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[BP Exploration & Oil v. United States EPA](#)

 At Risk

United States Court of Appeals for the Sixth Circuit

April 4, 1995, Argued ; September 28, 1995, Decided ; September 28, 1995, Filed

Nos. 93-3310/93-3473/93-3489/93-3587/93-3761/93-3888

Reporter

66 F.3d 784 *; 1995 U.S. App. LEXIS 27557 **; 1995 FED App. 0297P (6th Cir.) ***; 26 ELR 20037; 41 ERC (BNA) 1225

BP EXPLORATION & OIL, INC. (93-3310), AMERICAN PETROLEUM INSTITUTE (93-3473), CONOCO INC., et al. (93-3489), MARATHON OIL COMPANY (93-3761), NATURAL RESOURCES DEFENSE COUNCIL, INC. (93-3587), SVEDALA INDUSTRIES, INC. (93-3888), Petitioners, v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Respondent.

Subsequent History: **[**1]** Suggestion for Rehearing En Banc Denied (93-3587) January 4, 1996, Reported at: [1996 U.S. App. LEXIS 547](#).

Prior History: ON PETITION To Review an Order from the United States Environmental Protection Agency. RIN 2040-AA12. 40 CFR Part 435.

Core Terms

drill, oil, zero, cuttings, sand, technology, pollutants, reinjection, platforms, final rule, regulations, disposal, landfills, fluids, grease, factors, shore, muds, flotation, promulgated, discharged, offshore, radionuclides, calculation, effluent, estimated, reduction, improved, dissolved, contends

Case Summary

Procedural Posture

Petitioners, corporations and environmental organization, sought judicial review of respondent United States Environmental Protection Agency's order that promulgated effluent limitations for the offshore oil and gas industry pursuant to the Clean Water Act, [33 U.S.C.S. § 1251](#), [1254 et seq.](#)

Overview

Pursuant to the Clean Water Act (CWA), [33 U.S.C.S. §§ 1311](#), [1314](#), [1316](#), and a consent decree, respondent United States Environmental Protection Agency issued effluent limitations for the offshore oil and gas industry. Petitioners, corporations and environmental organization, sought judicial review of respondent's order. In affirming respondent's order, the court noted that congress set the CWA's goal and left its implementation to respondent. Accordingly, the court gave great deference to respondent's construction of the statutory scheme that it was entrusted to administer and respondent's scientific determinations in its areas of expertise. After conducting an exhaustive review, the court concluded that petitioners failed to make their claims, that respondent's decisions were reasonable, that respondent acted within its statutory authority, that respondent's determinations were neither arbitrary nor capricious, and that respondent did not abuse its discretion. In the one instance where the court believed that respondent made a classification error, the court concluded that disturbing respondent's order would not change the result.

Outcome

The court rejected the challenges made by petitioners, corporations and environmental organization, to the effluent limitations promulgated by respondent United States Environmental Protection Agency for the offshore oil and gas industry pursuant to the Clean Water Act and affirmed its order establishing such limitations. Respondent's actions were neither arbitrary nor capricious and did not constitute an abuse of discretion.

LexisNexis® Headnotes

Environmental Law > ... > Enforcement > Discharge Permits > Effluent Limitations

Environmental Law > Water Quality > General Overview

[HN1](#) **Discharge Permits, Effluent Limitations**

The objective of the Clean Water Act (CWA), [33 U.S.C.S. § 1251](#), [1254 et seq.](#), is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. [33 U.S.C.S. § 1251](#). Congress' original goal is for the discharge of all pollutants into navigable waters to be eliminated by the year 1985. CWA, [33 U.S.C.S. § 1251\(a\)\(1\)](#). Consequently, the discharge of any pollutant is illegal unless made in compliance with the provisions of the CWA.

Environmental Law > ... > Enforcement > Discharge Permits > Effluent Limitations

Environmental Law > Water Quality > General Overview

[HN2](#) **Discharge Permits, Effluent Limitations**

The Clean Water Act (CWA), [33 U.S.C.S. § 1251](#), [1254 et seq.](#), directs the Environmental Protection Agency (EPA) to formulate national effluent limitation guidelines for those entities that discharge pollutants into the navigable waters of the United States. In formulating these guidelines, the CWA directs the EPA to institute progressively more stringent effluent discharge guidelines in stages. Congress intends the EPA to consider numerous factors in addition to pollution reduction. The committee believes that there must be a reasonable relationship between costs and benefits if there is to be an effective and workable program. CWA, [33 U.S.C.S. § 1251](#), [1254 et seq.](#)

Environmental Law > ... > Enforcement > Discharge Permits > Effluent Limitations

Environmental Law > Water Quality > General Overview

[HN3](#) **Discharge Permits, Effluent Limitations**

At the first stage of pollutant reduction, the Environmental Protection Agency (EPA) is to determine

the level of effluent reduction achievable within an industry with the implementation of the "best practicable control technology currently available" (BPT). Clean Water Act (CWA), [33 U.S.C.S. § 1314\(b\)\(1\)\(A\)](#). In general, BPT is the average of the best existing performances by industrial plants of various sizes, ages, and unit processes within the point source category or subcategory. In arriving at BPT for an industry, the EPA is to consider several factors, including the total cost of the application of the technology in relation to the effluent reduction benefits to be achieved from such application. For the offshore oil and gas subcategory, BPT is to be achieved by July 1, 1977. CWA, [33 U.S.C.S. § 1311\(b\)\(1\)\(A\)](#).

Environmental Law > ... > Enforcement > Discharge Permits > Effluent Limitations

Environmental Law > Water Quality > General Overview

Environmental Law > ... > Clean Water Act > Coverage & Definitions > General Overview

Environmental Law > ... > Clean Water Act > Coverage & Definitions > Pollutants

[HN4](#) **Discharge Permits, Effluent Limitations**

At the second stage of pollutant reduction, the Environmental Protection Agency (EPA) is to set generally more stringent standards for toxic and conventional pollutants. For toxic pollutants, the EPA is to set the standard for the "best available technology economically achievable" (BAT). BAT represents, at a minimum, the best economically achievable performance in the industrial category or subcategory. Compared to the "best practicable control technology currently available" (BPT), BAT calls for more stringent control technology that is both technically available and economically achievable. Among the factors that the EPA must consider and take into account when setting BAT are the cost of achieving such effluent reduction and the non-water quality environmental impact including the energy requirements of the technology. [33 U.S.C.S. § 1314\(b\)\(2\)\(B\)](#). For the offshore oil and gas subcategory, BAT is to be achieved by July 1, 1987. Clean Water Act, [33 U.S.C.S. § 1311\(b\)\(2\)\(A\)](#).

Environmental Law > ... > Clean Water

Act > Coverage & Definitions > Pollutants

Overview

Environmental Law > Water Quality > General
Overview

[HN7](#) **Discharge Permits, Effluent Limitations**

[HN5](#) **Coverage & Definitions, Pollutants**

Conventional pollutants are treated differently from toxics under the Clean Water Act (CWA), [33 U.S.C.S. § 1251, 1254 et seq.](#) Pursuant to the 1977 amendments to the CWA, a new standard is conceived for conventional pollutants entitled "best conventional pollutant control technology" (BCT). This standard is designed to control conventional pollutants about which much is known but for which stringent BAT standards might require unnecessary treatment. Congress intended for BCT to prevent the implementation of technology for technology's sake. BCT is not an additional level of control, but replaces BAT for conventional pollutants. Conventional pollutants include biochemical oxygen demand (BOD), total suspended solids (TSS) (nonfilterable), pH, fecal coliform, oil and grease. [40 C.F.R. § 401.16 \(1994\)](#).

Finally, the Clean Water Act (CWA), [33 U.S.C.S. § 1251, 1254 et seq.](#), directs the Environmental Protection Agency to establish a separate standard for new sources of pollutants. These "new source performance standards" (NSPS) require application of the technology chosen as "best practicable control technology currently available" (BAT) to remove all types of pollutants from new sources within each category. CWA, [33 U.S.C.S. § 1316](#). Factors to be considered in formulating NSPS include the cost of achieving such effluent reduction and any non-water quality environmental impact and energy requirements. CWA, [33 U.S.C.S. § 1316\(b\)\(1\)\(B\)](#).

Environmental Law > Water Quality > General
Overview

Administrative Law > Judicial Review > Standards
of Review > Deference to Agency Statutory
Interpretation

Governments > Legislation > Interpretation

Administrative Law > Agency Rulemaking > Rule
Application & Interpretation > General Overview

[HN6](#) **Environmental Law, Water Quality**

The technology chosen as "best conventional pollutant control technology" (BCT) must pass a two-part "cost reasonableness" test. According to the Clean Water Act (CWA), [33 U.S.C.S. § 1251, 1254 et seq.](#), the administrator shall include in the determination of BCT a 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 (POTWs) to the cost and level of reduction of such pollutants from a class or category of industrial sources. CWA, [33 U.S.C.S. § 1314\(b\)\(4\)\(B\)](#). The first part of the BCT cost test is referred to as the "industry cost-effectiveness test"; the second part is known as the "POTW test."

