the arbitrary treatment standards EPA imposed on its BAT analysis. *See* Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 76; EPA-HQ-OW-2011-0141-0487.

### **C. EPA Failed to Properly Analyze Onshore and Shipboard Treatment Technologies for Lakers**

“Lakers,” vessels that travel the Great Lakes exclusively, account for 95 percent of ballast water volumes in the Lakes. These ships spread invasive species

throughout the Great Lakes, introducing them to areas where they are not yet present. EPA-HQ-OW-2011-0141-0926 at 652, 654–55. Despite this threat, EPA exempted existing lakers (those lakers built before January 1, 2009) from the VGP’s otherwise applicable numeric effluent limitations. EPA claimed that there is no treatment technology available for these vessels and cited “unique operational and design constraints” and “challenges,” such as lakers’ having to treat large volumes of fresh cold water, their short voyages, and high pumping rates.<sup>7</sup> Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 100-101. Yet again, EPA failed to analyze onshore treatment technologies, and its analysis of available technologies for existing lakers lacked a reasoned basis.

EPA’s failure here was particularly puzzling in the case of lakers, as EPA’s own advisory panel found that vessels “engaged solely in regional trade” could especially benefit from onshore treatment by avoiding the installation of shipboard technologies and relying on regional treatment facilities. SAB Report, EPA-HQ-OW-2011-0141-0229 at 86; *see also* Response, EPA-HQ-OW-2011-0141-0926 at 558.

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<sup>7</sup> EPA did impose “best management practices” on lakers, including documentation of sediment management, minimization of dockside ballast water uptake, and annual inspections of sea chest screens. Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 72. However, EPA conceded that these measures are less effective than technology-based numeric limitations. Response, EPA-HQ-OW-2011-0141-0926 at 654-55.

EPA also failed to adequately and properly analyze the availability of shipboard treatment technologies for lakers. Whereas EPA established BAT for all other ships based on shipboard technologies, the agency rejected it as too “challenging” for existing lakers. Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 101.<sup>8</sup> EPA failed to explain, however, why these challenges made the technology “unavailable.”

For example, EPA stated that “there are questions about whether there is an adequate supply of ballast water treatment systems” for lakers. Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 101. If EPA’s reference to “supply” was intended to mean that too few treatment systems are commercially available, that consideration is inconsistent with the CWA’s technology-forcing function. If, instead, EPA’s use of “supply” suggested the technology simply does not exist, there is no support in the record for that conclusion. EPA cannot meet its CWA obligations to establish technology-forcing standards by citing vague “questions” as a basis for rejecting the use of treatment technology it found was available for all other vessels. EPA also cited undisclosed “costs” as a factor behind its decision. *Id.* Yet nowhere in the record did EPA identify those costs or explain why they rendered the technology functionally “unavailable” for lakers.

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<sup>8</sup> The “challenges” EPA cites, such as large volumes of fresh cold water, short voyages, and high pumping rates, apply to new lakers as well, yet EPA found that the technology for those vessels is available. The agency never explained this discrepancy.

## II. The VGP's "Narrative WQBEL" Is Unlawful

EPA compounded its legal error by entirely abdicating its duty to set backstop limits that will ensure vessel dischargers meet applicable water quality standards when, as EPA acknowledges here, technology-based limits fail to do so. EPA's so-called "narrative WQBEL" does not ensure compliance with water quality standards, and EPA has not provided a valid legal basis or factual record to support its conclusion that it could do nothing better.

### A. The VGP Does Not Ensure Compliance with Water Quality Standards

EPA does not seriously contend that the VGP will ensure compliance with all water quality standards. Rather, EPA concedes that the permit's technology-based limits will not adequately protect water quality, EPA-HQ-OW-2011-0141-0003 at 114, and explains that it has imposed a WQBEL that it "*expects* to be as stringent as necessary to achieve water quality standards." Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 145 (emphasis added). *See also* Response, EPA-HQ-OW-2011-0141-0926 at 1159 (concluding, without analysis, that there is a "reasonable likelihood that water quality standards will be met"); *id.* at 1105, 1107, 1152. The CWA, however, requires more certainty than EPA's unsupported expectations provide.

As this Circuit has recognized, the requirement that NPDES "permits authorizing the discharge of pollutants may issue only where such permits *ensure*

that every discharge of pollutants will comply with all applicable effluent limitations and standards” is unequivocal. *Waterkeeper Alliance*, 399 F.3d at 498 (emphasis in original); *see also* 33 U.S.C. §§ 1311(b)(1)(C), 1342(a)(2); 40 C.F.R. §§ 122.4(d), 122.44(d). The Environmental Appeals Board (“EAB”), EPA’s own administrative adjudicatory body, has applied this requirement with similar rigidity. For example, the EAB remanded an NPDES permit because EPA determined that its best management practices were only “reasonably capable” of achieving water quality standards. *In re: Gov’t of the D.C. Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323, 2002 WL 257698, at \*1, 16–17 (E.P.A. 2002). The EAB found this determination inconsistent with “ensur[ing] compliance,” especially since nothing in the record supported EPA’s conclusion that standards would be achieved. *Id.* Likewise, here, EPA failed to demonstrate that the VGP will ensure compliance with water quality standards.

**1. The VGP’s “Narrative WQBEL” is Impossible to Interpret and Apply**

The VGP’s so-called “narrative WQBEL” cannot ensure compliance because it is too vague to be interpreted or practically applied by permittees. The “narrative WQBEL” states only: “Your discharge must be controlled as necessary to meet applicable water quality standards[.]” VGP § 2.3.1, EPA-HQ-OW-2011-0141-0880. This provision is, for all intents and purposes, meaningless. EPA has

simply slapped the label “narrative WQBEL” on a provision that is nothing more than a general directive to comply with the law.

Consider how the “narrative WQBEL” would ostensibly work. Every vessel owner or captain would need to know, understand, and be able to interpret the water quality standards for the waters into which the ship discharges. Critically, a vessel operator would need to be capable of translating the state’s standards into an effluent limitation for its own discharges. This task would be challenging even if states had *numeric* criteria for living organisms; they do not. *See* Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 111. States instead rely on vague *narrative* criteria, designated uses, and provisions that forbid degradation.<sup>9</sup> *Id.*

A vessel operator cannot determine whether its ballast water discharge would ensure “no degradation,” protect “propagation of aquatic life,” or satisfy some similarly non-specific requirement. The precise contents of the vessel’s ballast water discharge and the water quality of the receiving water body—information essential to determining whether a discharge has caused or contributed to violations of water quality standards—will be unknown to the vessel operator.

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<sup>9</sup> For example, Minnesota’s narrative criteria require that “aquatic habitat . . . shall not be degraded.” Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 111 (quoting Minn. Admin. Rules CH. 7050.0150 subpart 3). Alaska, like many other states, has designated uses for “[g]rowth and propagation of fish, shellfish, other aquatic life and wildlife.” *Id.* (quoting 18 AAC § 70.020); *see also id.* (describing other state water quality standards that EPA believes require control of invasive species).



If EPA cannot determine what level of discharge is protective, as it claims,<sup>10</sup> Response, EPA-HQ-OW-2011-0141-0926 at 1107, it is entirely implausible that vessel operators will be able to translate these components of water quality standards into effluent limitations. EPA's use of the narrative WQBEL cannot, therefore, *ensure* that each vessel operator complies with water quality standards.

