APÉNDICE E
INFORME TÉCNICO – INFORMACIÓN DE DRAGADO
LOCAL COOPERATION AGREEMENT

BETWEEN

THE DEPARTMENT OF THE ARMY

AND

THE MUNICIPALITY OF PONCE

FOR CONSTRUCTION OF THE

NAVIGATION IMPROVEMENT OF

PONCE HARBOR

PONCE, PUERTO RICO

THIS AGREEMENT, entered into this 8 day of April, 1985,
by and between the DEPARTMENT OF THE ARMY (hereinafter referred to as the
"Government"), acting by and through the Acting Assistant Secretary of the
Army (Civil Works), and THE MUNICIPALITY OF PONCE (hereinafter referred to
as the "Local Sponsor"), acting by and through the Mayor,

WITNESSETH THAT:

WHEREAS, the navigation project described in a report entitled,
"General Design Memorandum, Phase II, Project Design, Ponce Harbor, Puerto
Rico", dated January 1980 and approved March 26, 1980, hereinafter referred
to as the "Project", was authorized pursuant to Section 201 of the Flood
Control Act of 1965, in accordance with House Document No. 94-532, 94th
Congress, Second Session, which was approved by resolutions of the House and Senate Public Works Committees on 23 September 1976 and 1 October 1976, respectively, and,

WHEREAS, the Water Resources Development Act of 1986, Public Law 99-662, specifies the cost-sharing requirements applicable to the Project; and,

WHEREAS, the Local Sponsor has the authority and capability to furnish the cooperation hereinafter set forth and is willing to participate in project cost-sharing and financing in accordance with the terms of this Agreement:

NOW, THEREFORE, the parties agree as follows:

ARTICLE I - DEFINITIONS

For purposes of this Agreement:

a. The term "general navigation features of the project" shall mean the following project features assigned to commercial navigation: construction of a 36-foot deep, 600-foot wide channel from the Caribbean Sea approximately 2.8 miles up to the port; a 36-foot-deep, 400-foot-wide channel; and a 950-foot diameter 36-foot deep turning and maneuvering basin adjacent to the main port berthing area.
b. The term "total cost of construction of general navigation facilities assigned to commercial navigation" shall mean all costs incurred by the Local Sponsor and the Government directly related to construction of the general navigation features of the project. Such costs shall include, but not necessarily be limited to, actual construction costs, costs of relocations not performed by or on behalf of the Local Sponsor, costs of applicable engineering and design, continuing planning and engineering costs incurred after October 1, 1985, supervision and administration costs, and costs of contract dispute settlements or awards, but shall not include the value of lands, easements, rights-of-way, and dredged material disposal areas, relocations performed by or on behalf of the Local Sponsor, non-Federal dredging of public or private channels and berthing areas, and aids to navigation.

c. The term "period of construction" shall mean the time from the advertisement of the first construction contract to the time of acceptance of the general navigation features of the project by the Contracting Officer.

d. The term "Contracting Officer" shall mean the Commander of the U.S. Army Engineer District, Jacksonville, or his designee.

e. The term "highway" shall mean any highway, thoroughfare, roadway, street, or other public or private road or way.
ARTICLE II - OBLIGATIONS OF PARTIES

a. The Local Sponsor shall provide and maintain, at its own expense, all project facilities other than those for general navigation, including public terminal and transfer facilities open to all on equal terms and dredged depths in berthing areas and local access channels serving the general navigation features commensurate with those in related general navigation features.

b. As further specified in Article III hereof, the Local Sponsor shall provide to the Government all lands, easements, and rights-of-way, including dredged material disposal areas, and perform all relocations or alterations of facilities other than utilities governed by paragraph c. below (except relocations or alterations of highway and railroad bridges), determined by the Government to be necessary for construction, operation, or maintenance of the project.

c. As further specified in Article III hereof, the Local Sponsor shall perform or assure performance of all utility relocations or alterations determined by the Government to be necessary for construction, operation, or maintenance of the project.