[HN8](#) **Standards of Review, Deference to Agency Statutory Interpretation**

When a court reviews an agency's construction of a statute, it is confronted with two inquiries. First and foremost is whether congress has directly spoken to the matter at issue. If the intent of congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of congress. If the court decides that congress has not directly addressed the precise issue at hand, however, the court may not simply dictate its own construction of the statute. Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute.

Environmental Law > ... > Enforcement > Discharge
Permits > Effluent Limitations

Administrative Law > Judicial Review > Standards
of Review > Deference to Agency Statutory
Interpretation

Environmental Law > Water Quality > General

International Trade Law > Trade
Agreements > Environmental
Provisions > Endangered Species

Administrative Law > Agency Rulemaking > Rule Application & Interpretation > General Overview

Governments > Legislation > Interpretation

[HN9](#) **Standards of Review, Deference to Agency Statutory Interpretation**

A great deal of deference should be given to an agency's construction of a statutory scheme that it is entrusted to administer.

Administrative Law > Judicial Review > Standards of Review > Abuse of Discretion

Administrative Law > Agency Rulemaking > Informal Rulemaking

Administrative Law > Judicial Review > Standards of Review > Arbitrary & Capricious Standard of Review

[HN10](#) **Standards of Review, Abuse of Discretion**

The scope of review over the informal rulemaking process is generally governed by section 10(e)(2) of the Administrative Procedure Act (APA), [5 U.S.C.S. § 706\(2\)](#). According to this section, a court must hold unlawful and set aside agency action, findings, and conclusions found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. APA, [5 U.S.C.S. § 706\(2\)\(A\)](#). The court's administrative review function as divisible into three categories: statutory, procedural, and substantive.

Administrative Law > Judicial Review > Standards of Review > General Overview

[HN11](#) **Judicial Review, Standards of Review**

A reviewing court should be at its most deferential in reviewing an agency's scientific determinations in an area within the agency's expertise.

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93-3473, 93-3489, 93-3587, 93-3761, 93-3888): Darryl J. Hebert, BRIEFED, Eunice, LA.

Judges: Before: BOGGS and BATCHELDER, Circuit Judges; ALDRICH, District Judge. *

Opinion by: ALICE M. BATCHELDER

Opinion

[2] [*788]** ALICE M. BATCHELDER, Circuit Judge. In these consolidated cases, petitioners BP Exploration & Oil, Inc., American Petroleum Institute, Conoco Inc., Marathon Oil Co., Natural Resources Defense Council, Inc., and Svedala Industries, Inc., challenge the effluent limitations promulgated for the offshore oil and gas industry by the United States Environmental Protection Agency under the Clean Water Act. For the reasons that follow, we affirm the effluent limitations promulgated by the Environmental Protection Agency (EPA) for the offshore oil and gas industry.

I.

The disputed effluent limitations guidelines are the final regulations and standards of performance for the "Offshore Subcategory **[*789]** of the Oil and Gas Extraction Point Source Category,"¹ published pursuant to sections 301, 304, and 306 of the Clean Water Act (CWA or "Act"). [33 U.S.C.A. §§ 1311, \[*2\] 1314, 1316 \(West 1986\)](#) (hereinafter "§ ____").² These regulations (the "Final Rule") were also formulated in response to a Consent Decree entered on April 5, 1990, in *NRDC v. Reilly, C.A. No. 79-3442 (D.D.C.)* (subsequently modified on May 28, 1992). The **[**3]** Final Rule³ became effective on April 5, 1993, ending a process that

* The Honorable Ann Aldrich, United States District Judge for the Northern District of Ohio, sitting by designation.

¹ A "point source" is "any discernible, confined and discrete conveyance . . . from which pollutants are or may be discharged." [33 U.S.C. § 1362\(14\)](#).

² All statutory references are to 33 U.S.C.A. § ____ (West 1986), unless otherwise specified.

³ Published as "Oil and Gas Extraction Point Source Category; Offshore Subcategory Effluent Guidelines and New Source Performance Standards"; Final Rule, [58 Fed. Reg. 12,454 \(1993\)](#) (to be codified at 40 C.F.R. pt. 435).

began in 1975 with EPA's publication of interim guidelines for the offshore oil and gas industry.

Petitioners BP Exploration & Oil, Inc., American Petroleum Institute, Conoco Inc., Marathon Oil Co., and Svedala, [**3] Inc. (hereinafter referred to as "Industry petitioners"), contend that the effluent standards are too stringent. Generally, Industry petitioners allege that the Environmental Protection Agency (EPA) violated the CWA by (1) setting an unreasonable standard for the discharge of oil and grease in effluent discharges, (2) prohibiting the discharge of certain drilling wastes within three miles of shore, and (3) banning the discharge of contaminated sand. At the other end of the spectrum, petitioner Natural Resources Defense Council, Inc. (NRDC), representing environmental interests, contends that EPA violated the CWA by promulgating effluent standards that are generally too lenient. In short, NRDC alleges that EPA (1) illegally rejected zero discharge of drilling wastes, (2) violated the Act by failing to regulate radioactive pollutants in discharged water, and (3) should have required reinjection of polluted water.

A. The Clean Water Act

HN1 [↑] The objective of the CWA "is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." § 1251. Congress' original goal was for the discharge of all pollutants into navigable waters to be eliminated by [**4] the year 1985. § 1251(a)(1). Consequently, the discharge of any pollutant is illegal unless made in compliance with the provisions of the CWA. Because numerous other courts have fully described the CWA, see [**4] *E.I. du Pont de Nemours & Co. v. Train*, 430 U.S. 112, 51 L. Ed. 2d 204, 97 S. Ct. 965 (1977), it is unnecessary here to include more than an outline of the statutory structure for promulgating effluent limitations.

HN2 [↑] The CWA directs EPA to formulate national effluent limitation guidelines for those entities that discharge pollutants into the navigable waters of the United States. In formulating these guidelines, the CWA directs EPA to institute progressively more stringent effluent discharge guidelines in stages. Congress intended EPA to consider numerous factors in addition to pollution reduction: "The Committee believes that there must be a reasonable relationship between costs and benefits if there is to be an effective and workable program." Clean Water Act of 1972, Pub. L. No. 92-500, 1972 U.S.C.C.A.N. (86 Stat.) 3713.

HN3 [↑] At the first stage of pollutant reduction, EPA is to determine the level of effluent reduction achievable within an industry with the implementation of the "best practicable control [**5] technology currently available" (BPT). § 1314(b)(1)(A). In general, BPT is the average of the best existing performances by industrial plants of various sizes, ages, and unit processes within the point source category or subcategory. In arriving at BPT for an industry, EPA is to consider several factors, including the total cost of the application of the technology in relation to the effluent reduction benefits to be achieved from such application.⁴ For the offshore oil [**790] and gas subcategory, BPT was to be achieved by July 1, 1977. § 1311(b)(1)(A).

[**5] **HN4** [↑] At the second stage, [**6] EPA is to set generally more stringent standards for toxic and conventional pollutants. For toxic pollutants,⁵ EPA is to set the standard for the "best available technology economically achievable" (BAT). BAT represents, at a minimum, the best economically achievable performance in the industrial category or subcategory. *NRDC, Inc. v. EPA*, 863 F.2d 1420, 1426 (9th Cir. 1988) (citing *EPA v. National Crushed Stone Ass'n*, 449 U.S. 64, 74, 101 S. Ct. 295, 66 L. Ed. 2d 268 (1980)). Compared to BPT, BAT calls for more stringent control technology that is both technically available and economically achievable. Among the factors⁶ [**7] that EPA must consider and take into account when setting BAT are the cost of achieving such effluent reduction and the non-water quality environmental impact including the energy requirements of the technology. § 1314(b)(2)(B). For the offshore oil and gas subcategory, BAT was to be achieved by July 1, 1987.⁷ §

⁴Other factors EPA must consider are 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 impacts, and such other factors as the Administrator deems appropriate. § 1314(b)(1)(B); see also *Environmental Protection Agency v. National Crushed Stone Ass'n*, 449 U.S. 64, 71 n.10, 66 L. Ed. 2d 268, 101 S. Ct. 295 (1980).

⁵Toxic pollutants are defined at 40 C.F.R. § 401.15 (1994).

