

861 F.Supp. 1203, 25 Env'tl. L. Rep. 20,664
(Cite as: **861 F.Supp. 1203**)

West Headnotes

H

United States District Court,
D. New Jersey.

CLEAN OCEAN ACTION, a New Jersey non-profit corporation; the American Littoral Society, a New Jersey non-profit corporation, Fisherman's Dock Cooperative, Inc., a New Jersey corporation, and United Fisherman's Association, a New York non-profit corporation, the Confederation of the Association of Atlantic Charter-Boats and Captains, Inc., a New York corporation, Plaintiffs
v.

Colonel Thomas A. YORK, in his capacity as District Engineer of the United States Army Corps of Engineers; General Stanley T. Genega, in his capacity as Director of Civil Works of Army Corps of Engineers, Army Corps of Engineers, an agency of the United States; Carol M. Browner, in her capacity as Administrator of the United States Environmental Protection Agency; William J. Muszynski, in his capacity as Acting Regional Administrator of the United States Environmental Protection Agency; Environmental Protection Agency, an agency of the United States; the Port Authority of New York and New Jersey, a bi-state governmental agency, Defendants.
Civ. A. No. 93-2402.

June 24, 1994.

Environmental organizations and representatives of fishing and boating interests brought action for injunctive relief challenging issuance of permit to Port Authority to dredge sediment material from its facility in Newark Bay for deposit in Atlantic Ocean. The District Court, Debevoise, J., held that: (1) bioassays which agencies conducted met regulatory requirements supporting conclusion that sludge dioxin was trace contaminant outside dumping prohibition under Marine Protection, Research, and Sanctuaries Act; (2) additional postdumping tests initially ordered were unnecessary based on later determination that all required tests had been performed before issuance of permit; and (3) imposition of capping requirement did not convert what was determined to be trace contaminant into prohibited contaminant.

Denied.

[1] Environmental Law 149E ↪136

149E Environmental Law

149EIV Water, Wetlands, and Waterfront Conservation

149Ek129 Permissible Uses and Activities; Permits and Licenses; Management

149Ek136 k. Discharge or Deposit of Dredged or Fill Material. Most Cited Cases

(Formerly 199k25.7(6.1) Health and Environment)

Bioassays conducted by government agencies met regulatory requirements supporting conclusion that sludge dioxin contained in dredged sediment material from port that was deposited in Atlantic Ocean was trace contaminant falling outside dumping prohibition of Marine Protection, Research, and Sanctuaries Act, though agencies did not require bioaccumulations tests in suspended particulate stage for dioxin before issuing permit, where suspended particulate test replicating conditions at sea resulting from dump could not last more than several hours to produce any measurable bioaccumulation, since organisms in water column would travel in and out of affected areas. Marine Protection, Research, and Sanctuaries Act of 1972, § 103, 33 U.S.C.A. § 1413; 40 C.F.R. § 227.6(a).

[2] Administrative Law and Procedure 15A ↪416.1

15A Administrative Law and Procedure

15AIV Powers and Proceedings of Administrative Agencies, Officers and Agents

15AIV(C) Rules and Regulations

15Ak416 Effect

15Ak416.1 k. In General. Most Cited Cases

Once agency adopts regulation, it is bound by that regulation; it cannot exercise discretion not to comply with its own regulations.

[3] Environmental Law 149E ↪131

149E Environmental Law

149EIV Water, Wetlands, and Waterfront Conservation

149Ek129 Permissible Uses and Activities; Permits and Licenses; Management

149Ek131 k. Oceans. Most Cited Cases

861 F.Supp. 1203, 25 Env't. L. Rep. 20,664
(Cite as: **861 F.Supp. 1203**)

(Formerly 199k25.7(13.1) Health and Environment)
Environmental Protection Agency (EPA) has discretion to establish and revise criteria to be used in determining whether to grant permit for ocean dumping, and either EPA or the Army Corps of Engineers is given discretion to require information which agency considered necessary to review and evaluate application. Marine Protection, Research, and Sanctuaries Act of 1972, §§ 103(b), 104(e), [33 U.S.C.A. §§ 1413\(b\), 1414\(e\)](#).

[4] Environmental Law 149E 136

[149E](#) Environmental Law

[149EIV](#) Water, Wetlands, and Waterfront Conservation

[149Ek129](#) Permissible Uses and Activities; Permits and Licenses; Management

[149Ek136](#) k. Discharge or Deposit of Dredged or Fill Material. [Most Cited Cases](#)

(Formerly 199k25.7(13.1) Health and Environment)
Army Corps of Engineers and Environmental Protection Agency (EPA) reasonably interpreted regulations relating to bioassays on sludge for compliance with ocean dumping regulations as requiring total of three bioassays, but not necessarily requiring three bioassays to determine mortality and additional three bioassays to determine sublethal effects; dumping permit applicant satisfied regulations establishing that dioxin in dredged material was trace contaminant exempted from prohibition on ocean dumping after it conducted three ten-day tests to measure bioaccumulation of various listed substances, though not of dioxin, and it later conducted fourth bioassay test on worms to measure uptake of dioxin without any indication of significant mortality or significant adverse sublethal effects due to dumping of dredge material. Marine Protection, Research, and Sanctuaries Act of 1972, § 103, [33 U.S.C.A. § 1413](#); [40 C.F.R. § 227.6\(a\), \(c\)\(3\)](#).

[5] Environmental Law 149E 137

[149E](#) Environmental Law

[149EIV](#) Water, Wetlands, and Waterfront Conservation

[149Ek129](#) Permissible Uses and Activities; Permits and Licenses; Management

[149Ek137](#) k. Exceptions, Exemptions, and Variances. [Most Cited Cases](#)

(Formerly 199k25.7(6.1) Health and Environment)
Application of sand cap on dredged material would not be considered in determining whether dioxin was entitled to exemption from prohibition on ocean dumping for material

present only as chemical compound or form nontoxic to marine life, though cap was considered in determining whether dioxin was exempted from dumping prohibition as trace material. Marine Protection, Research, and Sanctuaries Act of 1972, § 103, [33 U.S.C.A. § 1413](#); [40 C.F.R. § 227.6\(f\)\(1\)](#).

[6] Environmental Law 149E 137

[149E](#) Environmental Law

[149EIV](#) Water, Wetlands, and Waterfront Conservation

[149Ek129](#) Permissible Uses and Activities; Permits and Licenses; Management

[149Ek137](#) k. Exceptions, Exemptions, and Variances. [Most Cited Cases](#)

(Formerly 199k25.7(6.1) Health and Environment)
Additional testing to fill gaps in meeting criteria for trace contaminants exempted from prohibition on ocean dumping was not required after it was determined that all required tests had been performed before issuance of permit. [40 C.F.R. § 227.6\(c\)\(2, 3\)](#).

[7] Environmental Law 149E 131

[149E](#) Environmental Law

[149EIV](#) Water, Wetlands, and Waterfront Conservation

[149Ek129](#) Permissible Uses and Activities; Permits and Licenses; Management

[149Ek131](#) k. Oceans. [Most Cited Cases](#)

(Formerly 199k25.7(6.1) Health and Environment)
Imposition of Army Corps of Engineers' requirement for placement of sand cap over dredged material deposited in Atlantic Ocean did not convert what had been determined to be trace contaminant into prohibited contaminant, where cap was required through abundance of caution, not because of level of toxicity in dredged sediment. [40 C.F.R. § 227.6\(b\)](#).

[8] Environmental Law 149E 131

[149E](#) Environmental Law

[149EIV](#) Water, Wetlands, and Waterfront Conservation

[149Ek129](#) Permissible Uses and Activities; Permits and Licenses; Management

[149Ek131](#) k. Oceans. [Most Cited Cases](#)

(Formerly 199k25.7(6.1) Health and Environment)
Escape of two to five percent of dredged sediment as it

861 F.Supp. 1203, 25 Env'tl. L. Rep. 20,664
(Cite as: **861 F.Supp. 1203**)

descended to ocean floor before it could be capped was not per se violation of Marine Protection, Research, and Sanctuaries Act. Marine Protection, Research, and Sanctuaries Act of 1972, § 103, [33 U.S.C.A. § 1413](#).