The whole point of establishing effluent limitations in NPDES permits is to avoid guesswork and uncertainty for permittees, enforcement agencies, and the public. While courts have acknowledged that deriving effluent limitations from narrative criteria is “difficult,” permit writers cannot just “[throw] their hands up, and contrary to the Act, simply ignore[] water quality standards including narrative criteria altogether when deciding upon permit limitations.” *American Paper Inst.*, 996 F.2d at 350. In *American Paper Institute*, EPA defended the need to interpret narrative criteria in meaningful permit effluent limits, and the D.C. Circuit agreed. *Id.* at 356. Here, in contrast, EPA is effectively “throwing its hands up” and ignoring the statutory directive to achieve water quality standards. *See also Trustees for Alaska*, 749 F.2d at 556–57 (holding that a permit must actually translate water quality standards into end-of-pipe effluent limitations necessary to achieve those standards); H. Rep. No. 92-911, at 167 (1972) (“[The NPDES

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<sup>10</sup> *But see infra* at II.B. (discussing why EPA's determination that it could not establish numeric WQBELs was arbitrary and capricious).

program] provides an effective mechanism whereby effluent limitations can be applied in a clear, direct and orderly way to . . . dischargers.”).

In the end, the CWA “demands regulation in fact, not only in principle.” *Waterkeeper Alliance*, 399 F.3d at 498. The VGP’s “narrative WQBEL” is not a regulation in fact; it is merely a restatement of the law that is impossible to apply in any practical way. EPA thus abdicated its responsibility to ensure compliance with water quality standards by placing that burden upon individual vessel operators, knowing full well they cannot meet it.

## **2. A Requirement that Only Takes Effect After-the-Fact Cannot Ensure Compliance with Water Quality Standards**

EPA defends the efficacy of VGP’s “narrative WQBEL” because, once a “permittee becomes aware” of an exceedance of the standards, the permit requires “corrective actions.” Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 145; *see also* Response, EPA-HQ-OW-2011-0141-0926 at 1095, 1100, 1148, 1159.<sup>11</sup> But requirement that kicks in only *after* a violation has occurred, however, does not meet the statutory mandate that EPA determine *before* issuing the permit that its

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<sup>11</sup> Part 3 of the VGP, entitled “Corrective Actions,” is little more than a requirement to conduct an assessment if a triggering event occurs (such as a vessel’s becoming aware that its discharge violated water quality standards). VGP § 3, EPA-HQ-OW-2011-0141-0880. The assessment must explain the cause of the problem if known and describe corrective actions the permittee determines are necessary. *Id.* § 3.2. Part 3 provides flexibility on the timeline for completion of any corrective actions. *Id.* § 3.3.

terms will ensure compliance with water quality standards. *See* 33 U.S.C. §§ 1311(b)(1)(C), 1342(a)(2); 40 C.F.R. §§ 122.4(d), 122.44(d)(1).

Moreover, EPA does not explain how a vessel operator or the agency will become aware of an exceedance. The Fish and Wildlife Service explained that because the VGP does not require monitoring for the vast majority of the discharges from vessels, “it is likely that exceedances of a water quality standard would infrequently be detected.” EPA-HQ-OW-2011-0141-0955 at 200. The Service also observed that EPA was unlikely to “know or reliably estimate the physical, chemical or biotic stressors that are likely to be produced as a direct or indirect result of the activities to be authorized by the proposed permits.” *Id.*

EPA’s approach is particularly inappropriate in the context of invasive species. In many or most cases, once a species is introduced and becomes established, almost nothing can be done to reverse the damage. *See* EPA-HQ-OW-2011-0141-0237 at 311; EPA-HQ-OW-2011-0141-0053 at 104 (discussing “cascading, sequential invasions, perhaps occurring within months of each other”). Under the VGP’s narrative WQBEL, a permittee could cause the equivalent of next zebra mussel invasion, since it need only take “corrective action” *after* becoming aware of this catastrophic failure. Thus, “corrective action” cannot cure the defective WQBEL. Not only is this regime an inadequate means of controlling discharges of invasive species from ships, it is a far cry from meeting the

requirement to ensure, at the time of permit issuance, that water quality standards will be achieved.<sup>12</sup>

**B. EPA Arbitrarily and Capriciously Determined it Could Not Establish Numeric WQBELs**

EPA's determination that it could not establish numeric WQBELs was arbitrary, capricious, and contrary to the CWA. That determination was based on a regulation that does not apply, and neither the NAS Report nor any other information in the record supports it.

**1. EPA Improperly Relied on 40 C.F.R. § 122.44(k)(3)**

As an initial matter, EPA provided no valid legal authority for its use of a "narrative WQBEL" rather than numeric WQBELs in the VGP. EPA claimed to have "determined that pursuant to 40 CFR 122.44(k)(3) it is infeasible to calculate numeric water quality-based effluent limit[s] for ballast water discharges." Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 115. The cited regulation provides that a permit may include Best Management Practices (BMPs) when "[n]umeric effluent limitations are infeasible." 40 C.F.R. § 122.44(k)(3). EPA's reliance on

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<sup>12</sup> EPA also may not rely on state certifications under CWA section 401 to ensure compliance with water quality standards. *See, e.g.*, Response, EPA-HQ-OW-2011-0141-0926 at 345, 533, 1100. EPA's own adjudicatory body has held states' section 401 authority does not relieve EPA of its independent duty to develop a record demonstrating a permit will ensure compliance with standards. *See In re: Gov't of the D.C. Mun. Separate Storm Sewer Sys.*, 2002 WL 257698, at \*1, 16–17; *see also* 33 U.S.C. §§ 1311(b)(1)(C), 1342(a)(2); 40 C.F.R. §§ 122.4(d), 122.44(d)(1).

section 122.44(k)(3) is misplaced here because the VGP's "narrative WQBEL" is not a BMP.

BMPs are "schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce . . . pollution." 40 C.F.R. § 122.2. "BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage." *Id.*<sup>13</sup> BMPs are practices or procedures, and can be "structural" (such as "tarpaulins and shrouds to enclose work areas, retention ponds, devices such as berms to channel water away from pollutant sources, and treatment facilities") or "non-structural" (such as "good housekeeping, preventive maintenance, personnel training, inspections, and record-keeping"). *NRDC v. Sw. Marine, Inc.*, 236 F.3d 985, 991 n.1 (9th Cir. 2000).

This Court has upheld the use of site-specific BMPs as effluent limitations. Examples include requirements to develop and implement a nutrient management plan, sample manure and soil, use setback requirements, inspect equipment, and install depth markers in impoundments. *Waterkeeper Alliance*, 399 F.3d at 497,

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<sup>13</sup> Indeed, earlier versions of section 122.44(k)(3) contained a comment with examples of BMPs. *See* 44 Fed. Reg. at 32,854, 32,907 (June 7, 1979) (listing affirmative actions as BMPs). Although EPA subsequently deleted the comment from the regulation itself, its content is still applicable. *In re Ketchikan Pulp Co.*, 7 E.A.D. 605, 1998 WL 284964, at \*16 n.40 (E.P.A. May 15, 1998).

502; *see also Decker v. Nw. Env'tl. Def. Ctr.*, 133 S. Ct. 1326, 1338 (2013) (discussing BMPs for logging roads).

All of the BMP examples in the regulations and the case law mandate concrete actions by the permittee. The VGP's "narrative WQBEL" does not do so, and EPA does not claim otherwise. Rather, EPA says that it "made every effort to identify generally applicable BMPs beyond those already imposed on a technology basis," but, having failed at that task, chose instead to impose a "narrative WQBEL."<sup>14</sup> Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 115. But a general narrative provision to comply with the law is not a BMP. *See In re: Gov't of the D.C. Mun. Separate Storm Sewer Sys.*, 2002 WL 257698, at \*1 (acknowledging the distinction between BMPs and numeric or *narrative* provisions in a permit). In short, the only legal authority EPA cites, 40 C.F.R. § 122.44(k)(3), does not support its decision to issue a "narrative WQBEL."