⁶The other factors include: the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, and such other factors as the Administrator deems appropriate. § 1314(b)(2)(B).

⁷The original goal of the CWA of 1972, 86 Stat. 816, requiring

1311(b)(2)(A).

HN5 [↑] Conventional pollutants⁸ are treated differently from toxics under the CWA. Pursuant to 1977 amendments to the Act, a new standard was conceived for conventional *****6** pollutants entitled "best conventional pollutant control technology" (BCT). This standard is designed to control conventional pollutants about which much is known but for which stringent BAT standards might require unnecessary treatment. Congress intended for BCT to prevent the implementation of technology for technology's sake. BCT is not an additional level of control, but replaces BAT for conventional pollutants.

*****8** Consequently, **HN6** [↑] the technology chosen as BCT must pass a two-part "cost reasonableness" test. *American Paper Institute v. EPA*, 660 F.2d 954 (4th Cir. 1981). According to the Act, the Administrator shall include in the determination of BCT

[a] 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 [POTWs] to the cost and level of reduction of such pollutants from a class or category of industrial sources

§ 1314(b)(4)(B). The first part of the BCT cost test is referred to as the "industry cost-effectiveness test"; the second part is known as the "POTW test."

HN7 [↑] Finally, the CWA directs EPA to establish a separate standard for new sources of pollutants. These "new source performance standards" (NSPS) require application of the technology chosen as BAT to remove all types of pollutants from new sources within each category. § 1316. Factors to be considered in formulating NSPS include the cost of achieving such effluent reduction *****9** and any non-water quality environmental impact and energy requirements. § 1316(b)(1)(B).

*****7 B. The Regulation**

compliance for BAT by 1983 was extended by the CWA of 1977, 91 Stat. 1567. See also *National Crushed Stone*, 449 U.S. at 70 n.9.

⁸ Conventional pollutants include biochemical oxygen demand (BOD), total suspended solids (TSS) (nonfilterable), pH, fecal coliform, oil and grease. 40 C.F.R. § 401.16 (1994).

The development of the Final Rule began on September 15, 1975, when EPA promulgated interim final BPT effluent limitation guidelines and proposed BAT and NSPS regulations for offshore oil and gas producers. 40 Fed. Reg. 42,543 (1975), 40 Fed. Reg. 42,572 (1975). On April 13, 1979, EPA promulgated the final BPT regulations but deferred action on BAT and NSPS. 44 Fed. Reg. 22,069 (1979). EPA's deferral of action on *****9** NSPS led the NRDC to file suit against EPA on December 29, 1979. In settlement of the suit, a consent decree was issued in which EPA acknowledged its statutory duty to promulgate final NSPS for the offshore industry and agreed to take steps to issue such standards. *NRDC v. Reilly*, C.A. No. 79-3442 (D.D.C.) (as modified May 28, 1992).

On August 26, 1985, EPA proposed new BAT and BCT effluent limitation guidelines and NSPS for the offshore category, 50 Fed. Reg. 34,592 (1985). (EPA had abandoned its previously proposed BAT and NSPS due to the long lapse of time.) On October 21, 1988, EPA issued a Notice of Data Availability concerning the *****10** development of NSPS, BAT, and BCT regulations for drilling fluids and drill cuttings waste streams. 53 Fed. Reg. 41,356 (1988). On January 9, 1989, EPA published a Correction to the Notice of Data Availability. 54 Fed. Reg. 634 (1989). On November 26, 1990, EPA published a notice and a reproposal announcing the major BCT, BAT, and NSPS regulatory options under consideration for control of drilling fluids, drill cuttings, produced water, and produced sand. 55 Fed. Reg. 49,094 (1990). A second notice proposing BAT, BCT, and NSPS was published by EPA on March 13, 1991. 56 Fed. Reg. 10,664 (1991). According to EPA, the 1990 and 1991 notices did not supersede the 1985 proposal but merely revised it in certain areas. EPA received public and industry comments after each of these five documents was published. On January 15, 1993, EPA issued its response to those comments.

*****8** On April 5, 1991, EPA also published notification of public workshops for the guidelines proposed in the 1991 Notice and extended the comment period for the proposed rule. 56 Fed. Reg. 14,049 (1991).

On January 15, 1993, EPA issued a development document, providing a detailed technical study of pollution control *****11** in the industry. The Final Rule was published on March 4, 1993. 58 Fed. Reg. 12,454 (1993). The petitioners in this case timely filed petitions for review.

C. The Industry

EPA identified a total of 2,550 offshore structures that will be affected by the Final Rule. Of these structures, 2,517 are located in the Gulf of Mexico, 32 are located off the coast of California, and one is located off the coast of Alaska. Petitioners challenge those portions of EPA's Final Rule relating to (1) produced water, (2) drilling fluids and drill cuttings, and (3) produced sand. Although wastewater originates both from the exploration and development process and from the production phase of the oil and gas industry's offshore operations, drilling fluids make up the majority of the effluent produced from exploration and development, and produced water represents a majority of the effluent from production. Produced sand is a minimal component of the effluent from production.

D. The Standard of Review

[HN8](#) [↑] When a court reviews an agency's construction of a statute, it is confronted with two inquiries. First and foremost is whether Congress has directly spoken to the matter at [**12](#) issue. [Chevron, U.S.A., Inc. v. NRDC, Inc., 467 U.S. 837, 842, 81 L. Ed. 2d 694, 104 S. Ct. 2778 \(1984\)](#). "If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." [Id. at 842-43](#) (footnote omitted). If the court decides that Congress has not directly addressed the precise issue at hand, however, the court may not [***9](#) simply dictate its own construction of the statute. [Id. at 843](#). "Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute." [Id.](#) (footnote omitted).

The language of the Act clearly manifests Congress' intention that EPA formulate BPT, BAT, BCT, and NSPS within certain time deadlines and having considered various factors. [§ 1311\(b\)](#). Congress set forth the goal of the Act and left its implementation and details to the EPA. In construing regulations promulgated by EPA, we heed the [*792](#) wide latitude given the Secretary by the CWA. Cf. [Babbitt v. Sweet Home Chapter, 132 L. Ed. 2d 597, 115 S. Ct. 2407, 2416 \(1995\)](#) (interpreting the Endangered Species Act). It [**13](#) has long been recognized that [HN9](#) [↑] a great deal of deference should be given to an agency's construction of a statutory scheme that it is entrusted to administer. [Chevron, 467 U.S. at 844](#); [Aluminum Co. of America v. Central Lincoln Peoples' Util. Dist., 467 U.S. 380, 389, 81 L. Ed. 2d 301, 104 S. Ct. 2472 \(1984\)](#); [Blum v. Bacon, 457 U.S. 132, 141, 72 L. Ed. 2d 728, 102 S. Ct.](#)

[2355 \(1982\)](#). Along with the regulatory expertise required to enforce the CWA, "we owe some degree of deference to the Secretary's reasonable interpretation." [Babbitt, 115 S. Ct. at 2416](#) (citation omitted).

EPA promulgated the 1993 effluent guidelines through informal rulemaking. [HN10](#) [↑] The scope of review over the informal rulemaking process is generally governed by section 10(e)(2) of the Administrative Procedure Act (APA), [5 U.S.C.A. § 706\(2\) \(West 1977\)](#); [Weyerhaeuser Co. v. Costle, 191 U.S. App. D.C. 309, 590 F.2d 1011, 1024 \(D.C. Cir. 1978\)](#). According to this section, a court must "hold unlawful and set aside agency action, findings, and conclusions found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law . . ." [5 U.S.C. § 706\(2\)\(A\)](#). See generally [Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 415-17, 28 L. Ed. 2d 136, 91 S. Ct. 814 \(1971\)](#). The D.C. Circuit [**14](#) has described the court's administrative review function as divisible into three categories: statutory, [***10](#) procedural, and substantive. [Weyerhaeuser, 590 F.2d at 1024](#).

In the present case, neither EPA's statutory authority nor the procedural steps taken has been challenged. Only substantive aspects of the Final Rule are being challenged. Consequently, this Court must determine "whether the agency 'abuse[d] its] discretion' (or was 'arbitrary' or 'capricious') in exercising the quasi-legislative authority delegated to it by Congress, or, on the other hand, whether its 'decision was based on a consideration of the relevant factors and [was not the product of] a clear error of judgment.'" [Weyerhaeuser, 590 F.2d at 1025](#) (quoting [Citizens to Preserve Overton Park, 401 U.S. at 416](#)).