d. As further specified in Article VI hereof, the Local Sponsor shall provide, during the period of construction, a cash contribution equal to the
following percentages of the total cost of construction of the general navigation facilities assigned to commercial navigation:

1. 10 percent of the costs attributable to the portion of the project which has a depth not in excess of 20 feet;

2. 25 percent of the costs attributable to the portion of the project which has a depth in excess of 20 feet but not in excess of 45 feet; and

3. 50 percent of the costs attributable to the portion of the project which has a depth in excess of 45 feet.

e. As further specified in Article VI hereof, the Local Sponsor shall repay with interest, over a period not to exceed 30 years following completion of the project or separable element thereof, an additional 0 to 10 percent of the total cost of construction of general navigation facilities assigned to commercial navigation, depending on the value, as calculated under Article IV hereof, of items provided pursuant to paragraph b. of this Article. If the credit allowed for such items is less than 10 percent of the total cost of construction of general navigation facilities, the Local Sponsor shall repay a percentage of said total cost equal to the difference between 10 percent of said total cost and the percentage of said total cost represented by the value of such items. If the credit allowed is equal to or greater than 10 percent of said total cost, the Local Sponsor
shall not be required to repay any additional percentages of said total cost.

f. The Government, subject to and using funds provided by the Local Sponsor and appropriated by the Congress, shall expeditiously construct the general navigation features of the project (including relocations or alterations of highway and railroad bridges), applying those procedures usually followed or applied in Federal projects, pursuant to Federal laws, regulations, and policies. The Local Sponsor shall be afforded the opportunity to review and comment on all contracts, including relevant plans and specifications, prior to the issuance of invitations for bids. The Local Sponsor also shall be afforded the opportunity to review and comment on all modifications and change orders prior to the issuance to the contractor of a Notice to Proceed. The Government will consider the views of the Local Sponsor, but award of the contracts and performance of the work thereunder shall be exclusively within the control of the Government.

g. The Government shall operate and maintain the general navigation features of the project.

ARTICLE III - LANDS, FACILITIES, AND RELOCATION ASSISTANCE

a. Prior to the advertisement of any construction contract, the Local Sponsor shall furnish to the Government all lands, easements, and rights-of-way, including suitable borrow and dredged material disposal areas, as may
be determined by the Government to be necessary for construction, operation, and maintenance of the general navigation features, and shall furnish to the Government evidence supporting the Local Sponsor's legal authority to grant rights-of-entry to such lands.

b. The Local Sponsor shall provide or pay to the Government the full cost of providing all retaining dikes, wastewairs, bulkheads, and embankments, including all monitoring features and stilling basins, determined by the Government to be necessary for construction, operation, or maintenance of the general navigation features.

c. Upon notification from the Government, the Local Sponsor shall accomplish all necessary alterations and relocations of buildings, highways, railroads, storm drains, and other facilities, structures, and improvements.

d. Upon notification from the Government, the Local Sponsor shall perform or assure performance of all necessary alterations and relocations of pipelines, cables, and other utilities. Nothing herein shall be deemed to affect the ability of the Local Sponsor to seek compensation from other non-Federal entities for costs it incurs under this paragraph.

e. The Local Sponsor shall comply with the applicable provisions of the Uniform Relocations Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, approved January 2, 1971, in acquiring lands, easements, and rights-of-way for construction and subsequent
operation and maintenance of the project, and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act.

ARTICLE IV - VALUE OF LANDS AND FACILITIES

a. The value of the lands, easements, and rights-of-way to be credited toward the additional 10 percent of total costs the Local Sponsor must repay pursuant to Article II.e. will be determined in accordance with the following procedures:

1. If the lands, easements, or rights-of-way are owned by the Local Sponsor as of the date this Agreement is signed, the credit shall be the fair market value of the interest at the time such interest is made available to the Government for construction of the Project. The fair market value shall be determined by an appraisal, to be obtained by the Local Sponsor, which has been prepared by an independent and qualified appraiser who is acceptable to both the Local Sponsor and the Government. The appraisal shall be reviewed and approved by the Government.