## **2. EPA Has Mischaracterized the NAS Report, and EPA Cannot Hide Behind the Report to Save its Failure to Establish Valid WQBELs**

To support its determination that numeric WQBELs were infeasible, EPA relied on the NAS Report's conclusion that the "current state of science does not

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<sup>14</sup> The record contradicts EPA's conclusion that it could not identify additional BMPs to address water quality. *See* NAS Report, EPA-HQ-OW-2011-0141-0578 (Attachment 14) at 19 (describing the effectiveness of ballast water exchange); *see also* EPA-HQ-OW-2011-0141-0497 (Attachment 2) at 3 (combining ballast water treatment with ballast water exchange decreases the risk of invasion ten-fold).

allow a quantitative evaluation of the relative merits of various discharge standards in terms of invasion probability.” NAS Report, EPA-HQ-OW-2011-0141-0578 (Attachment 14) at 110; Response, EPA-HQ-OW-2011-0141-0926 at 486. But the NAS Report did not conclude that it is infeasible to set numeric WQBELs, a fact EPA acknowledged. *Id.* at 1122 (“NRC did not conclude that it is infeasible to calculate water quality-based effluent limits”). Thus, EPA misrepresents the NAS’s findings in stating that the agency “agrees with NAS that establishing a precise, quantified ballast water discharge standard more stringent than the numeric TBELs . . . is not possible with available data and information.” *Id.* at 1095.

EPA also seized on the scientific challenges described by the NAS to justify its decision to forgo numeric WQBELs. *See, e.g.*, Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 115; Response, EPA-HQ-OW-2011-0141-0926 at 1100. Here again, however, the agency’s excuse is insufficient to justify its action. Any inability to precisely quantify the threat of invasive species in ballast water does not excuse EPA from mandating a WQBEL stringent enough to ensure compliance with water quality standards. Although EPA may not be able to calculate the precise risk associated with any specific treatment standard, it can—and must—set a limit likely to ensure compliance with water quality standards.

EPA itself recognizes that the CWA does not require perfection in lieu of action:

[T]he D.C. Circuit has reprimanded EPA for refusing to impose permit conditions that would result in “a gross reduction in pollutant discharge” in favor of waiting for enough information to allow the Agency to issue “fine-tun[ed]” numerical effluent limitations, stating that “this ambitious statute [the CWA] is not hospitable to the concept that the appropriate response to a difficult pollution problem is not to try at all.” *NRDC v. Costle*, 568 F.2d 1369, 1380 (D.C. Cir. 1977)

Brief of Respondent EPA, 2011 WL 5833083 at 55–56, *Upper Blackstone Water Pollution Abatement Dist. v. U.S. E.P.A.*, 690 F.3d 9 (1st Cir. 2012) (Nos. 11-1474, 11-61), 2011 WL 5833083. But here, EPA has done just that, relying on the NAS Report to avoid its obligation to set a meaningful and enforceable WQBEL that will protect water quality, native species and their habitat, and human infrastructure from further invasions.<sup>15</sup>

EPA’s reliance on the NAS Report is arbitrary and capricious because (1) there will never be sufficient data to precisely predict the probability of established

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<sup>15</sup> EPA also cannot justify its failure to set a numeric WQBEL by arguing that the WQBEL would be below the detection or quantitation limit for the pollutants in question. *See* Response, EPA-HQ-OW-2011-0141-0926 at 1095. EPA’s own guidance directs permits to “include . . . the appropriate permit limit . . . regardless of the proximity of the limit to the analytical detection level.” EPA-HQ-OW-2011-0141-0274 at 111. EPA and the states have broad experience with setting permit limits for pollutants below the level of detection or quantitation. *See, e.g.*, EPA-HQ-OW-2011-0141-0450 at 2–3 (describing how Michigan sets numeric WQBELs for PCBs well below the quantitation limit but enforcement is keyed to the quantitation limit).



populations of invasive species associated with different levels of ballast water treatment, and (2) the CWA does not require such precision. The record is replete with evidence concerning the “complicating factors” that will always preclude such precision, including lack of information on the innumerable invasive species carried in ballast water and such ecological factors as “niche availability, lack of predation, resource abundance, and competitive advantage.” *See, e.g.*, EPA-HQ-OW-2011-0141-0261 A-10 to A-13; EPA-HQ-OW-2011-0141-1035 at 355.

EPA does not have to strive for *perfection*. The record demonstrates that at least two federal agencies have found it possible to meet their respective statutory obligations by using the currently-available science to estimate water quality impacts associated with a range of ballast water treatment levels.

In contrast, EPA here relied on the NAS Report, the subject of which is improving the science of predicting invasions, not furthering policy objectives that underlie regulatory programs. EPA admits, however, that the NAS’s call for an “improved understanding of how to assess the risk of establishment of [invasive species] . . . will not resolve all uncertainties . . . may still yield variable results. . . . [and ultimately] the acceptance of a given discharge standard will also vary due to policy choices involving factors such as economic cost and risk tolerance.” EPA-HQ-OW-2011-0141-1066 at 298. And EPA further concedes that better data will only provide “more confidence that the regulatory limits provide adequate

protection,” *id.* at 297, and that its ultimate goal is to obtain consensus in order to “reduce the potential for varying discharge standards” between nations and states. *Id.* at 298. But the goals of consensus and international uniformity are irrelevant under the CWA, and EPA’s belief that the IMO standard is a “good first step,” *id.* at 297, is inconsistent with a requirement to limit discharges sufficient to achieve water quality standards.<sup>16</sup>

In sum, meaningful, technology-forcing, WQBELs are a necessity if EPA is to meet its statutory obligations and prevent further damage from inadequately regulated ballast water discharges. *See, e.g., NRDC v. U.S. E.P.A.*, 822 F.2d at 122–24 (explaining the CWA’s “technology-forcing” attributes). As the National

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<sup>16</sup> In 2008, the Coast Guard was able to compare the impacts of different treatment levels—ranging from the IMO treatment standard to 100 times IMO—on the mean rates of successful invasions. EPA-HQ-OW-2011-0141-0261 at ES-2, 4-12 to 4-19. Subsequently, in 2012, the Fisheries Service also calculated invasion rates associated with the IMO standard and 1,000 times IMO. EPA-HQ-OW-2011-0141-1035 at 317–18. While the Fisheries Service agreed that invasive species science does not support the goal of the NAS study and EPA’s 2011 efforts “to predict the invasion probability of individual species,” the agency concluded a more general model can be used ““not to predict establishment probabilities of any particular species, but to predict invasion rates over a range of species[.]”” *Id.* at 313. Based on its validation of the more general model, *id.* at 314-315, it calculated the probabilities of invasions from ballast in specific ports and by bioregion, *id.* at 316–19 (e.g., estimating invasion rates for the Chesapeake Bay at one species each year under IMO but one every six years using 1,000 times IMO). Nationwide, the Fisheries Service estimated new species would establish themselves in U.S. waters, once vessels were using the VGP’s IMO-based TBELs, at a rate of 13.5 species annually versus three annually if the treatment level were 1,000 times more stringent. *Id.* at 319–20.

Park Service observed, “technology beyond IMO [standards] is not likely to occur, unless the EPA issues the 2013 VGP with WQBELs for ballast water that are more stringent than” those standards. EPA-HQ-OW-2011-0141-0742 at 2.

### **III. EPA Has Failed to Establish Valid and Adequate Monitoring Requirements in the VGP**

Finally, the VGP’s monitoring program is legally defective. NPDES permits must contain conditions that require both monitoring and reporting of monitoring results. 33 U.S.C. § 1342(a)(2); 40 C.F.R. § 122.44(i)(1)&(2). Such conditions ensure compliance with effluent limitations and facilitate enforcement. *Id.*; see also EPA, *NPDES Permit Writers’ Manual* at § 8.1.1, p. 8-2, available at [http://www.epa.gov/npdes/pubs/pwm\\_chapt\\_08.pdf](http://www.epa.gov/npdes/pubs/pwm_chapt_08.pdf) (last visited on Jan. 30, 2014).

Enforcement is essential to the effectiveness of an NPDES permit. As the Ninth Circuit recently explained,

“The NPDES program fundamentally relies on self-monitoring.” Congress’ purpose in adopting this self-monitoring mechanism was to promote straightforward enforcement of the Act. *See id.* at 1492 (noting that Congress wished to “avoid the necessity of lengthy fact finding, investigations, and negotiations at the time of enforcement. Enforcement of violations of requirements under this Act should be based on relatively narrow fact situations requiring a minimum of discretionary decision making or delay”) (quoting S. Rep. No. 92–414, 92nd Cong., 1st Sess. 64).