Finally, this Court will defer in large part to EPA's scientific findings. "In assessing difficult issues of scientific method and laboratory procedure, we must defer to a great extent to the expertise of the EPA." [NRDC, Inc. v. EPA, 863 F.2d 1420, 1430 \(9th Cir. 1988\)](#) (citing [Baltimore Gas & Elec. Co. v. NRDC, Inc., 462 U.S. 87, 103, 76 L. Ed. 2d 437, 103 S. Ct. 2246 \(1983\)](#)). In [Baltimore Gas & Elec. Co.](#), [**15](#) "the Supreme Court recognized that [HN11](#) [↑] a reviewing court should be at its most deferential in reviewing an agency's scientific determinations in an area within the agency's expertise." [NRDC v. EPA, 863 F.2d at 1430](#).

II.

A. PRODUCED WATER

The bulk of produced water is water trapped in underground reservoirs along with oil and gas that eventually rises to the surface with the produced oil and gas. Most of the oil and gas in the produced water is separated as part of the oil and gas extraction process. The remaining produced water, still containing some oil and grease, is then discharged overboard or otherwise disposed of. Produced water also includes the injection water used for secondary oil recovery and various well treatment chemicals added during production and oil and gas [***11] extraction. Produced water is the highest volume waste source in the offshore oil and gas industry.

Under the Final Rule, EPA determined that BAT and NSPS would be set to limit the discharge of oil and grease⁹ in produced water to a daily maximum of 42 mg/l and a monthly average of 29 mg/l, based on the improved operating performance of gas flotation technology (otherwise [**16] referred to as improved gas flotation). BCT for produced [*793] water was set by the Final Rule to equal current BPT limitations (72 mg/l daily maximum, 48 mg/l 30-day average).

Gas flotation is a technology that forces small gas bubbles into the wastewater to be treated. As the bubbles rise through the produced water, they attach themselves to any oil droplets in their paths. As the gas and oil are separated from the wastewater, they rise to the surface, where they are skimmed away. EPA characterizes "improved performance" gas flotation as the gas flotation technology enhanced through improved operation and maintenance, more operator attention to treatment systems operations, chemical pretreatment to enhance system effectiveness, and possible resizing of certain treatment system components for increased treatment [*17] efficiency.

1. Method 413.1

Industry petitioners contest the BAT and NSPS limits set by EPA for produced water. According to the Final Rule, BAT and NSPS limit the discharge of oil and grease to a 30-day average of 29 mg/l and a daily maximum of 42 mg/l by using improved performance gas flotation. Industry petitioners do not contest the use of improved gas flotation for obtaining BAT and NSPS; in fact, they

⁹Although oil and grease are conventional pollutants rather than toxics, oil and grease are limited under BAT and NSPS as an "indicator" pollutant to measure discharge of toxic and nonconventional pollutants.

[***12] approve of that technology and previously encouraged EPA to adopt gas flotation during the rulemaking process. However, Industry petitioners maintain that improved gas flotation removes only *dispersed* oil and grease from produced water; allegedly, the technology cannot remove *dissolved* oil from produced water. EPA has chosen to use a process known as EPA Method 413.1 to measure the levels of oil and grease in produced water, and therein lies the problem. According to Industry petitioners, Method 413.1 measures the content in the produced water of both the dispersed oil and grease, which the improved gas flotation technology can remove, and the dissolved oil, which the technology cannot remove, and it is not feasible to achieve the requisite BAT and NSPS [**18] levels using the total oil and grease content of the produced water as measured by Method 413.1.

When promulgating the Final Rule, EPA identified two methods of measuring oil and grease in produced water. EPA Method 413.1 mixes freon with a produced water sample. The freon and water then separate and the freon, which has attached to oil and grease in the water, is removed from the sample. The freon is then distilled out by heating, leaving a residue which, when weighed, indicates how much oil and grease was contained in the produced water sample. Standard Method 503E follows the same steps as Method 413.1; however, before the freon is distilled, a silica gel is added, which adsorbs water-soluble polar material.¹⁰ The silica gel is then removed [***13] from the freon, the freon is distilled, and the residue is weighed to derive the level of oil and grease. Industry petitioners contend that because Method 503E does *not* measure dissolved oil, EPA should use Method 503E rather than Method 413.1

¹⁰Material that is soluble is "capable of mixing with a liquid (dissolving) to form a homogeneous mixture (solution)." ROGER GRANT & CLAIRE GRANT, GRANT & HACKH'S CHEMICAL DICTIONARY 541 (5th ed. 1987). A polar molecule or compound is one "that can dissociate when dissolved or fused . . . , [e.g.], inorganic acids, bases, and salts." *Id.* at 459. Also see HAWLEY'S CONDENSED CHEMICAL DICTIONARY 928 (Richard J. Lewis revision, 12th ed. 1993) ("Descriptive of a molecule in which the positive and negative electrical charges are permanently separated, as opposed to nonpolar molecules in which the charges coincide. Polar molecules ionize in solution and impart electrical conductivity."); H. BENNETT, CONCISE CHEMICAL AND TECHNICAL DICTIONARY 917 (4th ed. 1986) ("Compound composed of ions in the solid state as well as in solution, possessing an electric moment; held together in the compound by electrostatic forces.).

which *does* measure dissolved oil. EPA disputes that the silica gel used in Method 503E actually removes "dissolved" oil per se. EPA argues that the polar matter removed by the silica **[**19]** gel is made up of some of the soluble matter in produced water, but not necessarily all the "dissolved" oil in produced water.

[20]** EPA contends that the use of Method 413.1 provides more accurate and complete data to assess the treatment system. As EPA points out, it has consistently used Method 413.1 throughout the rulemaking process, including the calculation of all produced water levels that are set by the Final **[*794]** Rule. Furthermore, EPA also contends that improved gas flotation *can* be used to remove dissolved oil.¹¹

According to Industry petitioners, EPA's use of Method 413.1 violates both the CWA **[**21]** and the APA by ignoring relevant factors. The CWA requires BAT and NSPS to be based, in part, on approximately seven factors, including **[***14]** cost and nonwater quality environmental impacts. Industry petitioners contend that EPA has failed to demonstrate that improved gas flotation is "available" and "achievable" because the agency failed to consider the dissolved oil component of produced water. In another case challenging EPA effluent limitations, [Association of Pacific Fisheries v. EPA, 615 F.2d 794 \(9th Cir. 1980\)](#), the Ninth Circuit remanded an EPA regulation to the agency for further findings because EPA had relied on a study that failed to demonstrate the effectiveness of the required technology. *Id. at 819*. The Ninth Circuit found that EPA had failed in its duty to articulate the reasons for its determination and had therefore failed to satisfy the requirements of the CWA in setting the effluent guidelines. *Id.* (citing [Appalachian Power Co. v. EPA, 477 F.2d 495, 507 \(4th Cir. 1973\)](#)).

In the present case, however, EPA has pointed to empirical data in the rulemaking record showing that so-

¹¹ In its response to a comment during the rulemaking process, EPA considered the Industry's contention and rejected it, stating that

the Agency is not basing produced water limitations on measurements made by Method 503E because soluble compounds were accounted for when setting this rule's effluent limitation on oil and grease in produced water effluent and because improved gas flotation removes compounds characterized by the [industry] commenter as being "soluble."

called "dissolved oil" is treated and removed by improved gas flotation. **[**22]** EPA points to a study entitled "Oil Content in Produced Brine on Ten Louisiana Production Platforms" ("the Ten Platform Study"), which documented oil and grease measurements under both Method 413.1 and Method 503E. Using the Ten Platform Study, EPA estimated the percentage of oil and grease removed by the gas flotation technique. According to EPA's estimates, gas flotation was used to remove "dissolved" oil ranging from a low of 58 percent up to a high of 98 percent. Unlike the situation in *Association of Pacific Fisheries*, therefore, here, EPA has relied on studies demonstrating that improved gas flotation is effective.

Industry petitioners point to numerous other sources within the record providing evidence that dissolved oil is not removable by improved gas flotation. Despite this evidence, however, we cannot find that EPA has failed to produce scientific data to support the agency's counterargument that gas flotation does remove at least some dissolved oil from produced water. This Court must **[***15]** defer to EPA's discretionary judgment when EPA has made a reasonable decision based on reliable data.