2. If the lands, easements, or rights-of-way are to be acquired by the Local Sponsor after the date the Agreement is signed, the credit shall be the fair market value of the interest at the time such interest is made available to the Government for construction of the project. The fair market value shall be determined as specified in subparagraph 1. above. If the Local Sponsor pays an amount in excess of the appraised fair market
value, it may be entitled to a credit for the excess if the Local Sponsor has secured prior written approval from the Government of its offer to purchase such interest.

3. If the Local Sponsor acquires more lands, easements, or rights-of-way than are necessary for project purposes, as determined by the Government, then only the value of such portions of those acquisitions as are necessary for project purposes shall be credited to the Local Sponsor's share.

4. Credit for lands, easements, and rights-of-way in the case of involuntary acquisitions made within one year preceding the date this Agreement is signed or any time after the date this Agreement is signed will be based on court awards, or on stipulated settlements that have received prior Government approval.

5. For lands, easements, or rights-of-way acquired by the Local Sponsor within a five-year period preceding the date this Agreement is signed, or anytime after the date this Agreement is signed, credits provided under this Article will also include the actual incidental costs of acquiring the interest, e.g., closing and title costs, appraisal costs, survey costs, attorney's fees, plat maps, and mapping costs, as well as the actual amounts expended for any relocation assistance provided in accordance with the obligations under this Agreement.
b. The costs of relocations or modifications of facilities (other than utilities) that will be credited towards the additional 10 percent of total costs the Local Sponsor must repay pursuant to Article II.e. will be that portion of the actual costs incurred by the Local Sponsor as set forth below:

1. Highways: Only that portion of the cost as would be necessary to construction substitute highways to the design standard that the Commonwealth of Puerto Rico would use in constructing a new highway under similar conditions of geography and traffic loads.

2. Facilities (other than utilities): Actual relocation costs, less depreciation, less salvage value, plus the cost of removal, less the cost of betterments. With respect to betterments, new materials shall not be used in any relocation or alteration if materials of value and usability equal to those in the existing facility are available or can be obtained as salvage from the existing facility or otherwise, unless the provision of new material is more economical. If, despite the availability of used material, new material is used, where the use of such new material represents an additional cost, such cost will not be credited to the Local Sponsor's share.

c. No credit shall be given for any costs relating to relocations or alterations of utilities.
ARTICLE V - CONSTRUCTION PHASING AND MANAGEMENT

a. To provide for consistent and effective communication between the Local Sponsor and the Government during the term of construction, the Local Sponsor and the Government shall appoint representatives to coordinate on scheduling, plans, specifications, modifications, contract costs, and other matters relating to construction of the project.

b. The representatives appointed above shall meet as necessary during the term of project construction and shall make such recommendations as they deem warranted to the Contracting Officer.

c. The Contracting Officer shall consider the recommendations of the representatives in all matters relating to the project, but the Contracting Officer, having ultimate responsibility for construction of the project, has complete discretion to accept, reject, or modify the recommendations of the representatives.

ARTICLE VI - METHOD OF PAYMENT

a. The Local Sponsor shall provide, over the term of construction, the percentages of the total cost of construction of general navigation facilities assigned to commercial navigation specified in Article II.d.
hereof. Such total cost is presently estimated to be $9,630,000.00. In order to meet its share, the Local Sponsor must provide an initial cash contribution presently estimated to be $2,410,000.00.