[9] Administrative Law and Procedure 15A 🔑749

[15A](#) Administrative Law and Procedure
[15AV](#) Judicial Review of Administrative Decisions
[15AV\(D\)](#) Scope of Review in General
[15Ak749](#) k. Presumptions. [Most Cited Cases](#)

Administrative Law and Procedure 15A 🔑763

[15A](#) Administrative Law and Procedure
[15AV](#) Judicial Review of Administrative Decisions
[15AV\(D\)](#) Scope of Review in General
[15Ak763](#) k. Arbitrary, Unreasonable or Capricious Action; Illegality. [Most Cited Cases](#)
Arbitrary, capricious, abuse of discretion, or otherwise not in accordance with law standard set forth in Administrative Procedure Act is very narrow and highly deferential standard under which agencies' action is presumed valid. [5 U.S.C.A. § 706\(2\)\(A\)](#).

[10] Statutes 361 🔑219(1)

[361](#) Statutes
[361VI](#) Construction and Operation
[361VI\(A\)](#) General Rules of Construction
[361k213](#) Extrinsic Aids to Construction
[361k219](#) Executive Construction
[361k219\(1\)](#) k. In General. [Most Cited Cases](#)

Statutes 361 🔑219(4)

[361](#) Statutes
[361VI](#) Construction and Operation
[361VI\(A\)](#) General Rules of Construction
[361k213](#) Extrinsic Aids to Construction
[361k219](#) Executive Construction
[361k219\(4\)](#) k. Erroneous Construction; Conflict with Statute. [Most Cited Cases](#)
Agency's interpretation of statute that it administers is entitled to great deference, and is to be upheld as long as it is permissible one.

[11] Administrative Law and Procedure 15A 🔑413

[15A](#) Administrative Law and Procedure
[15AIV](#) Powers and Proceedings of Administrative Agencies, Officers and Agents
[15AIV\(C\)](#) Rules and Regulations
[15Ak412](#) Construction
[15Ak413](#) k. Administrative Construction.
[Most Cited Cases](#)
Agency's interpretation of its own regulation is entitled to great deference.

[12] Administrative Law and Procedure 15A 🔑413

[15A](#) Administrative Law and Procedure
[15AIV](#) Powers and Proceedings of Administrative Agencies, Officers and Agents
[15AIV\(C\)](#) Rules and Regulations
[15Ak412](#) Construction
[15Ak413](#) k. Administrative Construction.
[Most Cited Cases](#)
Deference to agency's interpretation is even more in order when agency is construing administrative regulation than when it is construing statute.

[13] Administrative Law and Procedure 15A 🔑759

[15A](#) Administrative Law and Procedure
[15AV](#) Judicial Review of Administrative Decisions
[15AV\(D\)](#) Scope of Review in General
[15Ak754](#) Discretion of Administrative Agency
[15Ak759](#) k. Technical Questions. [Most Cited Cases](#)
Agency decisions involving complex and highly technical issues are entitled to heightened deference.

[14] Administrative Law and Procedure 15A 🔑759

[15A](#) Administrative Law and Procedure
[15AV](#) Judicial Review of Administrative Decisions
[15AV\(D\)](#) Scope of Review in General
[15Ak754](#) Discretion of Administrative Agency
[15Ak759](#) k. Technical Questions. [Most Cited Cases](#)
Agency's choice of scientific data and statistical methodology for deciding complex and technical issues is entitled to respect.
***1205** [Gordon N. Litwin](#), Ansell Zaro Bennett & Grimm, P.C., Newark, NJ, for plaintiffs.

[Faith S. Hochberg](#), U.S. Atty. by [Susan Handler-Menahem](#), Asst. U.S. Atty., Newark, NJ, Charles E.

861 F.Supp. 1203, 25 Env'tl. L. Rep. 20,664
(Cite as: **861 F.Supp. 1203**)

Hoffmann, U.S. E.P.A.; Region II, [James G. Palmer](#), Asst. Dist. Counsel, U.S. Army Corps of Engineers, New York Dist., Office of Counsel, New York City, and [Hugh H. Welsh](#), Deputy Gen. Counsel, the Port Authority of New York and New Jersey, Newark, NJ, for defendants.

OPINION

[DEBEVOISE](#), District Judge.

A. Procedural Background

Plaintiffs in this action are several environmental organizations and organizations representing fishing and boating interests. Defendants are the Army Corps of Engineers (the "Corps") and two of its officers, the United States Environmental Protection Agency ("EPA") and two of its officers, and the Port Authority of New York and New Jersey (the "Port Authority"). Plaintiffs challenge decisions of the Corps dated January 6, 1993 and May 26, 1993, issuing a permit to the Port Authority. The permit *1206 authorized the Port Authority to perform maintenance dredging of up to 500,000 cubic yards of sediment material from the Port Authority's Port Elizabeth and Port Newark facility in Newark Bay, and to deposit the material in the Atlantic Ocean in an area known as the Mud Dump.

Although dredge materials had been deposited at the Mud Dump since 1914, dioxin has been discovered in the sediment and this created substantial environmental problems. The permit contained 25 special conditions designed to mitigate the adverse effects of the dioxin. Nevertheless, plaintiffs alleged that the permit was impermissibly granted and sought its revocation.

On June 1, 1993, by order to show cause, plaintiffs sought a temporary restraining order and a preliminary injunction barring the maintenance, dredging and disposal of the dredged material. On June 7, 1993, after a second hearing, I denied the motion for a preliminary injunction. I directed the Port Authority (i) to establish that the permit was lawfully issued under the regulations adopted pursuant to the Marine Protection, Research, and Sanctuaries Act of 1972, [33 U.S.C. § 1413](#) ("MPRSA") either because the dioxin present in the sediment was only in trace amounts or because the granting of the permit was within an exception to [40 C.F.R. § 227.6\(a\)](#) or (ii) failing to establish such lawful issuance of the permit, to pursue a waiver pursuant to § 225.4 of the regulations.

On June 22, 1993, the Port Authority submitted a memorandum purporting to establish that the dioxin was either in trace amounts or was within a regulatory exception to the ban on its dumping. At the same time, the Port Authority commenced dredging and disposing sediments from Port Newark, completing the first 30-day phase of the project on July 7, 1993. As required by the permit, the Port Authority began on July 12, 1993, to apply a sand cap over the sediments disposed of at the Mud Dump Site to mitigate the potential for spreading of the dredged material. The capping continued on into the Fall. Approximately 2.1 million cubic yards of sand was deposited to cap 450,000 cubic yards of dredged material.

I reviewed the brief which the Port Authority submitted on June 22 and found it to be inadequate to enable me to determine the validity of the issuance of the permit. On July 6, I issued a letter opinion in which I set forth a number of preliminary conclusions and gave defendants an opportunity to conduct additional tests and to provide comprehensive memoranda directed to the question whether the regulations had been complied with.

My preliminary conclusions included the following:

(i) The exception to the ban on dumping dioxin contained in [40 C.F.R. § 227.6\(f\)\(1\)](#) is probably not applicable in the circumstances of this case.

(ii) Defendants appear to have performed the mortality tests required by [§ 227.6](#), but they have not met the other requirements necessary to qualify the dioxin as a trace contaminant, i.e., they have performed bioaccumulation tests on only one of the three benthic (bottom) species required under [§ 227.6\(c\)\(3\)](#), and they have performed no bioaccumulation tests on pelagic organisms (organisms living near the surface of the water) as required by [§ 227.6\(c\)\(2\)](#).

(iii) It appears likely that if the required tests were performed, the dioxin could be classified as a trace element and thus not subject to the dumping ban.

(iv) Since the sediments will be capped when they are dumped, [§ 227.6\(c\)](#) appears to allow consideration of the efficacy of the cap in assuring whether dioxin is a trace contaminant.

(v) Release of 2.5% of the dumped material during the dumping and settling process is not a *per se* violation of

861 F.Supp. 1203, 25 Env'tl. L. Rep. 20,664
(Cite as: **861 F.Supp. 1203**)

MPRSA.

In the July 6, 1993 letter opinion, I gave defendants until September 1 to perform such additional tests as would be required to demonstrate full compliance with the regulations and to submit detailed memoranda. I specified a date for plaintiffs to reply.

The various parties requested and received extensions of time. The federal defendants and the Port Authority submitted their material on November 1, 1993. Plaintiffs responded***1207** on April 8, 1994. The federal defendants and the Port Authority replied on May 4 and 9, respectively, and plaintiffs sought and were granted leave to file an additional response. Each party takes strong issue with certain of the preliminary conclusions set forth in my July 6, 1993 letter opinion. Each agreed with certain conclusions. This opinion sets forth, among other things, my final conclusions, and to the extent that they differ from my earlier conclusions they supersede those earlier conclusions.