*NRDC v. Cnty. of Los Angeles*, 725 F.3d 1194, 1208 (9th Cir. 2013) (holding that detected exceedances established liability for NPDES permit violations because,

among other things, any other conclusion would render the permit unenforceable) (citations omitted).

The VGP's limited monitoring requirements severely constrain EPA's ability to enforce the permit's effluent limitations. The VGP does not require permittees to measure concentrations of significant categories of living organisms in ballast water discharge or to monitor whether the discharges meet water quality standards. Without such measurements or monitoring, neither EPA nor the public can assess permittees' compliance with the permit's numeric TBELs or narrative WQBEL. For these reasons, the VGP violates the CWA. *Cf. Waterkeeper Alliance*, 399 F.3d at 503 (holding an EPA rule violated the CWA by denying access to information necessary for the public to exercise its right to enforce effluent limitations).

**A. The Monitoring Requirements for TBELs are Invalid**

The VGP establishes numeric TBELs for two organism sizes, large and medium, and three microorganisms, two of which are considered "indicator" bacteria. Having established numeric TBELs, EPA had to include a way to assess compliance with them. Specifically, a permit must include "requirements to monitor . . . [t]he mass (or other measurement specified in the permit) for *each* pollutant limited in the permit" to ascertain whether the discharges remain within prescribed limits. 40 C.F.R. § 122.44(i)(1)(i) (emphasis added).

Here, EPA established only two monitoring conditions: (1) that vessels monitor the functionality of their ballast water treatment systems, if installed, and (2) that vessels monitor the concentrations of the two “indicator” bacteria. VGP §§ 2.2.3.5.1.1.2, 2.2.3.5.1.1.4, EPA-HQ-OW-2011-0141-0880; Response, EPA-HQ-OW-2011-0141-0926 at 765. Put another way, the VGP requires vessel operators to measure the mass or concentration of only two microorganisms, *E. coli* and *Enterococci*. VGP § 2.2.3.5.1.1.4, EPA-HQ-OW-2011-0141-0950 at 31. It does not require operators to measure the mass or concentration of a third microorganism (cholera), or of any medium and large organisms. These conditions do not pass muster under EPA’s regulations.

EPA defends the VGP’s conditions on two grounds, neither of which has merit. First, EPA asserts that its regulations allow for monitoring something *other* than mass or concentration, that is, some “other measurement specified in the permit.” Response, EPA-HQ-OW-2011-0141-0926 at 765 (quoting 40 C.F.R. § 122.44(i)(1)(i)) (emphasis removed). However, the term “measurement specified in the permit” refers to the “applicable unit of measure” used in establishing a limitation on a pollutant, such as mass or concentration. *See* 40 C.F.R. § 122.44(i); *see also NPDES Permit Writers’ Manual* at §8.1.1, p. 8-2, *available at* [http://www.epa.gov/npdes/pubs/pwm\\_chapt\\_08.pdf](http://www.epa.gov/npdes/pubs/pwm_chapt_08.pdf) (last visited on Jan. 23, 2014). Here, the applicable units of measure are the concentrations of large and medium

organisms and three types of microorganisms. VGP § 2.2.3.5, EPA-HQ-OW-2011-0141-0880. Thus, under the regulations, the VGP must require monitoring of the mass or concentrations of invasive species for which the permit establishes TBELs.

EPA's alternative tack is to make the practical argument that indirect monitoring through system performance and indicator bacteria is sufficient. *Cf.* Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 80 n.14 (asserting that the monitoring regulations were “not ‘applicable’” due to “practical constraints”). But the regulations do not contemplate monitoring by proxy, and in any event EPA fails to show that such monitoring will work for invasive species. EPA described the VGP's first monitoring requirement, “functional monitoring,” as determining whether a ballast water treatment system is “operating according to the manufacturers' requirements.” Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 81. To assess functionality, the VGP requires vessels to report on such “measurements required to verify system functionality” as “chlorine concentration” expressed, for example, as gallons used each month. VGP, EPA-HQ-OW-2011-0141-0880 at 185; *id.* Appendix J (chart of functional measurements).

EPA's rationale for functional monitoring is that it “provid[es] *added insurance* that any [treatment system] is being operated and maintained in a manner to meet discharge limitations.” Response, EPA-HQ-OW-2011-0141-0926

at 756 (emphasis added). But there is no evidence to support EPA’s assumption that a treatment system “operating according to the manufacturers’ requirements” will yield only concentrations of living organisms that comply with the permit. Indeed, how other than by measuring outputs can a vessel operator determine that a treatment system is operating as intended?

The VGP’s second monitoring requirement—the requirement to measure two “indicator bacteria”—fares no better. Those bacteria, *E. coli* and *Enterococci*, are commonly used to establish water quality standards and municipal permit limits to protect swimmers and shellfish harvesting because they indicate the possible presence of human pathogens carried in fecal matter. *See, e.g., EPA, 2012 Recreational Water Quality Criteria.*<sup>17</sup> But EPA admits that the two bacteria indicate only the presence, but not the concentration or mass, of potential invasive microbes. Response, EPA-HQ-OW-2011-0141-0926 at 758 (“[T]he presence or abundance of the selected indicator organisms is not intended to verify the composition or abundance of other potential invasive microbes in the ballast water but, rather, their purpose is to indicate their presence.”). It does little good to know that cholera is in ballast water, but not know how much of it is there (to say nothing about medium or large organisms). It was for this reason that the SAB

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<sup>17</sup> Available at <http://water.epa.gov/scitech/swguidance/standards/criteria/health/recreation/upload/factsheet2012.pdf> (last visited Jan. 30, 2014).

cautioned that indicator bacteria are just that—indicators—and recommended direct monitoring of cholera as part of a sound approach for assessing “effective removal of harmful bacteria.” SAB Report, EPA-HQ-OW-2011-0141-0229 at 96. EPA may not and cannot adequately monitor compliance with the TBELs by proxy.

**B. There Are No Monitoring Requirements for the “Narrative WQBEL”**

EPA’s regulations also require monitoring regulations for WQBELs. 40 C.F.R. § 122.44(i)(1)(i). Nevertheless, EPA failed to require that permittees monitor ballast water discharges for compliance with the VGP’s “narrative WQBEL.” *See, e.g.*, Response, EPA-HQ-OW-2011-0141-0926 at 786, 92-93. To assess compliance with the WQBEL would require knowing discharge volumes and locations. *See* EPA, NPDES Permit Writers’ Manual (September 2010) § 6.2 (“Characterize the Effluent and the Receiving Water”) at 6-12 to 6-22<sup>18</sup>; *see also* EPA-HQ-OW-2011-0141-0237; EPA-HQ-OW-2011-0141-0053. However, EPA did not require volume metering in the VGP because “there are no limits on the volume of effluent in the permit,” Fact Sheet, EPA-HQ-OW-2011-0141-0950 at 83, and only required ships to report on their “*expected* date, location, volume, and

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<sup>18</sup> Available at [http://www.epa.gov/npdes/pubs/pwm\\_chapt\\_06.pdf](http://www.epa.gov/npdes/pubs/pwm_chapt_06.pdf) (last visited January 30, 2014)



salinity of any ballast water to be discharged,” VGP § 4.3.3.d, EPA-HQ-OW-2011-0141-0880 (emphasis added).

EPA omitted monitoring for the WQBEL, rationalizing that vessels’ meeting the TBELs “are generally expected to already be controlling their vessel discharges to a degree that is protective of water quality,” rendering any “additional monitoring . . . unnecessary.” Response, EPA-HQ-OW-2011-0141-0926 at 766. This explanation is illogical. Having concluded that a WQBEL was necessary to ensure achievement of water quality standards, EPA cannot then rely on the TBEL monitoring requirements to demonstrate water quality standards will be met. EPA was required to ensure compliance with the WQBEL. 40 C.F.R. § 122.44(i)(1)(i). Its failure to do so was contrary to the CWA and its regulations.