b. The initial cash contribution shall be provided as follows: Ninety days prior to the award of the first construction contract, the Government shall notify the Local Sponsor of its estimated share of project costs. Within 45 days thereafter, the Local Sponsor shall provide the Government the full amount of the required contribution by delivering a check payable to "FAO, USAED, Jacksonville" to the Contracting Officer representing the Government, or shall present to the Government an irrevocable letter of credit acceptable to the Government in an amount sufficient to meet its obligation. In the event that the total cost of construction of general navigation facilities assigned to commercial navigation is expected to exceed the estimate given at the outset of construction, the Government shall immediately notify the Local Sponsor of the additional contribution it will be required to make to meet its share of the revised estimate. Within 10 days thereafter, the Local Sponsor shall provide the Government the full amount of the additional required contribution through the funding mechanism specified above.

c. The Government will draw on the funds provided by the Local Sponsor such sums as it deems necessary to cover contractual and in-house fiscal obligations attributable to the project as they are incurred, as well as project costs incurred by the Government prior to the initiation of construction.
d. Upon completion of the general navigation features and resolution of all relevant contract claims and appeals, the Government shall compute the total cost of construction of general navigation facilities assigned to commercial navigation and tender to the Local Sponsor a final accounting of its share of project costs. In the event the total contribution by the Local Sponsor is less than its initial required share of project costs at the time of the final accounting, the Local Sponsor shall, within 90 calendar days after receipt of written notice, make a cash payment to the Government of whatever sum is required to meet its initial required share of project costs. In the event the Local Sponsor has made excess cash contributions which result in the Local Sponsor's having provided more than its initial required share of project costs, the Government shall credit the excess to the additional amount the Local Sponsor must repay pursuant to Article II.e. of this Agreement.

e. The Local Sponsor shall repay the additional amount required pursuant to Article II.e. of this Agreement, reduced by any excess cash contribution made during the term of construction, in equal annual installments over a period of not more than 30 years from the date the final accounting is tendered by the Government. Such repayment shall include interest at a rate determined by the Secretary of the Treasury, taking into consideration the average market yields on outstanding marketable obligations of the United States with remaining periods to maturity comparable to the repayment period, during the month preceding the fiscal year in which costs for the construction of the project are first incurred.
(or, in the case of recalculation, the fiscal year in which the recalculation is made), plus a premium of one-eighth of one percentage point for transaction costs. The interest rate shall be recalculated by the Secretary of the Treasury at five-year intervals. Nothing herein shall preclude the Local Sponsor from repaying this additional amount in full upon receipt of the final accounting. Should this full repayment be made within 90 days from receipt of the final accounting, there shall be no charges for interest or transaction costs.

ARTICLE VII - DISPUTES

Before any party to this Agreement may bring suit in any court concerning an issue relating to this Agreement, such party must first seek in good faith to resolve the issue through negotiation or other forms of nonbinding alternative dispute resolution mutually acceptable to the parties.

ARTICLE VIII - OPERATION AND MAINTENANCE

a. The Local Sponsor shall operate and maintain all portions of the project, except for general navigation features and aids to navigation, in accordance with regulations or directions prescribed by the Government.

b. The Government shall operate and maintain the general navigation features of the project.
c. The Local Sponsor hereby gives the Government a right to enter, at reasonable times and in a reasonable manner, upon land which it owns or controls for access to the Project for the purpose of inspection, and, if necessary, for the purpose of completing, operating, repairing, and maintaining the project. If an inspection shows that the Local Sponsor for any reason is failing to fulfill its obligations under this Agreement without receiving prior written approval from the Government, the Government will send a written notice to the Local Sponsor. If the Local Sponsor persists in such failure for 30 calendar days after receipt of the notice, then the Government shall have a right to enter, at reasonable times and in a reasonable manner, upon lands the Local Sponsor owns or controls for access to the project for the purpose of completing, operating, repairing, or maintaining those portions of the project for which the sponsor is responsible under this Agreement. No completion, operation, repair, or maintenance by the Government shall operate to relieve the Local Sponsor of responsibility to meet its obligations as set forth in this Agreement, or to preclude the Government from pursuing any other remedy at law or equity to assure faithful performance pursuant to this Agreement.