B. *The Facts*

On April 9, 1990, the Port Authority submitted an application to the Corps for a permit under § 10 of the Rivers and Harbors Act of 1899, [33 U.S.C. § 403](#), [§ 404](#) of the Clean Water Act, [33 U.S.C. § 1344](#), and § 103 of MPRSA, for the dredging of the sediment from Port Elizabeth and Port Newark facilities in Newark Bay and subsequent disposal of the material at the Mud Dump. On or about November 25, 1991, a Public Notice describing the project was issued and provided for a thirty-day public comment period. Copies of the Public Notice were mailed to the adjacent property owners, interested members of the public, and federal, state, and local officials and agencies. A second public notice was issued on January 24, 1992, which announced that the Corps would conduct a public hearing on February 24, 1992. This public notice also provided opportunity for the submission of written comments. Other public notices were issued providing the opportunity for further public comment on certain aspects of the overall project.

Numerous comments were received in response to the Public Notice from elected officials, organizations, agencies, and other interested parties.

Three federal resource agencies-National Marine Fisheries Service ("NMFS"), U.S. Fish and Wildlife Service ("USFWS"), and the U.S. Environmental Protection

Agency ("USEPA")-submitted initial comments in response to the public notice.

Following receipt of initial agency responses to the Public Notice, the Corps met with the federal agencies, USEPA, USFWS, NMFS, and the Port Authority to discuss how the Port Authority would address the agencies' concerns and recommendations.

The permitting process took more than three years. During that time, the Port Authority made numerous submissions to the Corps in order to address the concerns raised by the public and by the federal agencies. The Port Authority conducted extensive testing required by the government to comply with the requirements of the relevant regulations. The testing which was conducted is described in the affidavits of Mario P. Del Vicario ("Del Vicario") and Thomas D. Wright ("Wright").

An extensive exchange of information took place in response to the environmental concerns raised by the federal agencies. Certain special conditions were recommended by the agencies. In response to these recommendations, the Corps prepared a series of special conditions for the overall project. These were coordinated with the agencies.

The federal agencies exchanged considerable correspondence voicing their continued concerns and recommendations and refining the draft permit conditions.

The Corps completed its NEPA documents (Statement of Findings, Environmental Assessment and Finding of No Substantial Impact) on January 6, 1993. In addition to the federal agencies' environmental concerns mentioned above, the Environmental Assessment discussed public interest review factors, as required by [33 C.F.R. § 320.4\(a\)\(1\)](#). In that section of the Environmental Assessment, the Corps specifically addressed impacts of the project on: threatened and endangered species, economics, aesthetics, general environmental concerns, water quality, air quality, wetlands, cultural resources-historic properties, fish and wildlife values, flood hazards and floodplain values, land use, navigation, shoreline erosion and accretion, recreation, energy needs, safety, food production, and noise. The document also addressed, as required by [33 C.F.R. § 320.4\(a\)\(2\)](#), the private and public need for the project, appropriate alternatives, and the extent and permanence of the beneficial and/or detrimental effects which the project might have on the private and public uses to which ***1208** the area is suited. Numerous special conditions were required to minimize impacts upon environ-

861 F.Supp. 1203, 25 Env'tl. L. Rep. 20,664
(Cite as: 861 F.Supp. 1203)

mental and navigational interests.

After evaluating all the evidence of record, including the information and findings in the prior Environmental Impact Statements, specifically the Environmental Impact Statement prepared in 1983, regarding the Mud Dump, and the Supplemental Environmental Impact Statement prepared in 1991 relating to disposal alternatives, and in view of the twenty-five special conditions to be made part of the permit, the Corps concluded that the project would not have a significant adverse effect on the quality of the human environment. Thus, it was not required that another Environmental Impact Statement be prepared.

Shortly after issuance of the permit on January 6, 1993, a further concern was presented to the Corps by EPA. EPA noted that due to the time which had elapsed in the permitting process, more sediment would have to be removed than originally contemplated. EPA requested further consideration of what effect, if any, this increased volume of dredge materials would have on environmental concerns. The permit was suspended, and further review undertaken by the Corps. After further review, the permit was reissued on May 26, 1993. It is apparent that the Port Authority's application received a comprehensive, detailed and thoughtful review by each federal agency having an interest in the subject matter. It is apparent that the Corps responded to the many concerns of these agencies and of the general public and shaped the conditions of the permit accordingly. The painstaking nature of Corps' work is evidenced by the eighteen-volume administrative record.

Upon the issuance of the permit, plaintiffs commenced this lawsuit, which proceeded in the manner described above. While the lawsuit progressed, the Port Authority completed the dredging and dumping of the sediment in accordance with the permit.

The last load of dredged material was dumped on July 7, 1993. Between that date and July 20, bathymetric surveys were undertaken to establish the height of the mound prior to capping. Between July and September 13, 1993, approximately 994,000 cubic meters of capping material had been placed on the site, resulting in a cap with an average thickness of .77 meters. Additional capping material was dumped, and by October 23, the cap's average thickness was one meter. Since there were some areas where the cap was not one meter thick, capping continued and was completed by December 20, 1993 when the average thickness of the cap was 1.08 meters.

While the dredging and capping was proceeding in the summer of 1993, the Port Authority proceeded with additional testing. Because the first phase of dredging and disposal had been completed by July 7, prior to the issuance of the July 6 Order, the additional testing was performed upon sediment samples retrieved from the Mud Dump Site. The samples were retrieved from the locations designated by the Corps by boring through the sand cap to the sediment deposit below.

All procedures followed by the Port Authority with respect to the additional testing were jointly approved by the Corps and EPA *See* [40 C.F.R. § 227.6\(c\)](#). The procedures approved by the Corps, in consultation with EPA, addressed: (1) the taking of sediment samples; (2) the physical and chemical testing of the sediment; and (3) the selection of appropriate species for bioaccumulation studies.

The testing was conducted on behalf of the Port Authority by three Corps-approved laboratories: (1) Aqua Survey, Inc., the lead laboratory and author of the Lab Report; (2) NYTEST, which conducted the physical and chemical analysis of the sediment; and (3) Triangle Laboratories, which conducted the tissue analysis on the organisms.

1. Sediment Sampling Requirements

The Green Books and the Regional Guidance describe the types of sediment samples that must be used for testing. Suspended particulate phase testing must be performed with a dilution water control and field samples from the dredging area. Solid phase testing must be performed on control and *1209 referenced sediments as well as on field samples.

The manuals also specify the origins of the sediments. Control sediment must be supplied by the laboratory conducting the testing. Reference sediment must be taken from a specified location at the Mud Dump Site. Locations for field sampling were to be provided to the applicant by the New York District of the Corps.

Pursuant to these requirements, Aqua Survey supplied control sediment for use in the solid phase bioaccumulation study. Aqua Survey also coordinated the retrieval of reference sediment, which was taken from the Mud Dump Site at the Loran coordinates specified in the Regional Guidance.

Because the material to be tested had been completely

861 F.Supp. 1203, 25 Env't. L. Rep. 20,664
(Cite as: 861 F.Supp. 1203)

removed from Reaches B, C, and D of Port Newark to the Mud Dump Site by the time the July 6 Order was issued, the Corps instructed the Port Authority to take nine core samples and a tenth composite sample of dredged sediments from the Mud Dump Site. The New York District Office of the Corps specified the precise locations at which the test samples would be retrieved. Those locations were specified on a map provided to the Port Authority by the Water Quality Compliance Branch of the Corps.

To confirm the locations set forth on the map, on July 23, 1993, the Port Authority submitted the Loran coordinates of the sampling locations to the Corps. In its letter of July 23, the Port Authority also identified the three laboratories that would conduct the physical, chemical and biological testing of the sediments. The Work/Quality Assurance plans of the laboratories were submitted to the Corps for approval pursuant to Section 3.0 of the Regional Guidance.

On July 29, the Port Authority submitted to the Corps a Sampling Plan, which described the method for retrieving field samples at the Mud Dump Site.

Following the sampling, the Port Authority provided the Corps with reports identifying the locations and depth of sediment samples taken from the Mud Dump Site. According to the boring reports, the dredged material was located 74-81 feet below the surface of the ocean.