The VGP contains no way for EPA or the public to know whether vessel discharges meet water quality standards because it contains no mechanism for EPA to review individual vessels’ implementation of the “narrative WQBEL.” In this way, the VGP replicates the fatal flaw this Circuit found in *Waterkeeper Alliance*, where the failure of the permit to include any mechanism for evaluating compliance with BMPs, there was no way for the agency to ensure compliance with water quality standards. 399 F.3d at 499. Here, EPA was well aware that its monitoring was inadequate. *See, e.g.*, SAB Report, EPA-HQ-OW-2011-0141-0229 at 65 (SAB noting that indicator bacteria “are not useful as indicators” for

protists). In sum, the “narrative WQBEL” is effectively unenforceable. “An NPDES permit is unlawful if a permittee is not required to effectively monitor its permit compliance.” *NRDC*, 725 F.3d at 1207. And EPA’s inclusion of unenforceable limit with no mechanism to review its implementation fails to ensure that discharges under the VGP do not violate water quality standards. *See* 33 U.S.C. §§ 1311(b)(1)(C), 1342(a)(2); 40 C.F.R. §§ 122.4(d), 122.44(d)(1).

### CONCLUSION

For the foregoing reasons, the VGP is arbitrary, capricious, an abuse of discretion, and not in accordance with the CWA. Petitioners respectfully request that the Court set aside and remand the VGP for further proceedings consistent with the Court’s opinion.

*/s/ Allison LaPlante*  
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## CERTIFICATE OF COMPLIANCE

This brief complies with the type-volume limitations of Fed. R. App. P. 32(a)(7)(B) because the brief contains 13990 words, excluding the parts of the brief exempted by Fed. R. App. 32(a)(7)(B)(iii).

Dated this 31st day of January, 2014.

*/s/ Allison LaPlante*

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Allison LaPlante

Earthrise Law Center

**CERTIFICATE OF SERVICE**

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Second Circuit by using the appellate CM/ECF system on January 31, 2014.

I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

Dated this 31st day of January, 2014

/s/ Allison LaPlante  
ALLISON LAPLANTE  
Earthrise Law Center

# **ADDENDUM**

## **United States Code**

### **5 U.S.C. § 706(2)(A)**

#### **§ 706. Scope of Review**

To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action. The reviewing court shall--

(2) hold unlawful and set aside agency action, findings, and conclusions found to be--

- (A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;
- (B) contrary to constitutional right, power, privilege, or immunity;
- (C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;
- (D) without observance of procedure required by law;
- (E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute; or
- (F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error.

### **33 U.S.C. § 1251**

#### **§1251. Congressional declarations of goals and policy**

(a) Restoration and maintenance of chemical, physical and biological integrity of Nation's waters; national goals for achievement of objective  
The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. In order to achieve this objective it is hereby declared that, consistent with the provisions of this chapter--

- (1) it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985;
- (2) it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983;
- (3) it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited;
- (4) it is the national policy that Federal financial assistance be provided to construct publicly owned waste treatment works;
- (5) it is the national policy that areawide waste treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each State;
- (6) it is the national policy that a major research and demonstration effort be made to develop technology necessary to eliminate the discharge of pollutants into the navigable waters, waters of the contiguous zone, and the oceans; and
- (7) it is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this chapter to be met through the control of both point and nonpoint sources of pollution.

### **33 U.S.C. § 1311**

#### **§ 1311 Effluent Limitations**

- (a) Illegality of pollutant discharges except in compliance with law  
Except as in compliance with this section and sections 1312, 1316, 1317, 1328, 1342, and 1344 of this title, the discharge of any pollutant by any person shall be unlawful.
- (b) Timetable for achievement of objectives  
In order to carry out the objective of this chapter there shall be achieved--
  - (1)(A) not later than July 1, 1977, effluent limitations for point sources, other than publicly owned treatment works, (i) which shall require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 1314(b) of this title, or (ii) in the case of a discharge into a publicly owned treatment works which meets the requirements of subparagraph (B) of this paragraph, which shall require compliance with any applicable pretreatment requirements and any requirements under section 1317 of this title; and
  - (B) for publicly owned treatment works in existence on July 1, 1977, or approved pursuant to section 1283 of this title prior to June 30, 1974 (for which construction

must be completed within four years of approval), effluent limitations based upon secondary treatment as defined by the Administrator pursuant to section 1314(d)(1) of this title; or,

(C) not later than July 1, 1977, any more stringent limitation, including those necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulations (under authority preserved by section 1370 of this title) or any other Federal law or regulation, or required to implement any applicable water quality standard established pursuant to this chapter.

(2)(A) for pollutants identified in subparagraphs (C), (D), and (F) of this paragraph, effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which (i) shall require application of the best available technology economically achievable for such category or class, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(2) of this title, which such effluent limitations shall require the elimination of discharges of all pollutants if the Administrator finds, on the basis of information available to him (including information developed pursuant to section 1325 of this title), that such elimination is technologically and economically achievable for a category or class of point sources as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(2) of this title, or (ii) in the case of the introduction of a pollutant into a publicly owned treatment works which meets the requirements of subparagraph (B) of this paragraph, shall require compliance with any applicable pretreatment requirements and any other requirement under section 1317 of this title;

### **33 U.S.C. § 1313**

#### **§ 1313. Water Quality Standards and Implementation Plans**

(a) Existing water quality standards

(3)(A) Any State which prior to October 18, 1972, has not adopted pursuant to its own laws water quality standards applicable to intrastate waters shall, not later than one hundred and eighty days after October 18, 1972, adopt and submit such standards to the Administrator.

(B) If the Administrator determines that any such standards are consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, he shall approve such standards.



(C) If the Administrator determines that any such standards are not consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, he shall, not later than the ninetieth day after the date of submission of such standards, notify the State and specify the changes to meet such requirements. If such changes are not adopted by the State within ninety days after the date of notification, the Administrator shall promulgate such standards pursuant to subsection (b) of this section.

(c) Review; revised standards; publication

(2)(A) Whenever the State revises or adopts a new standard, such revised or new standard shall be submitted to the Administrator. Such revised or new water quality standard shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses. Such standards shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of this chapter. Such standards shall be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation.

### **33 U.S.C. § 1314**

#### **§ 1314. Information and guidelines**

(b) Effluent limitation guidelines

For the purpose of adopting or revising effluent limitations under this chapter the Administrator shall, after consultation with appropriate Federal and State agencies and other interested persons, publish within one year of October 18, 1972, regulations, providing guidelines for effluent limitations, and, at least annually thereafter, revise, if appropriate, such regulations. Such regulations shall--

(1)(A) identify, in terms of amounts of constituents and chemical, physical, and biological characteristics of pollutants, the degree of effluent reduction attainable through the application of the best practicable control technology currently available for classes and categories of point sources (other than publicly owned treatment works); and

(B) specify factors to be taken into account in determining the control measures and practices to be applicable to point sources (other than publicly owned treatment works) within such categories or classes. Factors relating to the assessment of best practicable control technology currently available to comply with subsection (b)(1) of section 1311 of this title shall include consideration of the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, and shall also take into account the age of

equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements), and such other factors as the Administrator deems appropriate;

(2)(A) identify, in terms of amounts of constituents and chemical, physical, and biological characteristics of pollutants, the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedure innovations, operating methods, and other alternatives for classes and categories of point sources (other than publicly owned treatment works); and

(B) specify factors to be taken into account in determining the best measures and practices available to comply with subsection (b)(2) of section 1311 of this title to be applicable to any point source (other than publicly owned treatment works) within such categories or classes. Factors relating to the assessment of best available technology shall take into account the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, the cost of achieving such effluent reduction, non-water quality environmental impact (including energy requirements), and such other factors as the Administrator deems appropriate;

(3) identify control measures and practices available to eliminate the discharge of pollutants from categories and classes of point sources, taking into account the cost of achieving such elimination of the discharge of pollutants; and

(4)(A) identify, in terms of amounts of constituents and chemical, physical, and biological characteristics of pollutants, the degree of effluent reduction attainable through the application of the best conventional pollutant control technology (including measures and practices) for classes and categories of point sources (other than publicly owned treatment works); and

(B) specify factors to be taken into account in determining the best conventional pollutant control technology measures and practices to comply with section 1311(b)(2)(E) of this title to be applicable to any point source (other than publicly owned treatment works) within such categories or classes. Factors relating to the assessment of best conventional pollutant control technology (including measures and practices) shall include consideration of the reasonableness of the relationship between the costs of attaining a reduction in effluents and the effluent reduction benefits derived, and the comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources, and shall take into account the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact

(including energy requirements), and such other factors as the Administrator deems appropriate.