We are also persuaded by the fact that Method 413.1 was the method used **[**23]** when setting the BAT and NSPS limits. In setting the limits, EPA used the "median" platform from the 83 Platform Composite Study.¹² **[**24]** In other words, 50 percent of the platforms in the study discharged higher levels of pollutant, and 50 percent of the platforms discharged lower levels of pollutant. The daily maximum limitation was set so that there would be a 99 percent likelihood that a physical composite sample taken from the median platform would have a total oil and grease measurement less than or equal to that limitation. The monthly average was set so that there would be a 95 percent probability that a monthly average taken from the median platform would also be less than or equal to that limitation. EPA estimates that 60 percent of the

¹² The Offshore Operators Committee's (OOC) 83 Platform Composite Study combines data from four studies. These four studies include EPA's 30 Platform Study, OOC's 42 Platform Study, OOC's 10 Platform Database, and OOC's 12 Platform Refrigeration Study. All of the platforms in the OOC studies are described as conforming to specifications, operating properly, and adding chemicals as needed. All oil and grease samples collected in these studies were taken from effluent and measured using Method 413.1 and, in many cases, Method 503E.

platforms in the composite of 83 platforms already meet the [*795] new BAT limitations. For those platforms that do not already meet the new BAT standard, chemical coagulants can be used to improve the removal of dissolved or soluble oil.¹³

[***16] In light of the deference due the EPA, especially concerning scientific and technical data, Industry petitioners have not proven their claim that improved gas flotation does not remove "dissolved" oil or that EPA violated either the CWA or the APA by using Method 413.1 to measure oil and grease in produced water.

2. Radioactive Pollutants in Produced Water

Also in relation to produced water, petitioner NRDC argues that EPA illegally refused to regulate radioactive pollutants in produced water, despite NRDC's contention that ample record evidence proves the [**25] presence and negative impacts of radionuclides. In contrast, EPA maintains that the agency was justified in its decision not to regulate radionuclides in produced water because inadequate information existed to issue rules regarding the radionuclides, Radium 226 and Radium 228 (referred to as NORM). According to the EPA, the CWA does not require the promulgation or implementation of regulations if there is not sufficient evidence on which to base those regulations. As EPA argues, the agency is continuing to gather information on radionuclides and could issue regulations in the future if the compiled information shows a need for such regulation. See § 1314(e). In fact, EPA has stated its intent to require radium monitoring as part of the permitting process for offshore oil and gas producers.

NRDC claims that EPA already has adequate data to formulate regulations on radionuclides in produced water, pointing to the fact that EPA regulated produced sand based in part on the radionuclides present in that

sand. As EPA counters, however, the only reason the agency considered the presence of radionuclides in produced sand was to accommodate fully the higher cost of disposing of produced [**26] sand containing NORM. The occasional presence of radionuclides in produced sand was not an important [***17] element of the Final Rule. However, once EPA set an effluent limitation for produced sand, it was required by the CWA to calculate the cost of disposing of such pollutant, and the high cost of radionuclides disposal required EPA's attention with regard to produced sand.

Finally, NRDC also points out that fewer wells were tested for the presence of oil and gas in produced water than were tested for the presence of NORM in produced water. Consequently, the NRDC argues, EPA must have enough data to formulate regulations of radionuclides in produced water because regulations were promulgated for oil and grease in produced water. The error in NRDC's argument, however, is that unlike the pollutants oil and grease, radionuclides are not linked to the production and development of oil and gas. Oil and grease will always be present in produced water. Consequently, EPA can determine on the basis of fewer samples what concentration of oil and grease will be present in produced water. However, the data available on radionuclides shows wide variation in the concentration of radionuclides [**27] in produced water.

The present case is unlike *NRDC v. EPA*, in which the Ninth Circuit concluded that EPA should not delay requiring such technologically feasible limitations as BAT in order to wait for precise cost figures. [*NRDC v. EPA*, 863 F.2d at 1426](#). In this case, EPA has legitimately declined to regulate radionuclides in produced water due to the lack of data on radionuclides in produced water -particularly information on the environmental and health harms presented by NORM. In light of EPA's discretion to promulgate this Final Rule, we agree that EPA reasonably decided that insufficient evidence existed [*796] to regulate this pollutant in produced water at this time.

3. Reinjection of Produced Water

The NRDC also contends that EPA illegally refused to require zero discharge of produced waters through reinjection because record evidence shows that reinjection [***18] is technologically and economically feasible. The NRDC further contends that EPA's decision not to require reinjection of produced waters is based on energy impacts that are not supported by the requisite statutory findings, and the agency's decision is

¹³Coagulants are chemical agents used to help dissolved oil collect together into a "floc." This larger mass is then more easily picked up by the gas bubbles. See R.G. Luthy et al., "Removal of Emulsified Oil with Organic Coagulants and Dissolved Air Flotation (DAF)," 343, JOURNAL WATER POLLUTION CONTROL FEDERATION, February 1978, Record Vol. 168; SAIC, "Oil/Water Separation by Gas Flotation," 10, prepared for U.S Environmental Protection Agency, Engineering and Analysis Division, November 9, 1992, Record Vol. 167.

therefore illegal. The NRDC mistakenly asserts **[**28]** that BAT must be based on the "*best single performer* in an industry." To the contrary, the CWA's requirement that EPA choose the "best" technology does not mean that the chosen technology must be the best pollutant removal. Obviously, BAT and NSPS must be acceptable on the basis of numerous factors, only one of which is pollution control.

NRDC ignores the statutory language, which sets up a "limited" balancing test." [Weyerhaeuser, 590 F.2d at 1045](#) (citing Senator Muskie's remarks during debate on the CWA). In enacting the CWA, "Congress did not mandate any particular structure or weight for the many consideration factors. Rather, it left EPA with discretion to decide how to account for the consideration factors, and how much weight to give each factor." *Id.* Consequently, NRDC is wrong to contend that EPA is not permitted to balance factors such as cost against effluent reduction benefits.

Finally, NRDC again misstates EPA's burden in promulgating the Final Rule by claiming that EPA is required to select reinjection as its BAT technology unless the costs of achieving that technology are "wholly disproportionate" to effluent reduction benefits. EPA is governed by a standard **[**29]** of reasonableness in considering the factors to be balanced. [American Iron & Steel Inst. v. EPA, 526 F.2d 1027 at 1051](#). As EPA elucidates, *Chevron* requires that agencies are given significant discretion, on a case-by-case basis, in weighing factors, provided the agency's regulations are not "manifestly contrary to the statute." [Chevron, 467 U.S. at 844](#). **[***19]**

EPA admits that reinjection may be technologically feasible. ¹⁴ The only evidence that reinjection may not be feasible is the possibility that geographic formations in some areas may preclude reinjection. However, EPA's rejection of reinjection as a BAT, while based in part on concerns regarding feasibility, was, more importantly, based on several relevant factors, such as

¹⁴ A majority of the platforms in California already reinject their produced water to enable recovery of the heavy crude oil that is typically produced in that part of the country. The only offshore rig in Alaska also reinjects its produced water in order to comply with state regulation. Reinjection of produced water is much less common in the Gulf of Mexico, although some studies have shown it to be feasible there as well. It is important to remember, however, that of 2,500 offshore platforms, only 33 platforms are located off the coast of California and Alaska.

unacceptably high economic and nonwater quality environmental impacts.

[30]** EPA estimates the cost of implementing reinjection as BAT and NSPS would exceed several billion dollars. ¹⁵ The extraordinary cost was one basis for rejecting reinjection, although NRDC is correct that EPA did not conclusively determine that reinjection was *not* economically attainable. ¹⁶ In addition to the high expense of reinjection, the negative impact reinjection would have on air emissions and the loss of production resulting from **[***20]** reinjection combined to cause EPA to reject reinjection for BAT and NSPS.

[31]** EPA estimates that the implementation of reinjection at existing platforms in the Gulf **[*797]** and Alaska alone would increase the emission of air pollutants by 1,041 tons/year for BAT and 849 tons/year for NSPS. The existing air quality of Southern California is so bad that reinjection was not considered an option at all. Reinjection was also rejected based on the increased energy required to run the reinjection pumps. According to EPA, reinjection would result in additional energy requirements of 977,000 barrels of oil equivalent (BOE)/year for BAT and 785,000 BOE/year for NSPS. Finally, EPA projected that reinjection would result in a one percent loss in production. (It is worth noting that one percent of oil and gas production from the Gulf of Mexico amounts to several million BOE/year.) The accumulation of these factors led EPA to reject reinjection as BAT and NSPS for produced water.

We think that EPA acted within its statutory authority in rejecting zero discharge based on reinjection. As EPA correctly points out, NRDC's contention that economic, energy, and nonwater quality environmental impacts are less important than achieving zero discharge merely reflects NRDC's disagreement **[**32]** on a policy level. This Court may not substitute NRDC's judgment, any

¹⁵ Based on EPA estimates, the following costs would be incurred:

- \$ 3 billion for set up at existing platforms,
- \$ 2.6 billion for set-up at new sources,
- \$ 300 million to maintain reinjection at existing platforms,
- \$ 175 million to maintain reinjection at new sources.

These figures do *not* include maintenance and set-up costs for platforms off the coast of California.

¹⁶ For existing single-well dischargers, however, reinjection was *not* found to be economically achievable.

more than our own, for that of the EPA.