By letter of August 5, 1993, John Hartmann of the Corps returned comments on the Sampling Plan and Work/Quality Assurance Plan of Aqua Survey. The letter stated: "We conditionally approve that initiation with your acknowledgement that the attached comments will be incorporated into testing procedures." The attached comments appeared to suggest that separate core liners should have been used to retrieve each sample. The Port Authority indicated its willingness to resample the test sediments. Having determined that cross-contamination was not a concern in this case, Mr. Hartmann of the Corps assured the Port Authority that the "single deviation from preferred procedures" did not warrant resampling.

2. Physical and Chemical Analysis of Sediments

The 1991 Green Book and the Regional Guidance require physical and chemical analysis of sediment samples, including tests for (1) grain size, (2) percent moisture, (3) total organic carbon, and (4) the target analyte-in this case, dioxin (2, 3, 7, 8-TCDD). In its July 21 letter, the Corps specifically asked the Port Authority to test for these

characteristics. This testing was conducted and is described in Section One of the Lab Report, entitled "Bulk Sediment Report."

3. Selection of Species for Sediment Testing

On their face the MPRSA regulations appear to require that different species be used as test organisms both for the suspended particulate phase and for the solid phase of the sediment. See [40 C.F.R. § 227.6\(c\)\(2\), \(3\)](#).

a. Testing of the Suspended Particulate Phase

Testing of the suspended particulate phase of dredged sediment attempts to simulate conditions in the water column during the course of disposal of the material. The tests are, therefore, performed in a mixture of one part sediment to four parts water, using "appropriate sensitive marine organisms as defined*1210 in § 227.27(c)..." [40 C.F.R. § 227.6\(c\)\(2\)](#). According to Section 227.27(c).

Appropriate sensitive marine organisms means at least one species each representative of phytoplankton or zooplankton, crustacean or mollusk, and fish species chosen from among the most sensitive species documented in the scientific literature or accepted by EPA as being reliable test organisms to determine the anticipated impact of the wastes on the ecosystem at the disposal site.

These are marine, or pelagic, organisms that can be found in the water column and are, therefore, exposed to sediments as they are dumped.

The 1977 Green Book provides technical guidance for conducting bioaccumulation tests on appropriate marine organisms found in the water column based on a 4-day (96 hours) exposure to the dredged material.

In conformance with the 1977 Green Book, the Corps selected marine organisms for 4-day suspended particulate testing. By letter of July 21, the Corps instructed the Port Authority that the organisms selected were inland silver-side *menidia* and hard clam *mercenaria* for 4-day bioaccumulation testing. The *menidia* appears in the fish column in Table D1 of the 1977 Green Book. The *mercenaria* appears in the crustacean column. By letter of July 23, the Port Authority requested that, in conformance with [40 C.F.R. § 227.27\(c\)](#), a zooplankton also be selected. After consultation with Aqua Survey, the Corps determined that

861 F.Supp. 1203, 25 Env't. L. Rep. 20,664
(Cite as: 861 F.Supp. 1203)

the *Artemia salina* was an appropriate zooplankton for testing.

Testing in the suspended particulate phase requires comparison of the effects, if any, upon test animals in a control sediment to test animals in the dredged sediment. As set forth in the 1977 Green Book, the three selected organisms were acclimated to dilution water and test temperature at the laboratory. As required by the 1977 Green Book, dilution water was obtained from Manasquan Inlet, New Jersey. The testing was conducted using nine replicates of a dilution water control, and three replicates each of 10%, 50% and 100% suspended phase material. Suspended particulate phase samples were prepared by mixing test sediment and dilution water in a 1:4 ratio for thirty minutes using a high-speed mixer. The resulting slurry was allowed to settle for one hour; decanted and labelled 100% suspended phase. Dilutions of this elutriate were made by volumetric mixing with dilution water to generate 10% and 50% elutriate.

b. Testing of the Solid Phase

Testing of the solid phase of sediments attempts to simulate conditions at the bottom of the ocean, after the sediment has settled. Accordingly, the tests are performed on "appropriate sensitive benthic marine organisms," [40 C.F.R. § 227.6\(c\)\(3\)](#), which are reliable test organisms that live on the ocean floor. "[A]t least one species each representing filter-feeding, deposit feeding, and burrowing species chosen from among the most sensitive species accepted by EPA," are the benthic organisms to be used for testing. [40 C.F.R. § 227.27\(d\)](#).

The 1991 Green Book and Regional Guidance provide further information with respect to the categories of test species identified in [§ 227.27\(d\)](#). The 1991 Green Book

recognizes that the "categories of species are broad and overlapping" and recommends testing of a burrowing polychaete and a deposit-feeding bivalve mollusc. 1991 Green Book § 12.1.1 (Species Selection and Apparatus). The Regional Guidance notes that the New York District of the Corps "may approve of substitute organisms and/or require that additional organisms be tested, depending on circumstances." Regional Guidance, Table 4-5, at 4-15.

The defendants had previously tested one benthic organism—the *Nereis virens*, a burrowing species—for bioaccumulation. In accordance with the 1991 Green Book and Regional Guidance, to comply with the Court's order, the Corps instructed the Port Authority to test two additional benthic organisms in the solid phase: (1) *Palaemonetes pugio* (grass shrimp), a deposit-feeding species; and (2) *Macoma nasuta* (clam), a filter-feeding and deposit feeding bivalver mollusks.

As required by the Regional Guidance, animals used in this test were field collected *1211 adults and appeared to be in good condition. Testing was conducted using three replicates each of a control sediment and five replicates each of a reference sediment and undiluted test sediment. *Palaemonetes pugio* has been known to become cannibalistic under test conditions. Thus, in order to ensure that adequate tissue would be available, the entire *Palaemonetes pugio* exposure was run in duplicate. The data from the bulk sediment analysis, based on the nine core samples and a tenth composite, indicate a mean level of 23.5 ppt dioxin on a wet weight basis. This compares to a mean level of 35.2 ppt in Reaches B, C and D found in the sediments in March 1993.

The average bioaccumulation of dioxin in the additional test species is set forth in the table below:

<u>Species</u>	<u>Concentration (ppt)</u>
<u>Menidia</u>	1.2
<u>Mercenaria</u>	0.2
<u>Artemia salina</u>	2.8
<u>Palaemonetes pugio</u>	3.8
<u>Macoma nasuta</u>	2.1

These levels of dioxin are lower than the levels found in the *Nereis virens*, which I previously determined to be "at or below the threshold of significant sublethal effects."

July 6 Order at 14. The average bioaccumulation for the *Nereis virens* was approximately 8.4 ppt across the three reaches. The concentrations found in the tissue of the five additional organisms are significantly less than the interim

861 F.Supp. 1203, 25 Env'tl. L. Rep. 20,664
(Cite as: 861 F.Supp. 1203)

guideline of 10 ppb set by the Interagency Dioxin Committee.

C. The Statutory and Regulatory Scheme

By statute, the Secretary of the Army is authorized to issue permits for ocean dumping of dredged materials:

Subject to the provisions of subsections (b), (c), and (d) of this section, the Secretary may issue permits, after notice and opportunity for public hearings, for the transportation of dredged material for the purpose of dumping it into ocean waters, where the Secretary determines that the dumping will not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.

[33 U.S.C. § 1413\(a\)](#).

Part 227 of 40 C.F.R. Ch. 1 (Environmental Protection Agency) governs the process of applying for and reviewing applications for permits. The regulations most pertinent to this case will be discussed below.

[Section 227.6\(a\)\(5\)](#) prohibits ocean dumping on a non-emergency basis of known or suspected carcinogens. Dioxin is a known carcinogen. By its terms [§ 227.6\(a\)](#) does not bar ocean dumping of trace contaminants and it contains certain exclusions from its prohibitions. The exception upon which defendants rely in this case is contained in [§ 227.6\(f\)](#).

[Section 227.6\(b\)](#) sets forth the criteria for classification as a trace contaminant:

(b) These constituents will be considered to be present as trace contaminants only when they are present in materials otherwise acceptable for ocean dumping in such forms and amounts in liquid, suspended particulate, and solid phases that the dumping of the materials will not cause significant undesirable effects, including the possibility of danger associated with their bioaccumulation in marine organisms.