### **33 U.S.C. § 1341**

#### **§ 1341. Certification**

(a) Compliance with applicable requirements; application; procedures; license suspension

(1) Any applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable waters at the point where the discharge originates or will originate, that any such discharge will comply with the applicable provisions of sections 1311, 1312, 1313, 1316, and 1317 of this title. In the case of any such activity for which there is not an applicable effluent limitation or other limitation under sections 1311(b) and 1312 of this title, and there is not an applicable standard under sections 1316 and 1317 of this title, the State shall so certify, except that any such certification shall not be deemed to satisfy section 1371(c) of this title. Such State or interstate agency shall establish procedures for public notice in the case of all applications for certification by it and, to the extent it deems appropriate, procedures for public hearings in connection with specific applications. In any case where a State or interstate agency has no authority to give such a certification, such certification shall be from the Administrator. If the State, interstate agency, or Administrator, as the case may be, fails or refuses to act on a request for certification, within a reasonable period of time (which shall not exceed one year) after receipt of such request, the certification requirements of this subsection shall be waived with respect to such Federal application. No license or permit shall be granted until the certification required by this section has been obtained or has been waived as provided in the preceding sentence. No license or permit shall be granted if certification has been denied by the State, interstate agency, or the Administrator, as the case may be.

(2) Upon receipt of such application and certification the licensing or permitting agency shall immediately notify the Administrator of such application and certification. Whenever such a discharge may affect, as determined by the Administrator, the quality of the waters of any other State, the Administrator within thirty days of the date of notice of application for such Federal license or permit shall so notify such other State, the licensing or permitting agency, and the

applicant. If, within sixty days after receipt of such notification, such other State determines that such discharge will affect the quality of its waters so as to violate any water quality requirements in such State, and within such sixty-day period notifies the Administrator and the licensing or permitting agency in writing of its objection to the issuance of such license or permit and requests a public hearing on such objection, the licensing or permitting agency shall hold such a hearing. The Administrator shall at such hearing submit his evaluation and recommendations with respect to any such objection to the licensing or permitting agency. Such agency, based upon the recommendations of such State, the Administrator, and upon any additional evidence, if any, presented to the agency at the hearing, shall condition such license or permit in such manner as may be necessary to insure compliance with applicable water quality requirements. If the imposition of conditions cannot insure such compliance such agency shall not issue such license or permit.

(3) The certification obtained pursuant to paragraph (1) of this subsection with respect to the construction of any facility shall fulfill the requirements of this subsection with respect to certification in connection with any other Federal license or permit required for the operation of such facility unless, after notice to the certifying State, agency, or Administrator, as the case may be, which shall be given by the Federal agency to whom application is made for such operating license or permit, the State, or if appropriate, the interstate agency or the Administrator, notifies such agency within sixty days after receipt of such notice that there is no longer reasonable assurance that there will be compliance with the applicable provisions of sections 1311, 1312, 1313, 1316, and 1317 of this title because of changes since the construction license or permit certification was issued in (A) the construction or operation of the facility, (B) the characteristics of the waters into which such discharge is made, (C) the water quality criteria applicable to such waters or (D) applicable effluent limitations or other requirements. This paragraph shall be inapplicable in any case where the applicant for such operating license or permit has failed to provide the certifying State, or, if appropriate, the interstate agency or the Administrator, with notice of any proposed changes in the construction or operation of the facility with respect to which a construction license or permit has been granted, which changes may result in violation of section 1311, 1312, 1313, 1316, or 1317 of this title.

(4) Prior to the initial operation of any federally licensed or permitted facility or activity which may result in any discharge into the navigable waters and with respect to which a certification has been obtained pursuant to paragraph (1) of this subsection, which facility or activity is not subject to a Federal operating license or permit, the licensee or permittee shall provide an opportunity for such certifying State, or, if appropriate, the interstate agency or the Administrator to review the

manner in which the facility or activity shall be operated or conducted for the purposes of assuring that applicable effluent limitations or other limitations or other applicable water quality requirements will not be violated. Upon notification by the certifying State, or if appropriate, the interstate agency or the Administrator that the operation of any such federally licensed or permitted facility or activity will violate applicable effluent limitations or other limitations or other water quality requirements such Federal agency may, after public hearing, suspend such license or permit. If such license or permit is suspended, it shall remain suspended until notification is received from the certifying State, agency, or Administrator, as the case may be, that there is reasonable assurance that such facility or activity will not violate the applicable provisions of section 1311, 1312, 1313, 1316, or 1317 of this title.

(5) Any Federal license or permit with respect to which a certification has been obtained under paragraph (1) of this subsection may be suspended or revoked by the Federal agency issuing such license or permit upon the entering of a judgment under this chapter that such facility or activity has been operated in violation of the applicable provisions of section 1311, 1312, 1313, 1316, or 1317 of this title.

(6) Except with respect to a permit issued under section 1342 of this title, in any case where actual construction of a facility has been lawfully commenced prior to April 3, 1970, no certification shall be required under this subsection for a license or permit issued after April 3, 1970, to operate such facility, except that any such license or permit issued without certification shall terminate April 3, 1973, unless prior to such termination date the person having such license or permit submits to the Federal agency which issued such license or permit a certification and otherwise meets the requirements of this section.

(b) Compliance with other provisions of law setting applicable water quality requirements

Nothing in this section shall be construed to limit the authority of any department or agency pursuant to any other provision of law to require compliance with any applicable water quality requirements. The Administrator shall, upon the request of any Federal department or agency, or State or interstate agency, or applicant, provide, for the purpose of this section, any relevant information on applicable effluent limitations, or other limitations, standards, regulations, or requirements, or water quality criteria, and shall, when requested by any such department or agency or State or interstate agency, or applicant, comment on any methods to comply with such limitations, standards, regulations, requirements, or criteria.

(c) Authority of Secretary of the Army to permit use of spoil disposal areas by Federal licensees or permittees

In order to implement the provisions of this section, the Secretary of the Army, acting through the Chief of Engineers, is authorized, if he deems it to be in the

public interest, to permit the use of spoil disposal areas under his jurisdiction by Federal licensees or permittees, and to make an appropriate charge for such use. Moneys received from such licensees or permittees shall be deposited in the Treasury as miscellaneous receipts.

(d) Limitations and monitoring requirements of certification

Any certification provided under this section shall set forth any effluent limitations and other limitations, and monitoring requirements necessary to assure that any applicant for a Federal license or permit will comply with any applicable effluent limitations and other limitations, under section 1311 or 1312 of this title, standard of performance under section 1316 of this title, or prohibition, effluent standard, or pretreatment standard under section 1317 of this title, and with any other appropriate requirement of State law set forth in such certification, and shall become a condition on any Federal license or permit subject to the provisions of this section.