B. DRILLING FLUIDS AND DRILL CUTTINGS

Drilling fluid (also called drilling mud) is any fluid sent down the drillhole to aid the drilling process. This includes fluid used to maintain hydrostatic pressure in the well, lubricate and cool the drill bit, remove drill cuttings from the well, and stabilize the walls of the well during drilling or workover operations. The fluid is pumped down the drill pipe and through the drill bit. At the bottom of the hole, it sweeps crushed rock drill cuttings from beneath the bit, carries them back to the surface, is separated from [***21] drill cuttings and is discharged or is returned to the mud tank for recirculation.

Under the Final Rule, EPA prohibits all discharge of drilling fluids and drill cuttings from wells located within three nautical miles from shore for the Gulf and California regions. The BAT, NSPS, and BCT all require any dischargers within the three-mile limit to transport drilling fluids and drill cuttings to shore by barge and to dispose of the discharge in landfills. Beyond the three-mile limit, drilling [**33] fluids and drill cuttings may be discharged under BCT after meeting the limitation for no discharge of free oil measured by the static sheen test. ¹⁷ BAT and NSPS for dischargers beyond the three-mile limit are more stringent, requiring compliance with four basic requirements. ¹⁸

Alaska was completely exempted from the zero discharge requirement within the three-mile limit due to special conditions [**34] in that region as discussed *infra*, Part II.B.4.c. As a result, BAT and NSPS for all offshore Alaska wells must meet the four basic requirements limiting free oil, diesel oil, toxicity, and metals content in barite. ¹⁹ BCT [***22] for all Alaska

¹⁷ Fluids fail the static sheen test if a "sheen, iridescence, gloss, or increased reflectance" appears on the surface of test seawater after drilling fluid samples are introduced into ambient seawater in a container having an air-to-liquid interface area of 1,000 cm. [50 Fed. Reg. 34,592, 34,627 \(1985\)](#).

¹⁸ These requirements are: (1) a toxicity limitation set at 30,000 ppm in the suspended particulate phase; (2) a prohibition on the discharge of diesel oil; (3) no discharge of free oil based on the static sheen test; and (4) a limitation on cadmium and mercury in barite of 3 mg/kg and 1 mg/kg, respectively.

¹⁹ Barite (naturally occurring barium sulfate ore) is a heavy, soft, and chemically inert mineral, which is widely used to

wells simply prohibits the discharge of free oil.

Industry petitioners challenge the EPA's decision to impose the zero discharge limitation on drilling fluids and drill cuttings discharged within three miles of shore in the Gulf and California regions. The BAT, NSPS, and BCT chosen for these dischargers is to barge the drilling [**35] fluids and cuttings to shore to be disposed of in landfills. Industry petitioners assert that EPA acted [**798] arbitrarily and violated the CWA by (1) improperly calculating the BCT cost test, (2) regulating drill cuttings as Total Suspended Solids (TSS), and (3) failing adequately to consider the cost factor in its BAT and NSPS determination.

1. BCT Cost Test

The BCT cost test is made up of two parts, the POTW test and the industry cost-effectiveness test. The portion of the BCT cost test at issue here, the industry cost-effectiveness test, has been translated into the following mathematical formula:

$$\text{BCT cost/lb.} - \text{BPT cost/lb.} < 1.29$$

$$\text{BPT cost/lb.} - \text{preBPT cost/lb.}$$

Based on this formula, EPA's first step was to calculate the existing cost of BPT under which some drilling muds were hauled to shore when they did not meet the "no free oil" test. EPA then calculated the BCT cost of hauling all drilling muds and cuttings within the Final Rule's three-mile limit.

Industry petitioners allege that EPA made two mistakes in calculating the cost of BPT. First, Industry petitioners [***23] contend that EPA mistakenly classified the costs of substituting mineral oil for [**36] diesel oil as a BPT cost. EPA candidly admits that it did commit this error. EPA contends, however, that this mistake was harmless error because, even with a substitution cost of zero (which EPA does not concede), the BCT level chosen still passes the BCT cost test once Industry petitioners' second contention is rejected.

Industry petitioners' second contention is that EPA exaggerated BPT onshore disposal costs for oil-based muds. According to Industry petitioners, no cost should be attributed to the onshore disposal of oil-based muds

control the density of drilling fluids. Barite contains heavy metal contaminants, including mercury and cadmium, and is the primary source of toxic metals in drilling fluid discharges. In the final rule, therefore, EPA is limiting mercury and cadmium to 1 mg/l and 3 mg/l in barite used in drilling fluid applications.

because dischargers actually sell the muds to mud companies who recondition the mud for reuse as drilling fluids. Industry petitioners assert that a correct calculation of the BPT cost should include only the transportation of oil-based muds to shore. As Industry petitioners view it, a recalculation of the industry cost-effectiveness test, omitting the cost attributed to product substitution and the cost attributed to the disposal of oil-based muds, causes EPA's zero discharge BCT level to fail the BCT cost test.

EPA counters that Industry petitioners are not permitted to raise their claim relating to the disposal cost of oil-based muds, because the **[**37]** issue was not raised during the rulemaking process. The requirement that a party raise its concerns to an agency prior to the publication of the final rule promotes agency autonomy and judicial efficiency. [*Ohio v. EPA, 302 U.S. App. D.C. 318, 997 F.2d 1520, 1528-29 \(D.C. Cir. 1993\)*](#). Industry petitioners counter that they could not have raised this issue earlier because EPA's calculations were not available until the Rule was published. Industry petitioners' claim is not persuasive, however, because although the exact calculations may have been unavailable, we find ample record evidence that Industry petitioners had sufficient notice that disposal costs of oil-based muds were being considered by EPA as part of the BCT cost test.

[*24]** Even if Industry petitioners had the right to raise this issue, EPA persuasively argues that some cost must be associated with disposal of oil-based muds. For example, EPA suggests that there will be some solids in the process that still require disposal because they will not pass the no free oil test; that reconditioning all of the drilling fluid may not be feasible; and that for those fluids that are reused, there is probably some limit to the number of times such **[**38]** reuse can occur. Logically, there must be some cost associated with the reconditioning operation itself. EPA claims that all of these factors make the Industry petitioners' argument for zero disposal cost an unreasonable one.

We are persuaded by EPA that its revised BPT calculation passes the BCT cost test. When EPA drops the mistaken amount included for product substitution, and leaves the rest of the numbers the same, the result of the equation is 1.239. This figure is still lower than the permissible threshold of 1.29.

2. Regulating Drill Cuttings as TSS

Industry petitioners also argue that EPA improperly classified, and then regulated, drill cuttings as Total

Suspended Solids (TSS). According to Industry petitioners, it is arbitrary to ban an entire waste stream **[*799]** (such as all drill cuttings) as TSS when only a small portion of the waste is actually suspended. In Industry petitioners' opinion, a large percentage of the drill cuttings are heavy bits of rock that sink immediately to the ocean floor and should therefore not be classified as TSS.

EPA counters that drill cuttings are classified as TSS because they fit within the definition of TSS. According to EPA, TSS is **[**39]** defined as "nonfilterable residue." This definition requires only that the substance will not pass through a glass filter. Consequently, EPA uses Method **[***25]** 160.2²⁰ to measure the amount of solid retained by a fiber filter. Because the drill cuttings discharged by oil and gas producers will not pass through such a filter, drill cuttings are, by EPA's definition, TSS. Industry petitioners maintain that it is illogical to include drill cuttings in a test method that is intended to filter much smaller particles. According to Method 160.2, the practical range of material to be measured is 4 mg/l to 20,000 mg/l. However, as Industry petitioners point out, a representative drill cutting sample is over 1.1 million mg/l.

We are persuaded by Industry's argument that EPA has arbitrarily classified drill cuttings as TSS. It is error for EPA to classify **[**40]** drill cuttings, typically on the magnitude of 1.1 million mg/l, by measuring TSS using a test designed to include only particles smaller than 20,000 mg/l. Despite the deference due to EPA in its choice of analytical methodology and testing procedures, it is apparent to this Court that most drill cuttings may not qualify as TSS because they are not "suspended." Our view is further bolstered by another of EPA's own tests, Method 160.5, which measures residue classified as "settleable." [*40 C.F.R. § 136.3, Table 1B \(1994\)*](#). The drill cuttings discharged from the oil and gas development and production phases should not be measured by Method 160.2 unless they fit within that test's practical guidelines.