It is to be noted that the ultimate test under [§ 227.6\(b\)](#) is that the dumping of the contaminant “will not cause significant undesirable effects.”

[Section 227.6\(c\)](#) specifies that the potential for significant

undesirable effects due to the presence of the contaminants shall be determined by application of results of bioassays on liquids, suspended particulate and solid phases of water. [Section 227.6\(c\)\(1\), \(2\) and \(3\)](#) govern tests on the three phases of the waste.

[Section 227.6\(c\)\(2\)](#), focuses on the suspended particulate phase. An applicant must demonstrate that:

[b]ioassay results as the suspended particulate phase of the waste do not indicate occurrence of significant mortality or significant adverse sublethal effects including bioaccumulation due to the dumping of wastes containing [dioxins].... These bioassays shall be conducted with appropriate***1212** sensitive marine organisms as defined in [§ 227.27\(c\)](#) using procedures ... approved by EPA, or, for dredged material, approved by EPA and the Corps of Engineers.... Procedures approved for bioassays ... will ... provide reasonable assurance, based on consideration of the statistical significance of effects at the 95 percent confidence level, that, when the materials are dumped, no significant undesirable effects will occur due either to chronic toxicity or to bioaccumulation of the [dioxins].

[40 C.F.R. § 227.6\(c\)\(2\)](#). The “appropriate sensitive marine organism” are pelagic organisms, including “at least one species each representative of phytoplankton or zooplankton, crustacean or mollusk, and fish species chosen from among the most sensitive species....” [40 C.F.R. § 227.27\(c\)](#). The EPA has provided an approved list of these organisms in its 1977 and 1991 “Green Books,” the technical manuals for analyzing dredged material. Environmental Protection Agency & Army Corps of Engineers, *Technical Committee on Criteria for Dredged and Fill Material D3* (1977) (“1977 Green Book”).

It will be recalled that in my July 6, 1993 opinion, I preliminarily concluded that defendants had not fully complied with [§ 227.6\(c\)\(2\)](#) because they did not conduct bioaccumulation tests on pelagic organisms.

[Section 227.6\(c\)\(3\)](#) parallels [§ 227.6\(c\)\(2\)](#) but focuses on the solid phase. An applicant must demonstrate that:

[b]ioassay results on the solid phase of the wastes do not indicate occurrence of significant mortality or significant adverse sublethal effects due to dumping wastes containing [dioxin].... These bioassays shall be conducted with appropriate sensitive benthic marine organisms using benthic bioassay procedures approved by

861 F.Supp. 1203, 25 Env't. L. Rep. 20,664
(Cite as: 861 F.Supp. 1203)

EPA, or, for dredged material, approved by EPA and the Corps of Engineers. Procedures approved for bioassays under this section will require exposure of organisms for a sufficient period of time to provide reasonable assurance, based on considerations of statistical significance of effects at the 95 percent confidence level, that, when the [dioxin is] dumped, no significant undesirable effects will occur due either to chronic toxicity or to bioaccumulation of the [dioxin].

It will be recalled that in my July 6, 1993 opinion, I preliminarily concluded that defendants appeared not to have fully complied with [§ 227.6\(c\)\(3\)](#) because they performed bioaccumulation tests on only one of the three benthic species listed in [§ 227.27\(d\)](#).

[Section 227.27](#), to which cross-reference is made explicitly in [§ 227.6\(c\)\(2\)](#) and by implication in [§ 227.6\(c\)\(3\)](#) governs the limited permissible concentration of a material. [Section 227.27\(c\)](#) defines "appropriate sensitive marine organisms" as "at least one species each representative of phytoplankton or zooplankton, crustacean or mollusk, and fish species...." [Section 227.27\(d\)](#) defines "appropriate sensitive benthic marine organism" as "at least one species each representing filter-feeding, deposit feeding, and burrowing species...."

There is one other regulation which is at issue in this case—the exclusion from the [§ 227.6\(a\)](#) dumping prohibitions set forth in [§ 227.6\(f\)\(1\)](#).

(f) The prohibitions and limitations of this section do not apply to the constituents identified in paragraph (a) of this section when the applicant can demonstrate that such constituents are (1) present in the material only as chemical compounds or forms (e.g., inert insoluble solid materials) non-toxic to marine life and non-bioaccumulative in the marine environment upon disposal and thereafter.

It will be recalled that in my July 6, 1993 opinion, I preliminarily concluded that this exception is not applicable in this case.

D. Discussion

The parties have raised a number of significant issues, each of which will be addressed below. The most critical, I believe, is the government defendants' contention that I was mistaken when I concluded that they could not find

that the dioxin was present in only trace quantities without conducting all the [§ 227.6\(c\)\(2\)](#) and [§ 227.6\(c\)\(3\)](#) bioassays on all of the pelagic and benthic marine organisms referred to in [§ 227.27\(c\) and \(d\)](#).

*1213 1. Agency Discretion As To Tests

[1] The government defendants interpret the regulations as giving them discretion to develop appropriate testing procedures to evaluate whether dumping the dioxin contaminated material would cause significant undesirable effects, including the possibility of danger associated with their bioaccumulation in marine organisms. The government defendants urge that they exercised discretion appropriately in designating the bioassay tests to be conducted in this case and that their conclusion that the dioxin contained in the sludge is only in trace amounts is fully supported by the record.^{FNI}

^{FNI}. On May 13, the EPA issued an interim final rule interpreting and clarifying the ocean dumping regulations. This rule is designed to "make clear" that for the suspended particulate phase of the dumped material, it is unnecessary to perform bioaccumulation testing.

I have parsed the regulations once again; I have reviewed in greater depth the record of the tests and studies which were conducted in this case; I have given appropriate deference to the agency's interpretation of its own regulations. This has led me to change my earlier view and to conclude that the bioassays which defendants conducted met the regulatory requirements and support the conclusion that the sludge dioxin is a trace contaminant falling outside the dumping prohibition of [§ 227.6\(a\)](#).

[2] Plaintiffs are correct that once an agency adopts a regulation, it is bound by it; it cannot exercise discretion not to comply with its own regulations. *United States of America, ex rel. Accardi v. Shaughnessy*, 347 U.S. 260, 74 S.Ct. 499, 98 L.Ed. 681 (1954). Plaintiffs can point to certain mandatory language in [§ 227.6\(c\)\(2\) and \(3\)](#) which supports their position that all the organisms referred to in [§ 227.27\(c\)](#) and [§ 227.27\(d\)](#) must be tested:

"These bioassays *shall be* conducted with appropriate sensitive marine organisms as defined in [§ 227.27\(c\)](#)"

[§ 227.6\(c\)\(2\)](#)

"These bioassays *shall be* conducted with appropriate

861 F.Supp. 1203, 25 Env'tl. L. Rep. 20,664
(Cite as: **861 F.Supp. 1203**)

sensitive benthic marine organisms using benthic bioassay procedures approved by EPA....”

[§ 227.27\(c\)\(3\)](#)

[Section 227.27\(c\)](#) defines “appropriate sensitive marine organisms” as “at least one species each representative of phytoplankton or zooplankton, crustacean or mollusk, and fish species....” [Section 227.27\(d\)](#) defines “appropriate sensitive benthic marine organisms” as “at least one species each representing filter-feeding, deposit feeding and burrowing species....”

Reading the regulations in their entirety, however, it is apparent that the government agencies reserved wide discretion in themselves to determine which tests should be conducted and the manner of conducting those tests. In view of the complexity of the subject matter of the regulations and the infinite number of circumstances in which the regulations would have to be applied, administration of the statute and regulations would be almost impossible without such flexibility. Further, I cannot overlook the fact that the government agencies have interpreted and applied the regulations in this manner for approximately sixteen years without challenge.

Thus, the potential for significant undesirable effects “shall be determined by application of results of bioassays on liquid, suspended particulate and solid phases of wastes according to procedures acceptable to EPA, and for dredged material, acceptable to EPA and the Corps of Engineers.” [§ 227.6\(c\)](#). Both [§ 227.6\(c\)\(2\)](#) and [§ 227.6\(c\)\(3\)](#) relating to bioassays refer to “procedures approved by EPA, or, for dredged material, approved by EPA and the Corps of Engineers.”