### **33 U.S.C. § 1342**

#### **§ 1342. National pollutant discharge elimination system**

(a) Permits for discharge of pollutants

(1) Except as provided in sections 1328 and 1344 of this title, the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 1311(a) of this title, upon condition that such discharge will meet either (A) all applicable requirements under sections 1311, 1312, 1316, 1317, 1318, and 1343 of this title, or (B) prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.

(2) The Administrator shall prescribe conditions for such permits to assure compliance with the requirements of paragraph (1) of this subsection, including conditions on data and information collection, reporting, and such other requirements as he deems appropriate.

### **33 U.S.C. § 1369**

#### **§ 1369. Administrative procedure and judicial review**

(b) Review of Administrator's actions; selection of court; fees

(1) Review of the Administrator's action (A) in promulgating any standard of performance under section 1316 of this title, (B) in making any determination

pursuant to section 1316(b)(1)(C) of this title, (C) in promulgating any effluent standard, prohibition, or pretreatment standard under section 1317 of this title, (D) in making any determination as to a State permit program submitted under section 1342(b) of this title, (E) in approving or promulgating any effluent limitation or other limitation under section 1311, 1312, 1316, or 1345 of this title, (F) in issuing or denying any permit under section 1342 of this title, and (G) in promulgating any individual control strategy under section 1314(l) of this title, may be had by any interested person in the Circuit Court of Appeals of the United States for the Federal judicial district in which such person resides or transacts business which is directly affected by such action upon application by such person. Any such application shall be made within 120 days from the date of such determination, approval, promulgation, issuance or denial, or after such date only if such application is based solely on grounds which arose after such 120th day.

### **Code of Federal Regulations**

#### **40 C.F.R. § 23.2**

##### **§ 23.2 Timing of Administrator's action under Clean Water Act.**

Unless the Administrator otherwise explicitly provides in a particular promulgation or approval action, the time and date of the Administrator's action in promulgation (for purposes of sections 509(b)(1) (A), (C), and (E)), approving (for purposes of section 509(b)(1)(E)), making a determination (for purposes of section 509(b)(1) (B) and (D)), and issuing or denying (for purposes of section 509(b)(1)(F)) shall be at 1:00 p.m. eastern time (standard or daylight, as appropriate) on (a) for a Federal Register document, the date that is two weeks after the date when the document is published in the Federal Register, or (b) for any other document, two weeks after it is signed.

#### **40 C.F.R. § 122.3**

##### **§ 122.3 Exclusions.**

The following discharges do not require NPDES permits:

(a) Any discharge of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley sink wastes, or any other discharge incidental to the normal operation of a vessel. This exclusion does not apply to rubbish, trash, garbage, or other such materials discharged overboard; nor to other discharges when the vessel is operating in a capacity other than as a means of

transportation such as when used as an energy or mining facility, a storage facility or a seafood processing facility, or when secured to a storage facility or a seafood processing facility, or when secured to the bed of the ocean, contiguous zone or waters of the United States for the purpose of mineral or oil exploration or development.

#### **40 C.F.R. § 122.4**

##### **§ 122.4 Prohibitions (applicable to State NPDES programs, see § 123.25).**

No permit may be issued:

(d) When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States[.]

#### **40 C.F.R. § 122.44**

##### **§ 122.44 Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs, see § 123.25).**

In addition to the conditions established under § 122.43(a), each NPDES permit shall include conditions meeting the following requirements when applicable.

(d) Water quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318, and 405 of CWA necessary to:

(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.

(i) Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.

(ii) When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.

(iii) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to



cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.

(iv) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the numeric criterion for whole effluent toxicity, the permit must contain effluent limits for whole effluent toxicity.

(v) Except as provided in this subparagraph, when the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, toxicity testing data, or other information, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative criterion within an applicable State water quality standard, the permit must contain effluent limits for whole effluent toxicity. Limits on whole effluent toxicity are not necessary where the permitting authority demonstrates in the fact sheet or statement of basis of the NPDES permit, using the procedures in paragraph (d)(1)(ii) of this section, that chemical-specific limits for the effluent are sufficient to attain and maintain applicable numeric and narrative State water quality standards.

(vi) Where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of the following options:

(A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion may be derived using a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents; or

(B) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information; or

(C) Establish effluent limitations on an indicator parameter for the pollutant of concern, provided:

(1) The permit identifies which pollutants are intended to be controlled by the use of the effluent limitation;

- (2) The fact sheet required by § 124.56 sets forth the basis for the limit, including a finding that compliance with the effluent limit on the indicator parameter will result in controls on the pollutant of concern which are sufficient to attain and maintain applicable water quality standards;
  - (3) The permit requires all effluent and ambient monitoring necessary to show that during the term of the permit the limit on the indicator parameter continues to attain and maintain applicable water quality standards; and
  - (4) The permit contains a reopener clause allowing the permitting authority to modify or revoke and reissue the permit if the limits on the indicator parameter no longer attain and maintain applicable water quality standards.
- (vii) When developing water quality-based effluent limits under this paragraph the permitting authority shall ensure that:
- (A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and
  - (B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.
- (2) Attain or maintain a specified water quality through water quality related effluent limits established under section 302 of CWA;
  - (3) Conform to the conditions to a State certification under section 401 of the CWA that meets the requirements of § 124.53 when EPA is the permitting authority. If a State certification is stayed by a court of competent jurisdiction or an appropriate State board or agency, EPA shall notify the State that the Agency will deem certification waived unless a finally effective State certification is received within sixty days from the date of the notice. If the State does not forward a finally effective certification within the sixty day period, EPA shall include conditions in the permit that may be necessary to meet EPA's obligation under section 301(b)(1)(C) of the CWA;
  - (4) Conform to applicable water quality requirements under section 401(a)(2) of CWA when the discharge affects a State other than the certifying State;
  - (5) Incorporate any more stringent limitations, treatment standards, or schedule of compliance requirements established under Federal or State law or regulations in accordance with section 301(b)(1)(C) of CWA;
  - (6) Ensure consistency with the requirements of a Water Quality Management plan approved by EPA under section 208(b) of CWA;
  - (7) Incorporate section 403(c) criteria under part 125, subpart M, for ocean discharges;

(8) Incorporate alternative effluent limitations or standards where warranted by “fundamentally different factors,” under 40 CFR part 125, subpart D;

(9) Incorporate any other appropriate requirements, conditions, or limitations (other than effluent limitations) into a new source permit to the extent allowed by the National Environmental Policy Act, 42 U.S.C. 4321 et seq. and section 511 of the CWA, when EPA is the permit issuing authority. (See § 122.29(c)).

(i) Monitoring requirements. In addition to § 122.48, the following monitoring requirements:

(1) To assure compliance with permit limitations, requirements to monitor:

(i) The mass (or other measurement specified in the permit) for each pollutant limited in the permit;

(ii) The volume of effluent discharged from each outfall;

(iii) Other measurements as appropriate including pollutants in internal waste streams under § 122.45(i); pollutants in intake water for net limitations under § 122.45(f); frequency, rate of discharge, etc., for noncontinuous discharges under § 122.45(e); pollutants subject to notification requirements under § 122.42(a); and pollutants in sewage sludge or other monitoring as specified in 40 CFR part 503; or as determined to be necessary on a case-by-case basis pursuant to section 405(d)(4) of the CWA.

(iv) According to test procedures approved under 40 CFR part 136 for the analyses of pollutants or another method is required under 40 CFR subchapters N or O. In the case of pollutants for which there are no approved methods under 40 CFR Part 136 or otherwise required under 40 CFR subchapters N or O, monitoring must be conducted according to a test procedure specified in the permit for such pollutants.

(2) Except as provided in paragraphs (i)(4) and (i)(5) of this section, requirements to report monitoring results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year. For sewage sludge use or disposal practices, requirements to monitor and report results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the sewage sludge use or disposal practice; minimally this shall be as specified in 40 CFR part 503 (where applicable), but in no case less than once a year.