Despite our belief that EPA may have erred in classifying drill cuttings as TSS, it appears senseless here to remand this portion of the Final Rule. Because BAT and NSPS for drill cuttings require the same technological control on drill cuttings as BCT, that is, zero discharge within three nautical miles of shore and

²⁰EPA's Method 160.2 entails filtering a sample of the industrial waste through a glass fiber filter and then weighing the retained residue after it has dried.

no discharge of free oil beyond three miles, altering BCT in this case would not change the result. Furthermore, even if EPA [***26] improperly classified drill cuttings [**41] as TSS, the agency is not precluded from regulating drill cuttings as an indicator for oil and grease. It is well documented that once drill cuttings are separated from the reusable drilling mud, they continue to carry drilling fluid residues of conventional and toxic pollutants. It is apparent in this specific situation that altering BCT would not in any way change the treatment of drill cuttings in the Gulf of Mexico, California, or Alaska. In this case, therefore, we will not disturb the EPA's treatment of drill cuttings as TSS in the Final Rule although we find some merit in Industry petitioners' allegation.

3. BAT and NSPS Cost Calculation

Finally, Industry petitioners challenge the BAT and NSPS levels set by EPA for drilling fluids and cuttings. The BAT and NSPS for dischargers within three miles of shore (excluding Alaska) require zero discharge of the pollutant by barging the mud and cuttings to shore for onshore disposal. Industry petitioners contend that EPA failed to consider adequately the relevant factors required, specifically the cost of barging. Phrased another way, Industry petitioners claim that the BAT and NSPS levels were improperly promulgated because the environmental [**42] benefits of the limitations are negligible.

EPA counters that it has discretion whether or not to use cost considerations under BAT and NSPS, and that EPA need only find that the technology is technically and economically achievable and that the cost of the technology is "reasonable." *NRDC v. EPA*, 863 F.2d at 1426; see also *CPC Int'l Inc. v. Train*, 540 F.2d 1329, 1341-42 (8th Cir. 1976) (setting NSPS does not require [**800] cost-benefit analysis, "what is required . . . is a thorough study of initial and annual costs and an affirmative conclusion that these costs can be reasonably borne by the industry"), *cert. denied*, 430 U.S. 966, 52 L. Ed. 2d 357, 97 S. Ct. 1646 (1977). The CWA does not require a precise calculation of BAT and NSPS costs. *NRDC v. EPA*, 863 F.2d at 1426. Congress intended that EPA have discretion "to decide how to account for the consideration factors, and [***27] how much weight to give each factor." *Weyerhaeuser*, 590 F.2d at 1045.

Industry petitioners maintain that when environmental benefits are *de minimis*, the regulation is not valid. However, EPA points to several environmental benefits

of the zero discharge rule, primarily, the decrease in pollutants ingested by fish [**43] and shellfish and passed along the food chain. Among the non-monetary benefits of zero discharge is the reduction in recreation degradation. Industry petitioners maintain that zero discharge is not necessary because simply meeting the four basic requirements under BAT for dischargers outside the three mile limit reduces virtually any pollution harm. However, Industry petitioners have not carried their burden of showing that zero discharge does not achieve any additional environmental benefit.

We are persuaded that EPA acted within its discretion in setting BAT and NSPS for drilling muds and drill cuttings.

4. Nonwater Quality Environmental Impacts

In promulgating the permissible discharge of drilling fluids and cuttings in this part of the Final Rule, EPA determined that zero discharge for *all* offshore platforms in the Gulf, California and Alaska was technologically available (through barging to shore) and economically achievable (\$ 12.3 million for drilling fluids, \$ 6.6 million for drill cuttings). However, unacceptably high nonwater quality environmental impacts led EPA to establish the three-mile zero discharge limit for the Gulf and California, and to reject the zero [**44] discharge option completely for Alaska. In the Gulf of Mexico, EPA rejected zero discharge beyond three miles from shore because of a lack of landfill capacity in the region. In California, zero discharge beyond three miles was rejected because of its serious impact on air pollution. And zero discharge was not required in Alaska because of numerous factors unique to that region. NRDC challenges each of these decisions.

[***28] a. Volume of Waste and Landfill Capacity in Gulf

NRDC contends (1) that EPA overestimated the volume of waste that would be generated by platforms outside the three-mile limit, and (2) underestimated land disposal capacity. According to NRDC, correcting these errors clears the way for a zero discharge requirement for drilling fluids and drill cuttings from *all* oil and gas rigs in the Gulf of Mexico.

EPA estimated the landfill capacity in the Gulf region over the next 15 years and determined that 8.5 million barrels of waste could be disposed each year. Because the landfills in that area are already receiving 3 million barrels of waste each year from other sources, EPA

calculated that only an additional 5.5 million barrels of waste from **[**45]** offshore sources could be accommodated. EPA then examined the amount of waste that would be generated offshore if a zero discharge limitation were in place for all platforms. It was estimated that offshore platforms would generate 6.6 million barrels/year. In addition to the 1.1 million barrels/year already being produced by coastal drilling operations, the total amount of drilling wastes generated totals 7.7 million barrels of waste per year. Because EPA estimated landfill capacity at only 5.5 million barrels each year, EPA devised its three-mile mark, beyond which platforms are not required to comply with zero discharge.

NRDC first contends that EPA overestimated the amount of waste that would require disposal by use of the zero discharge limit. NRDC claims that EPA used poor solids control technology in its calculations. Solids control technology removes drill cuttings from the drilling fluid system and reduces the total amount of drilling wastes that cannot be reused. As EPA points out, however, **[*801]** improved solids control technology only *increases* the volume of drill cuttings separated from reusable drilling fluid. Consequently, EPA found that the additional waste reduction **[**46]** that might be achieved is minimal. NRDC also **[***29]** raised the oil-based muds issue, contending that such muds are reused and that EPA did not take this into consideration. EPA maintains that reconditioning oil-based muds cannot eliminate all drilling fluids from the waste stream and that, therefore, any reuse does not drastically change its calculations.

NRDC also contends that EPA underestimated the landfill capacity of the Gulf region. NRDC believes that EPA ruled out acceptable landfills for insufficient reasons. For example, in its estimation of landfill capacity, EPA did not include landfills that are not now in operation. NRDC contends that those landfills currently are not operating because of a lack of demand. If it were more economically productive for those landfills to operate, NRDC presumes that more space would open up for drilling wastes. Nor did EPA consider landfills whose licenses are currently suspended. NRDC asserts that those sites might regain their licenses. Despite NRDC's contentions, however, this Court would have to engage in pure speculation to determine whether landfill operators would reopen or regain their licenses. Furthermore, the confusion cited **[**47]** by NRDC over the names of several of the landfills in the EPA estimate is adequately explained by the fact that several landfills are known by more than

one name.

Finally, NRDC criticizes EPA for failing to include in its estimate of landfill capacity any sites equipped to accept hazardous wastes. However, EPA purposely omitted hazardous landfill sites due to the high demand for such hazardous sites. According to EPA, the decision to exclude hazardous sites from its estimation of total landfill capacity is consistent with its 1988 decision not to regulate oil and gas under the hazardous waste portion of the Resource Conservation and Recovery Act (RCRA), [42 U.S.C. §§ 6901-6987](#). It is EPA's position that hazardous waste sites must be reserved for disposing of those substances that are more hazardous and dangerous than drilling fluids and drill cuttings.

[*30]** This Court believes that EPA has both the discretion and the expertise to make the decisions and value judgments behind its rejection of the zero discharge option beyond three miles off the shore of the Gulf of Mexico. Furthermore, EPA continuously reevaluated data and collected comments on the estimated volume of drilling **[**48]** fluids and cuttings, revising its information as recently as 1993. It is clear from the record that EPA made the decisions NRDC challenges after considering all of the options raised by the NRDC and after weighing the benefits and drawbacks of those options. We find that EPA's decisions are not arbitrary or capricious, nor are they the result of an abuse of the agency's discretion.

b. Air Quality Impact in California

NRDC also alleges that EPA illegally rejected zero discharge of drilling wastes in California beyond the three-mile limit. Having found zero discharge to be achievable in the California region, EPA nevertheless rejected zero discharge beyond the three-mile limit, based on the severity of the air pollution in Southern California. In EPA's opinion, the increased air emissions that would result from barging all drilling wastes from offshore platforms to the coast of California vastly outweighed the benefit of a zero discharge limitation beyond three miles from shore.

NRDC generally charges that EPA cannot reject zero discharge on the basis of possible increased air emissions. According to NRDC, EPA cannot reject a limit based on nonwater quality environmental **[**49]** impacts unless the impacts are "wholly disproportionate" to the possible pollution reduction. NRDC also argues that the estimated addition of 54 tons/year of air pollution off the coast of California is small compared to the present degree of air pollution in California, and that

offshore platforms that increase air emissions would be able to purchase pollution offsets to compensate for the increased air pollution. We find each of NRDC's arguments unpersuasive.