[\[3\]](#) This is consistent with the statute under which the EPA is given discretion to establish and revise the criteria to be used in determining whether to grant a permit for ocean dumping, [33 U.S.C. § 1413\(b\)](#), and either EPA or the Corps is given discretion to require information which the agency “consider[s] necessary to review and evaluate [an] application.” [33 U.S.C. § 1414\(e\)](#).

The government defendants' interpretation of the regulations is not an unreasonable one, and it is entitled to great deference:

*1214 A reviewing court may set aside an agency action that is arbitrary, capricious, or an abuse of discre-

tion. [5 U.S.C. § 706\(2\)\(A\) \(1976\)](#). When making this determination, the court ordinarily must give agency interpretations of its regulations upon which the action is based the degree of deference described in [Udall v. Tallman](#), 380 U.S. 1, 85 S.Ct. 792, 13 L.Ed.2d 616 (1965):

When faced with a problem of statutory construction, this Court shows great deference to the interpretation given the statute by the officers or agency charged with its administration.... When the construction of an *administrative regulation* rather than a statute is in issue, *deference is even more clearly in order*.

Id. at 16, [85 S.Ct. at 801](#) (emphasis added).

[Montana Power Co. v. Environmental Protection Agency](#), 608 F.2d 334, 344 (9th Cir.1979).

The practices which EPA and the Corps have developed nationwide for the evaluation of ocean dumping of dredged materials and the circumstances of the present permit application demonstrate the appropriateness of the government defendants' interpretation of the regulations.

The government defendants interpreted their regulations as not requiring bioaccumulation tests in the suspended particulate state. The reason given for not requiring these tests is that they would not give reliable information concerning bioaccumulation of dioxin at the test site, and reliance on solid phase tests results would establish an absence of bioaccumulation where, as here, such test yields more sensitive results than suspended particulate testing. The facts which follow, which detail the reasons for the government defendants' testing procedures, are established by the Del Vicario, Grege and Wright affidavits and by the exhibits to which they refer.

Nationwide, the Corps and the EPA evaluate the proposed discharge of dredged materials in ocean waters following directions set forth in a manual jointly drafted at agency headquarters and known within the agencies as the “Green Book” (1977 version having been superseded by the 1991 version). This publication, adopted subject to public notice, is locally supplemented. It implements regulations at District and Region levels, recommending testing protocols to meet the regulatory requirements. EPA Region II and the Corps' New York District followed those protocols in this case.

861 F.Supp. 1203, 25 Env't. L. Rep. 20,664
(Cite as: 861 F.Supp. 1203)

Acute toxicity tests were conducted in the suspended particulate phase on three different organisms, the zooplankton *Acartia tonsa*, the crustacean *Mysidopsis bahia*, and the silverside fish *Menidia beryllina*. The Government did not require bioaccumulation tests for dioxin in the suspended particulate phase (SPP), as mentioned in [40 C.F.R. § 227.6\(c\)\(2\)](#) on pelagic organisms because no such tests are currently approved, recommended or required in the Green Book which currently implements the regulations. Such tests are not run in any ocean disposal program nationwide, as bioaccumulation testing (including but not limited to testing for dioxin) of suspended particulates for regulatory purposes is not a standard practice.

The 1977 Green Book at page G6 states “[a]nimals from solid or suspended particulate phase bioassays may be used, but it is considered unlikely that important bioaccumulation would occur at the disposal site from the (suspended particulate) phase, since animals would be exposed to it for such short periods due to dilution.” The 1977 Green Book also concluded that “(b)ioaccumulation from the suspended phase is considered to be of secondary concern (compared to the solid phase) except in special cases, due to the short exposure time resulting from rapid dispersion of the suspended particulates by mixing.” This view remains essentially unchanged in the 1991 Green Book. “Because concern about bioaccumulation focuses on the possibility of impact associated with gradual uptake over long exposure times, primary attention is given to dredged material deposited on the bottom. Bioaccumulation from the material remaining in the water column is generally of minor concern owing to the short exposure time and low exposure concentrations resulting from rapid dispersion and dilution.” (*Id.* at pg. 2-6). With dredged material, the greatest potential for environmental impact lies in the solid phase. *1215 A suspended particulate bioaccumulation test is not specified in the 1991 Green Book. Contaminants (particularly hydrophobic contaminants like dioxin) are primarily bound to suspended particulates, rather than being dissolved in the water. Like other strongly hydrophobic compounds, dioxins have a strong affinity for particulate material that typically is associated with bottom sediments. The contaminated sediment is available to organisms during the suspended particulate phase only during the time required for sediment to sink to the ocean bottom, which was considered to be not enough time for appreciable bioaccumulation to occur.

The potential for any appreciable bioaccumulation by marine organisms through the suspended phase is consid-

ered to be very low because of the transient nature of both the suspended material and the marine species that could be affected by it. According to the government defendants, research has established that the greatest potential for environmental impact from dredged materials occurs not in the suspended phase but in the environment of the sea bottom. Given the physical characteristics of suspended material plumes and the life history characteristics of the marine species potentially affected by them, the expected resulting exposure durations are of such short term (hours), that appreciable bioaccumulation is not likely. This is based on scientific studies which have been performed on this issue.

It is generally understood that for appreciable bioaccumulation to occur, organisms require a relatively long time period of exposure, through whatever route that exposure occurs (food ingestion, gill absorption from water, or a combination of these and others). A bioassay that sustains the necessary conditions for a long enough period where appreciable accumulation might occur, would not necessarily be representative of the actual conditions at the site where the dumping occurs. Since the representativeness of disposal site conditions is an important determinant for development of a bioassay, and no test methods currently exist in the Green Book for such a test, a suspended particulate bioaccumulation test was not performed prior to the issuance of the permit.

Moreover, a suspended particulate test replicating conditions at sea resulting from a dump would of necessity last no more than several hours, and could not be expected to produce any measurable bioaccumulation. The occurrence of bioaccumulation is highly unlikely, since organisms in the water column would travel in and out of the affected area.

This project was tested with the suspended particulate phase acute toxicity bioassays deemed reliable and appropriate and the results were found to comply with the limiting permissible concentrations (“LPC”) for the suspended particulate phase. Bioaccumulation tests in the suspended particulate phase require the use of accepted species and procedures approved by EPA and the Corps to provide reliable information concerning the potential for bioaccumulation at the dump site of the dredged material, [§ 227.6\(c\)\(2\)](#), and no such approved tests exist. It was thus not arbitrary or capricious for the agencies to have interpreted their own regulations such that they did not require bioaccumulation tests in the suspended particulate stage for dioxin.

861 F.Supp. 1203, 25 Env'tl. L. Rep. 20,664
(Cite as: 861 F.Supp. 1203)

[4] In my July 6, 1993 opinion, I found that bioaccumulation tests for dioxin in the solid phase were only performed on one benthic species when it appears that [§ 227.6\(c\)\(3\)](#) requires that the test be performed on three such species. The government defendants argue persuasively that it reasonably interpreted [§ 227.6\(c\)\(3\)](#) as requiring a total of three bioassays, but not necessarily as requiring three bioassays to determine mortality and an additional three bioassays to determine sublethal effects. Additionally, the government defendants argue that they properly interpreted the regulations to require the test that would provide the worst possible result as intended by the statute and regulations. I conclude that it was neither arbitrary nor capricious for the government not to have required tests for dioxin on three organisms in the solid phase nor was it an improper interpretation of the regulation.

[Section 227.6\(c\)\(3\)](#) states that solid phase bioassay tests are to be performed on appropriate sensitive benthic marine organisms using procedures “approved by EPA and the Corps” with the goal of providing “reasonable*1216 assurance” that when the materials are dumped they will create “no significant undesirable effects.” [Section 227.27\(d\)](#) states that the test should be done on the “most sensitive species accepted by EPA as being reliable” with the goal being “to determine the anticipated impact on the site.” That section allows great latitude to the agency in that until sufficient species are adequately tested and documented, interim guidance on appropriate organisms is left to the District Engineer of the Corps.

Since the government here required the most conservative test procedure on an organism that would produce results of the worst case scenario, it was neither arbitrary nor capricious not to test two other organisms for dioxin. The results provided by the test which was performed, established that the proposed dumping would create no significant undesirable effects.

In the case of all other contaminants of concern bioaccumulation tests were conducted on three species and found acceptable for bioaccumulation. EPA and the Corps also required an appropriate bioaccumulation test for dioxin. The dioxin bioaccumulation test was conducted according to revised bioassay conditions in the draft of the new Green Book for the longer period of 28 days. This was based on research showing that the longer time period would better represent the potential uptake of slowly accumulative contaminants like dioxin.