(3) Requirements to report monitoring results for storm water discharges associated with industrial activity which are subject to an effluent limitation guideline shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year.

(4) Requirements to report monitoring results for storm water discharges associated with industrial activity (other than those addressed in paragraph (i)(3) of this section) shall be established on a case-by-case basis with a frequency

dependent on the nature and effect of the discharge. At a minimum, a permit for such a discharge must require:

- (i) The discharger to conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity and evaluate whether measures to reduce pollutant loadings identified in a storm water pollution prevention plan are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed;
  - (ii) The discharger to maintain for a period of three years a record summarizing the results of the inspection and a certification that the facility is in compliance with the plan and the permit, and identifying any incidents of non-compliance;
  - (iii) Such report and certification be signed in accordance with § 122.22; and
  - (iv) Permits for storm water discharges associated with industrial activity from inactive mining operations may, where annual inspections are impracticable, require certification once every three years by a Registered Professional Engineer that the facility is in compliance with the permit, or alternative requirements.
- (5) Permits which do not require the submittal of monitoring result reports at least annually shall require that the permittee report all instances of noncompliance not reported under § 122.41(1) (1), (4), (5), and (6) at least annually.
- (k) Best management practices (BMPs) to control or abate the discharge of pollutants when:
    - (1) Authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities;
    - (2) Authorized under section 402(p) of the CWA for the control of storm water discharges;
    - (3) Numeric effluent limitations are infeasible; or
    - (4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

### **40 C.F.R. § 125.3**

#### **§ 125.3 Technology-based treatment requirements in permits.**

- (a) General. Technology-based treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act. (See §§ 122.31, 122.42 and 122.44 for a discussion of additional or more stringent effluent limitations and conditions.) Permits shall contain the following technology-based treatment requirements in accordance with the following statutory deadlines;
  - (2) For dischargers other than POTWs except as provided in § 122.29(d), effluent limitations requiring:

- (i) The best practicable control technology currently available (BPT)--
  - (A) For effluent limitations promulgated under section 304(b) after January 1, 1982 and requiring a level of control substantially greater or based on fundamentally different control technology than under permits for an industrial category issued before such date, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 304(b) and in no case later than March 31, 1989;
  - (B) For effluent limitations established on a case-by-case basis based on Best Professional Judgment (BPJ) under section 402(a)(1)(B) of the Act in a permit issued after February 4, 1987, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989;
  - (C) For all other BPT effluent limitations compliance is required from the date of permit issuance.
- (ii) For conventional pollutants, the best conventional pollutant control technology (BCT)--
  - (A) For effluent limitations promulgated under section 304(b), as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 304(b), and in no case later than March 31, 1989.
  - (B) For effluent limitations established on a case-by-case (BPJ) basis under section 402(a)(1)(B) of the Act in a permit issued after February 4, 1987, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989;
- (iii) For all toxic pollutants referred to in Committee Print No. 95–30, House Committee on Public Works and Transportation, the best available technology economically achievable (BAT)--
  - (A) For effluent limitations established under Section 304(b), as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 304(b), and in no case later than March 31, 1989.
  - (B) For permits issued on a case-by-case (BPJ) basis under section 402(a)(1)(B) of the Act after February 4, 1987 establishing BAT effluent limitations, compliance is required as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 304(b), and in no case later than March 31, 1989.
- (iv) For all toxic pollutants other than those listed in Committee Print No. 95–30, effluent limitations based on BAT--
  - (A) For effluent limitations promulgated under Section 304(b) compliance is required as expeditiously as practicable, but in no case later than three years after the date such limitations are promulgated under section 304(b) and in no case later than March 31, 1989.

(B) For permits issued on a case-by-case (BPJ) basis under Section 402(a)(1)(B) of the Act after February 4, 1987 establishing BAT effluent limitations, compliance is required as expeditiously as practicable but in no case later than 3 years after the date such limitations are established and in no case later than March 31, 1989.

(v) For all pollutants which are neither toxic nor conventional pollutants, effluent limitations based on BAT--

(A) For effluent limitations promulgated under section 304(b), compliance is required as expeditiously as practicable but in no case later than 3 years after the date such limitations are established and in no case later than March 31, 1989.

(B) For permits issued on a case-by-case (BPJ) basis under Section 402(a)(1)(B) of the Act after February 4, 1987 establishing BAT effluent limitations compliance is required as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989.

#### **40 C.F.R. § 131.10**

##### **§ 131.10 Designation of uses.**

(a) Each State must specify appropriate water uses to be achieved and protected. The classification of the waters of the State must take into consideration the use and value of water for public water supplies, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial, and other purposes including navigation. In no case shall a State adopt waste transport or waste assimilation as a designated use for any waters of the United States.

(b) In designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.

(c) States may adopt sub-categories of a use and set the appropriate criteria to reflect varying needs of such sub-categories of uses, for instance, to differentiate between cold water and warm water fisheries.

(d) At a minimum, uses are deemed attainable if they can be achieved by the imposition of effluent limits required under Sections 301(b) and 306 of the Act and cost-effective and reasonable best management practices for nonpoint source control.

(e) Prior to adding or removing any use, or establishing sub-categories of a use, the State shall provide notice and an opportunity for a public hearing under § 131.20(b) of this regulation.

(f) States may adopt seasonal uses as an alternative to reclassifying a water body or segment thereof to uses requiring less stringent water quality criteria. If seasonal

uses are adopted, water quality criteria should be adjusted to reflect the seasonal uses, however, such criteria shall not preclude the attainment and maintenance of a more protective use in another season.

(g) States may remove a designated use which is not an existing use, as defined in § 131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because:

(1) Naturally occurring pollutant concentrations prevent the attainment of the use; or

(2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or

(3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

(4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or

(5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or

(6) Controls more stringent than those required by Sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

(h) States may not remove designated uses if:

(1) They are existing uses, as defined in section 131.3, unless a use requiring more stringent criteria is added; or

(2) Such uses will be attained by implementing effluent limits required under Sections 301(b) and 306 of the Act and by implementing cost-effective and reasonable best management practices for nonpoint source control.

(i) Where existing water quality standards specify designated uses less than those which are presently being attained, the State shall revise its standards to reflect the uses actually being attained.

(j) A State must conduct a use attainability analysis as described in § 131.3(g) whenever:

(1) The State designates or has designated uses that do not include the uses specified in section 101(a)(2) of the Act, or

(2) The State wishes to remove a designated use that is specified in section 101(a)(2) of the Act or to adopt subcategories of uses specified in section 101(a)(2) of the Act which require less stringent criteria.

(k) A State is not required to conduct a use attainability analysis under this Regulation whenever designating uses which include those specified in section 101(a)(2) of the Act.

#### **40 C.F.R. § 131.11**

##### **§ 131.11 Criteria.**

(a) Inclusion of pollutants:

(1) States must adopt those water quality criteria that protect the designated use. Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use.

(2) Toxic pollutants--States must review water quality data and information on discharges to identify specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use. Where a State adopts narrative criteria for toxic pollutants to protect designated uses, the State must provide information identifying the method by which the State intends to regulate point source discharges of toxic pollutants on water quality limited segments based on such narrative criteria. Such information may be included as part of the standards or may be included in documents generated by the State in response to the Water Quality Planning and Management Regulations (40 CFR part 35).

(b) Form of criteria: In establishing criteria, States should:

(1) Establish numerical values based on:

(i) 304(a) Guidance; or

(ii) 304(a) Guidance modified to reflect site-specific conditions; or

(iii) Other scientifically defensible methods;

(2) Establish narrative criteria or criteria based upon biomonitoring methods where numerical criteria cannot be established or to supplement numerical criteria.

#### **40 C.F.R. § 131.12**

##### **§ 131.12 Antidegradation policy.**

(a) The State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart. The



antidegradation policy and implementation methods shall, at a minimum, be consistent with the following:

- (1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.
- (2) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.
- (3) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.
- (4) In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with section 316 of the Act.