[**31] [*802] The overriding principle in our review of the Final Rule is that the agency has broad discretion to weigh all relevant factors during rulemaking. The CWA does not state what weight should be accorded to the relevant factors; rather, the Act gives EPA the discretion to make those determinations. [NRDC v. EPA, 863 F.2d at 1426](#). Compared to the benefit of a zero discharge requirement for all California offshore platforms, EPA views this increase in air pollution to be unjustified.

Furthermore, Southern California is a severe nonattainment area under the measurements of the Clean Air Act (CAA).²¹ There is some doubt that emissions offsets are available at any cost. Even if offsets could be purchased by offshore [**50] oil producers, they would cost approximately \$ 15,000 per ton of nitrogen dioxide and \$ 5,000 per ton of hydrocarbons.

If any entity has the ability to weigh the relative impact of two different environmental harms, it is the EPA. Here, EPA has weighed all the factors and has decided to compromise by requiring zero discharge within a three-mile limit. In the absence of a showing of clear error or abuse of discretion, this Court will not overturn EPA's determination.

c. BAT and NSPS in Alaska

NRDC also challenges the EPA's decision to reject zero discharge of drilling wastes in Alaska. EPA based its decision on several factors: (1) the severe weather, which restricts the movement of barges; (2) the [**51] lack of any nearby landfills along the Alaska Coast; and (3) the infeasibility of reinjection technology. Consequently, [**32] EPA's Final Rule does not require zero discharge for platforms off the coast of Alaska. NRDC argues that zero discharge is already achieved offshore of Alaska through the waste minimization and reinjection required by state regulation. Accordingly, NRDC contends that EPA likewise should require the achievable goal of zero

discharge in Alaska.

EPA carefully examined the possibility of requiring reinjection of drilling wastes in Alaska and rejected this option because of geologic concerns and the large amount of space required for such reinjection technologies. Although reinjection is currently occurring at the one and only offshore Alaskan platform, that platform is located on a gravel island in the Beaufort Sea, which makes reinjection possible. Injection of the waste depends on fracturing the receiving formation, which must be suitable for such a process. The formation also must be confined by layers that will not be affected by the fracturing so that the injected material remains in place. Consequently, EPA found that, although design work is continuing [**52] to improve the technology and reduce the size of the systems required, the technology is still experimental and is not yet available for application to offshore platforms.

Furthermore, zero discharge in Alaska is unrealistic in light of the severe weather conditions in that region. Sea ice, winter snow, and fog restrict visibility and navigability of the tugs and barges that would be required to haul wastes to shore. This Court is persuaded by EPA's analysis and studies proving that zero discharge is not a viable option at this time.

C. PRODUCED SAND

Produced sand is made up of particles of sand and slurred particles that rise to the surface with the oil, gas, and produced water generated during production. Produced sand settles at the bottom of treatment vessels until it is discharged from time to time when the vessels are cleaned. Produced sand is generally contaminated with crude oil [**33] from oil production or with condensate from gas. The primary contaminant associated with produced sand is oil, which can range from a trace to as much as 15 percent by volume. Under this rule, EPA prohibits any discharge of produced sand. The BAT, [*803] NSPS, and BCT zero discharge [**53] standards for produced sand require barging the discharge to shore to deposit in landfills.

Produced sand represents a relatively minor waste stream in offshore oil and gas production. In promulgating the produced sand portion of the rule, EPA considered two options: zero discharge by barging, and "no free oil" that is achieved by washing sand so that no visible sheen or discoloration is discernible. The Offshore Operators Committee (OOC) indicated that sand removal is primarily achieved by tank cleanouts, which occur every three to five years, although some

²¹ It is convenient in this case for NRDC to make its argument for zero discharge beyond EPA's three-mile limit at the expense of compliance with the Clean Air Act. We reject the temptation to speculate about NRDC's seeming willingness to sacrifice clean air for a more stringent discharge regulation.

locations remove sand annually due to factors specific to those wells. Generally, EPA estimated that one barrel of produced sand is generated for every 2,000 barrels of product. On the basis of an OOC survey, EPA also determined that 80 percent of dischargers are already hauling produced sand to shore for disposal.

EPA's decision to require zero discharge of produced sand resulted from its determination that zero discharge is technically and economically feasible. Compared to the other options considered, therefore, EPA determined zero discharge to be the best available technology. According to EPA, the CWA not only gives the [**54] agency broad discretion in determining BAT, the Act merely requires the agency to consider whether the cost of the technology is reasonable. EPA is correct that the CWA does not require a precise calculation of BAT costs. *NRDC v. EPA*, 863 F.2d at 1426. As for BCT, EPA maintains that zero discharge passes the BCT cost test, which is all that is statutorily required.

The Industry petitioners, including Svedala, Inc., contend that EPA's zero discharge limitation for produced sand violates the CWA and the APA. The petitioners' major [***34] contentions are that EPA failed to consider other technologies (namely, the effectiveness of technologies for washing sand), and also failed to address adequately the objections of the U.S. Department of the Interior (DOI) and Department of Energy (DOE). EPA denies both contentions of Industry petitioners.

1. Svedala's Standing

EPA argues that Svedala does not have standing to file a petition for review in this case. Svedala's only interest in the EPA regulations is as a manufacturer of a sand-washing technique. As EPA contends, therefore, Svedala lacks standing because its interest does not fall within the "zone of interests" that Congress [**55] sought to protect in enacting the CWA. *Clarke v. Securities Industry Ass'n*, 479 U.S. 388, 399, 93 L. Ed. 2d 757, 107 S. Ct. 750 (1987). We agree that Svedala does not have standing to be a petitioner in this case. However, because this issue is fully briefed by the parties, including Industry petitioners who clearly do have standing in this case, we will address its merits.

2. Sand Washing and Produced Sand Disposal

Petitioners contend that EPA ignored the requisite BAT factors, such as cost and nonwater quality

environmental impacts. For example, Industry petitioners criticize EPA's decision not to attribute any transportation cost to the process of hauling produced sand to shore. As EPA counters, however, the amount of produced sand is so minimal and irregular that existing barges that transport barrels of product or that service the offshore platforms are capable of carrying the produced sand to shore.

Industry petitioners also criticize EPA's failure to factor in the higher cost of disposing of produced sand that contains radionuclides (NORM). Industry petitioners are wrong. EPA did address this possibility and in its cost estimate provided for disposal of that produced sand containing NORM. Furthermore, [**56] EPA's Development Document points out that sand washing reduces only oil [***35] content, leaving radionuclides in the sand. Therefore, even washed sand that still contains NORM must be transported to shore for disposal under existing Minerals Management Service (MMS) guidelines.

Industry petitioners also argue that EPA had inadequate information to formulate technology standards for produced sand. This argument fails, however, because EPA [*804] relied on scientific data from several sources. Although EPA acknowledges that one set of data, the OOC survey, was not complete without several years of data (which was not available at the time of rulemaking), EPA has broad discretion in its selection of data and in its method of calculation. *Reynolds Metals Co. v. EPA*, 760 F.2d 549, 565 (4th Cir. 1985) (citing *Hercules, Inc. v. EPA*, 194 U.S. App. D.C. 172, 598 F.2d 91, 108 (D.C. Cir. 1978)); *American Petroleum Institute v. EPA*, 540 F.2d 1023, 1035-36 (10th Cir. 1976), cert. denied, 430 U.S. 922 (1977). An agency's discretion is especially broad when it involves highly scientific or technical considerations. *Reynolds Metals Co.*, 760 F.2d at 565. The cost-and-energy-related issues raised by Svedala [**57] and the Industry petitioners are within the discretion of EPA.

Industry petitioners argue further that sand-washing technologies are capable of removing 100 percent of the oil in produced sand. According to these petitioners, if all of the oil is not removed the first time, the produced sand can be washed again to remove the remaining pollutant. The data collected by the EPA, however, shows that sand-washing technologies are not so reliable. In fact, some sands containing heavy oils cannot be washed thoroughly enough to meet the much less stringent "no free oil" standard previously in place.

[***36] ²²

Industry petitioners also claim [**58] that EPA failed adequately to address the comments of other departments on the topic of zero discharge of produced sand. As EPA points out, however, the comments from MMS and DOE came only two days before the Final Rule was to be signed. Furthermore, EPA left the door open to continue to accept comments on produced sand in the future with the possibility of revising the zero discharge rule later.

III.

For the foregoing reasons, we **AFFIRM** the Final Rule for the offshore oil and gas subcategory promulgated by EPA pursuant to the CWA.

End of Document

²² EPA points to additional problems associated with sand-washing technologies. These drawbacks include the high capital cost of installing sand-washing units, the lack of space available on existing platforms to accommodate sand-washing units, and the additional wastes generated by sand washing, such as oily solids and oily water, which require further treatment and disposal.