The bioassay organism used was the sand worm *Nereis virens*, which was recommended by the EPA research laboratory as the standard and necessary test organisms to be used for dioxin bioaccumulation tests. The sand worm lives in and ingests sediment, readily accumulating organics, thereby providing a “worst case” test scenario for dioxin uptake. The sand worm is also hardy enough to survive the stress over the duration of a long exposure period in laboratory conditions. It also has a fairly high lipid or fat content (7%-8% lipid). Animals with higher lipid content will more effectively bioaccumulate dioxin-like compounds because of the physical and chemical characteristics of the compounds; they tend to strongly adhere to sediment organic carbon portion of the sediment (they are hydrophobic, i.e., do not tend to dissolve in water) and to the fatty (lipids) tissues in organism (they are lipophilic to fatty tissue). In the EPA tests, the sand worm accumulated the highest residue levels over the entire study time period, and therefore would provide the “worst case scenario” organism for testing.

In the present case, the Port Authority conducted three bioassays for acute toxicity using Green Book procedures, and the material permitted to be dumped passed the acute toxicity bioassay tests with dioxin present. The Port Authority conducted three ten-day bioassay tests to measure bioaccumulation of various listed substances, although not of dioxin. Additionally, it later conducted a fourth bioassay test, this time a 28-day bioaccumulation bioassay on worms to measure uptake of dioxin.

The material from the Port Authority passed the bioassay and bioaccumulation tests required for this permit application prior to the application being granted. The material passed toxicity bioassays for three species tested with the solid phase. Additionally, the Port Authority material was shown not to bioaccumulate above acceptable levels in worms when tested over a period of 28 days.

Thus, the testing complied with the requirements of [§ 227.6\(c\)\(3\)](#) in that bioassay results on three benthic organisms did not indicate significant mortality or significant adverse sublethal effects due to the dumping of the dredge material.

For the reasons set forth above, I now conclude that the government's interpretation of the regulations is a reasonable one, and that there has been compliance with the regulations to establish that the dioxin in the Port Authority's dredged material was a trace contaminant and thus not within the prohibition of [§ 227.6\(a\)](#).

861 F.Supp. 1203, 25 Env't. L. Rep. 20,664
(Cite as: 861 F.Supp. 1203)

2. The [§ 227.6\(f\)\(1\)](#) Exemption

[5] In my July 6, 1993 opinion, I preliminarily concluded that the [§ 227.6\(f\)\(1\)](#) exemption is inapplicable because the dioxin is not present in the material only as a chemical compound or form non-toxic to marine life *1217 and non-bioaccumulative in the marine environment upon disposal and thereafter. The government urges that since I considered the cap when making a [§ 227.6\(c\)](#) analysis, I should do likewise when determining whether the dioxin is entitled to a [§ 227.6\(f\)\(1\)](#) exemption. I think the considerations are totally different when applying the two sections, and for the reasons set forth in my July 6, 1993 opinion, I conclude that the [§ 227.6\(f\)\(1\)](#) exemption is not applicable.

3. Additional Testing

[6] In response to my July 6, 1994 opinion, the Port Authority devised and carried out additional testing designed to fill what I then considered to be gaps in meeting the [§ 227.6\(c\)\(2\)](#) and (3) criteria for trace contaminants. The nature and results of these tests are described above.

If my present conclusions set forth in Part D.1. above are correct, these tests were unnecessary to establish compliance with the regulations, although they support the conclusions which were drawn from the tests that were performed prior to the issuance of the permit.

Plaintiffs contend that the post-July 6, 1994 tests cannot serve to show compliance with the regulatory requirements. First, the Port Authority had already dredged and dumped all of the sediment in question before it collected the samples on which to run the tests, thus making it impossible to conduct the tests required by the regulations. Second, the post-dump sediment was not the same sediment that was in the dredged areas prior to dredging and, therefore, could not provide scientifically valid information regarding classification of the sediment as a trace contaminant before dredging occurred.

If I had concluded that the defendants' interpretation of the regulation was erroneous, then plaintiffs would be correct that the post-dumping tests could not serve to validate an invalidly-issued permit. In that event, since a preliminary injunction had not been entered and the dumping had occurred, the post-dumping tests would be useful only in determining what relief might be appropriate to provide a remedy for illegal dumping.

However, since I have concluded that all required tests had been performed prior to the issuance of the permit, there is no need to make detailed findings about the extent to which the post-dumping tests are indicative of pre-dredging conditions.

4. Plaintiffs Per Se Arguments

[7] Plaintiffs have advanced two *per se* arguments to invalidate the issuance of the permit. They urge that the fact that the EPA and the Corps required that the sediment be capped establishes that the dioxin is present in more than trace levels. They urge further that the 2% to 5% loss of contaminated sediment that occurs during disposal as a *per se* violation of MPRSA.

The criteria set forth in the EPA/Corps Management and Monitoring Plan for the Disposal of Dioxin Contaminated Sediments of May 1993 established that if sediment proposed for disposal causes dioxin accumulation at any detectable level, i.e., 1 ppt, the sediment must be capped. For sediment which has caused the test organism tissue to bioaccumulate dioxin from 1 ppt to 10 ppt, cap material placements must be initiated within 10 days.

Plaintiff concludes that the agency determination that sediment causing dioxin bioaccumulation at any detectable level, or 1 ppt, must be capped demonstrates the agency's conclusion "that dioxin in sediment causing bioaccumulation at any detectable level is sediment containing dioxin as more than a trace contaminant." (Plaintiffs' Reply Brief at 21).

As noted previously, [§ 227.6\(b\)](#) defines a trace contaminant as a substance present "in such forms and amounts ... that the dumping of the material will not cause significant undesirable effects, including the possibility of danger associated with their bioaccumulation in marine organisms." The defendants have established through appropriate tests prescribed by the regulations that the dredged sediment in the present case will not cause significant undesirable effects and thus contains dioxin in only trace amounts.

Capping is an entirely different subject. A Caps Research Technical Note states that:

*1218 "Capping involves open-water placement of material which has been tested and determined *unaccepta-*

861 F.Supp. 1203, 25 Env't. L. Rep. 20,664
(Cite as: 861 F.Supp. 1203)

ble for uncontrolled open-water placement because of potentially unacceptable levels of toxicity or bioaccumulation of contaminants in benthic organisms.” Exhibit 7, p. 12.

The plaintiffs argue that because in the present case the Corps imposed a capping requirement it follows that the dredged sediment must have “potentially unacceptable levels of toxicity or bioaccumulation of contaminants in benthic organisms” and, therefore, is more than a trace contaminant.

This is a *non sequitur*. Theoretically, the Port Authority might question the necessity for placing a cap over the material. Plaintiffs, however, have no reason to complain that through an abundance of caution the Corps has required capping of the sediment. Impositions of the requirement does not convert what has been determined to be a trace contaminant into a prohibited contaminant.

[8] Equally unpersuasive is plaintiffs' argument that the escape of 2% to 5% of the sediment as it descends to the ocean floor is a *per se* violation of MPRSA. It is based upon the premise that the sediment cannot be dumped unless it is capped and that since the escaping material will never be capped it is unlawful to dump it.

Carried to its logical conclusion, this argument would effectively preclude all ocean dumping in situations where the Corps requires that the material be capped, since it would be impossible to prevent escape of a small portion of the dumped material during its descent through the water. The government agencies have considered this phenomenon in evaluating whether a substance will cause significant undesirable effects. Neither the statute nor the regulations require the illogical result for which the plaintiffs contend.

5. Plaintiffs' Adequacy of the Record Arguments

In the face of an eighteen-volume administrative record, in the face of years of hearings, studies and reviews, and in the face of EPA and Corps expertise developed during decades of experience, plaintiffs contend that certain findings of the government defendants find no support in the record.

For example, “plaintiffs assert that establishing a 10 ppt bioaccumulation standard has no support in the record, claiming that [w]ithout the basic facts necessary to support

the Federal defendants' use of the 10 ppt standard, there is no evidence whatsoever to conclude that the significant Nereis bioaccumulation is safe.” (Plaintiffs' Reply Brief at 15).