**ARTICLE IX - RELEASE OF CLAIMS**

The Local Sponsor shall hold and save the Government free from all damages arising from the construction, operation, and maintenance of the project, except for damages due to the fault or negligence of the Government or its contractors.
ARTICLE X - MAINTENANCE OF RECORDS

The Government and the Local Sponsor shall keep books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this Agreement to the extent and in such detail as will properly reflect total project costs. The Government and the Local Sponsor shall maintain such books, records, documents, and other evidence for a minimum of three years after completion of construction of the project and resolution of all claims arising therefrom, and shall make available at their offices at reasonable times, such books, records, documents, and other evidence for inspection and audit by authorized representatives of the parties to this Agreement.

ARTICLE XI - APPLICABLE LAWS

In acting under its rights and obligations hereunder, the Local Sponsor agrees to comply with all applicable laws and regulations of Puerto Rico and the United States, including Section 601 of Title VI of the Civil Rights Act of 1964 (Public Law 88-352) and Department of Defense Directive 5500.11 issued pursuant thereto and published in Part 300 of Title 32, Code of Federal Regulations, as well as Army Regulation 600-7, entitled "Nondiscrimination of the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army".
ARTICLE XII - RELATIONSHIP OF PARTIES

The parties to this Agreement act in an independent capacity in the performance of their respective functions under this Agreement, and neither party is to be considered the officer, agent, or employee of the other.

ARTICLE XIII - OFFICIALS NOT TO BENEFIT

No member of or delegate to the Congress, or resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom.

ARTICLE XIV - COVENANT AGAINST CONTINGENT FEES

The Local Sponsor warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Local Sponsor for the purpose of securing business. For breach or violation of this warranty, the Government shall have the right to annul this Agreement without liability, or, in its discretion, to add to the Agreement or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.
ARTICLE XV - TERMINATION OR SUSPENSION

a. If at any time the Local Sponsor fails to make the payments required under this Agreement, the Secretary of the Army shall terminate or suspend work on the project until the Local Sponsor is no longer in arrears, unless the Secretary determines that continuation of work on the project is in the interest of the United States. Any delinquent payment shall be charged interest at a rate, to be determined by the Secretary of the Treasury, equal to 150 per centum of the average bond equivalent rate of the 13-week Treasury bills auctioned immediately prior to the date on which such payment became delinquent, or auctioned immediately prior to the beginning of each additional 3-month period if the period of delinquency exceeds three months.

b. If the Government fails to receive annual appropriations in amounts sufficient to meet project expenditures for the then, current or upcoming fiscal year, the Government shall so notify the Local Sponsor. After 60 days either party may elect without penalty to terminate this Agreement or to suspend performance thereunder, and the parties shall conclude their activities relating to the project and proceed to a final accounting in accordance with Article VI.

ARTICLE XVI - NOTICES

a. All notices, requests, demands, and other communications required or permitted to be given under this Agreement shall be deemed to have been
duly given if in writing and delivered personally, given by prepaid telegram, or mailed by first-class (postage-prepaid), registered, or certified mail, as follows:

If to the Local Sponsor: Mayor
Municipality of Ponce
Ponce, Puerto Rico 00731

If to the Government: U.S. Army Corps of Engineers,
Jacksonville District
P.O. Box 4970
Jacksonville, Florida 32232-0019

b. A party may change the address to which such communications are to be directed by giving written notice to the other in the manner provided in this section.

c. Any notice, request, demand, or other communication made pursuant to this Article shall be deemed to have been received by the addressee at such time as it is personally delivered or on the third business day after it is mailed, as the case may be.
ARTICLE XVII - CONFIDENTIALITY

To the extent permitted by the law governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as the day and year first above written.