The regulatory criterion, of course, is not whether a contaminant is “safe” or presents “no danger” or its effect is “statistically significant” (other criteria advanced by plaintiffs in their Reply Brief). Nor is the criterion negligible or significant bioaccumulation, although the agencies must consider the extent of bioaccumulation. The § 227.6(c) criterion is whether the dumping of the material will cause significant undesirable effects in the circumstances of the particular project. There is nothing arbitrary or capricious about the determination of the government agencies that in this case 10 ppt has no significant undesirable effects. It is based on years of study, a review of other scientific studies and consultation with other agencies.

Plaintiffs also assert that the record fails to support a conclusion that capping is efficacious in containing contaminants such as dioxin. In the first place, the record probably would have supported the issuance of a permit without the capping requirement since there was a valid finding that the dioxin was a trace contaminant. Thus, even if the cap were found to be ineffective, the dumping would be permissible. The capping requirement is simply an additional precaution required by the government agencies.

Plaintiffs are mistaken, however, when they state that the record does not support the effectiveness of capping. There is material from which they can argue that capping has limited effectiveness when substances such as PCBs and dioxin (as distinguished from metals) are involved. However, there are also studies on the basis of which the government defendants can support their conclusion that capping would provide further*1219 assurance that the dredged material will not cause significant undesirable effects.

6. Standard of Review

This case concerns extraordinarily important public interests—the environmental health of our bays, oceans and shores, the safety of food we eat, and the continued economic viability of the Port of New York and of the industries and workers who depend upon it.

The scientific data upon which judgments must be made are extraordinarily complex and are constantly changing.

861 F.Supp. 1203, 25 Env'tl. L. Rep. 20,664
(Cite as: 861 F.Supp. 1203)

Responsible persons can draw different conclusions from this data. Many judgment calls must be made; the competing interests of many groups must be balanced.

The agencies which have ultimate responsibility for analyzing the data, weighing the competing interests and making the judgment calls are the EPA and the Corps.

[\[9\]](#)[\[10\]](#)[\[11\]](#)[\[12\]](#) The Court's review in this case is governed by the standard set forth in the Administrative Procedure Act ("APA"), under which the government's action is to be upheld unless it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." [5 U.S.C. § 706\(2\)\(A\)](#). This is a very narrow and highly deferential standard under which the agencies' action is presumed valid. [Citizens to Preserve Overton Park Inc. v. Volpe](#), 401 U.S. 402, 415, 91 S.Ct. 814, 823, 28 L.Ed.2d 136 (1971). An agency's interpretation of a statute that it administers is entitled to great deference, and is to be upheld as long as it is a permissible one. [Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.](#), 467 U.S. 837, 842-45, 104 S.Ct. 2778, 2781-83, 81 L.Ed.2d 694 (1984). Moreover, an agency's interpretation of its own regulation is entitled to "great deference." [Criger v. Becton](#), 902 F.2d 1348, 1351 (8th Cir.1990). Deference is even more in order when the agency is construing an administrative regulation than when it is construing a statute. [Udall v. Tallman](#), 380 U.S. 1, 16, 85 S.Ct. 792, 801, 13 L.Ed.2d 616 (1965).

In the present case, plaintiffs have presented well argued positions that the agencies should have reached different conclusions from the data on which they relied. Plaintiffs ask that risks be evaluated differently from the way in which the agencies evaluated the risks. After studying plaintiffs' multitude of arguments, one can only conclude that it is their position that there can never be ocean dumping of any dredge material which contains a measurable amount of dioxin.

However, Congress has delegated to the EPA and the Corps the ultimate responsibility for deciding if dredge material containing dioxin can be dumped in the ocean and, if so, under what circumstances. Plaintiffs and other interest groups have had ample opportunity to present their data and positions to the EPA and the Corps. Neither the plaintiffs nor the Court, however, can make the final decision nor challenge the agencies' decision if, as in the present case, it is within the statute and regulations and is supported by an adequate record.

[\[13\]](#)[\[14\]](#) Agency decisions involving complex and highly

technical issues are entitled to heightened deference. Such issues "are by their very nature difficult to resolve by traditional principles of judicial decision making." [Reynolds Metals Co. v. EPA](#), 760 F.2d 549, 558-59 (4th Cir.1985); see also [Weyerhaeuser Co. v. Costle](#), 590 F.2d 1011, 1024-28 (D.C.Cir.1978) (citing the "obvious limitations" upon the capacity of courts to deal meaningfully with arcane areas of knowledge of the kind involved in a case such as this one). As a result, an agency's choice of scientific data and statistical methodology is entitled to respect. [Kennecott v. United States](#), 780 F.2d 445, 449 (4th Cir.1985) (citation omitted), cert. denied, 479 U.S. 814, 107 S.Ct. 67, 93 L.Ed.2d 25 (1986). See also [United States Steel Corp. v. Train](#), 556 F.2d 822, 842 (7th Cir.1977) (EPA is "entitled to use its expertise in pollution-control technology in judging the reliability or representative quality of particular data"); [American Petroleum Inst. v. EPA](#), 787 F.2d 965, 983 (5th Cir.1986) (the "presumption of regularity" afforded EPA's selection of analytical methodology places a "considerable burden" on the challenger to overcome that selection). The Court "must look at the [agency's] decision*1220 not as the chemist, biologist or statistician that [it is] qualified neither by training nor experience to be, but as a reviewing court exercising ... certain minimal standards of rationality." [American Paper Inst. v. EPA](#), 660 F.2d 954, 963 (4th Cir.1981).

Applying these standards I arrived at the findings and conclusions set forth above and reach the ultimate conclusion that plaintiffs have not sustained the burden of establishing that the issuance of the dredging permit was an arbitrary or capricious act.

E. Conclusion

On June 7, 1993, I ruled upon plaintiffs' application for a preliminary injunction. My opinion is contained in the transcript of the proceedings of that date.

I stated that plaintiffs were unlikely to succeed on the merits of any of their claims except one. As to that one claim, I stated that "defendants have not yet referred me to anything in the record that would support the Corps of Engineers' finding that the disposal of the Newark Bay sediment at the Mud Dump Site is within the [§ 227.6\(f\)\(1\)](#) exception to the [§ 227.6](#) ban upon ocean dumping of dioxin-containing material." (June 7, 1993 Tr. at 14). I also stated that "[t]he record before me contains insufficient evidence that defendants have complied with the detailed procedures necessary to demonstrate that dioxin is a 'trace contaminant' without 'significant undesirable effects.' "

861 F.Supp. 1203, 25 Env'tl. L. Rep. 20,664
(Cite as: **861 F.Supp. 1203**)

(June 7, 1993 Tr. at 24).

Thus, I found that on the basis of the partial record then before the court that the plaintiffs were likely to prevail on the merits on their contention that issuance of the permit did not meet the requirements of [§ 227.6](#). Nevertheless, I denied preliminary injunctive relief because I thought it likely that when a full record was assembled the defendants could establish that the dioxin was a trace contaminant or that the Port Authority was entitled to a § 225.4 waiver.

The order implementing the opinion (i) required the Port Authority either to establish that the permit was lawfully issued under the regulations either because the dioxin present in the sediment was only in trace amounts, or because the granting of the permit was within an exception to [§ 227.6\(a\)](#), or failing to establish such lawful issuance of the permit to pursue a waiver pursuant to § 225.4 and (ii) restrained the Corps from issuing further permits for dumping sediment at the Mud Dump Site unless compliance with [§ 227.6\(a\)](#) had been established or a waiver granted.

On June 22, the Port Authority purported to comply with the order by submitting a memorandum and supporting exhibits. I found the material to be inadequate to establish either that the dioxin contained in the dredged sediment was only a trace contaminant or that the project was within the exception set forth in [§ 227.6\(f\)\(1\)](#). I gave defendants further time to take additional tests and to "file an adequate memorandum setting forth with precision the manner in which the regulatory requirements have been met." This they have now done and, as recited above, on the basis of a further review of the record and consideration of the arguments contained in the supplemental briefing of all the parties, I conclude that plaintiffs are unlikely to prevail on the merits of any of their claims.

I shall file an order which will vacate the order of June 7, 1993 and deny plaintiffs' application for a preliminary injunction on the ground that plaintiffs are unlikely to prevail on the merits.

D.N.J., 1994.
Clean Ocean Action v. York
861 F.Supp. 1203, 25 Env'tl. L. Rep. 20,664

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