THE DEPARTMENT OF THE ARMY

BY: ____________________________

Robert W. Rage
Assistant Secretary
of the Army (Civil Works)

DATE: 4/8/88

MUNICIPALITY OF PONCE

BY: ____________________________

Mayor

Municipality of Ponce
Puerto Rico

DATE: ____________________________
CERTIFICATE OF AUTHORITY

I, JUAN R. RENTA CORNIER, do hereby certify that I am the attorney for the Municipality of Ponce, Puerto Rico, and that the Municipality of Ponce, Puerto Rico is a legally constituted public body with full authority and legal capability to perform the terms and conditions of the agreement between the United States of America and the Municipality of Ponce, Puerto Rico, and to pay damages, if necessary, in the event of the failure to perform in accordance with Section 221 of Public Law 91-611 and that the person(s) who have executed the contract on behalf of the Municipality of Ponce, Puerto Rico, have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this Certificate this ______ day of __________ 19__.

[Signature]

Attorney for Municipality of Ponce, Puerto Rico
(10) Ponce Harbor, PR Dredged Material Disposal Site.

(i) Location: 17 degrees 54 minutes 00 seconds N., 66 degrees 37 minutes 43 seconds W.; 17 degrees 54 minutes 00 seconds N., 66 degrees 36 minutes 41 seconds W.; 17 degrees 53 minutes 00 seconds N., 66 degrees 36 minutes 41 seconds W.; 17 degrees 53 minutes 00 seconds N., 66 degrees 37 minutes 43 seconds W.

(ii) Size: Approximately 1 square nautical mile.

(iii) Depth: Ranges from 329 to 457 meters.

(iv) Primary Use: Dredged material disposal.

(v) Period of Use: Continuing use.

(vi) Restrictions: Disposal shall be limited to dredged material from Ponce Harbor, PR.

11/29/00

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Harbor, PR.

(14) Yabucoa Harbor, PR Dredged Material Disposal Site.

(i) Location: 18 degrees 03 minutes 42 seconds N., 65 degrees 42 minutes 49 seconds W.; 18 degrees 03 minutes 42 seconds N., 65 degrees 41 minutes 47 seconds W.; 18 degrees 02 minutes 42 seconds N., 65 degrees 41 minutes 47 seconds W.; 18 degrees 02 minutes 42 seconds N., 65 degrees 42 minutes 49 seconds W.

(ii) Size: Approximately 1 square nautical mile.

(iii) Depth: Ranges from 549 to 914 meters.

(iv) Primary Use: Dredged material disposal.

(v) Period of Use: Continuing use.

(vi) Restrictions: Disposal shall be limited to dredged material from Yabucoa Harbor, PR.

(e) Region II Other Waste Sites.

(1) No final sites.
@ 228.9 Disposal site monitoring.

(a) The monitoring program, if deemed necessary by the Regional Administrator or the District Engineer, as appropriate, may include baseline or trend assessment surveys by EPA, NOAA, other Federal agencies, or contractors, special studies by permittees, and the analysis and interpretation of data from remote or automatic sampling and/or sensing devices. The primary purpose of the monitoring program is to evaluate the impact of disposal on the marine environment by referencing the monitoring results to a set of baseline conditions. When disposal sites are being used on a continuing basis, such programs may consist of the following components:

1) Trend assessment surveys conducted at intervals frequent enough to assess the extent and trends of environmental impact. Until survey data or other information are adequate to show that changes in frequency or scope are necessary or desirable, trend assessment and baseline surveys should generally conform to the applicable requirements of @ 228.13. These surveys shall be the responsibility of the Federal government.

2) Special studies conducted by the permittee to identify immediate and short-term impacts of disposal operations.

(b) These surveys may be supplemented, where feasible and useful, by data collected from the use of automatic sampling buoys, satellites or in situ platforms, and from experimental programs.

(c) EPA will require the full participation of permittees, and encourage the full participation of other Federal and State and local agencies in the development and implementation of disposal site-monitoring programs. The monitoring and research programs presently supported by permittees may be incorporated into the overall monitoring program insofar as feasible.


AUTHORITY: 33 U.S.C. 1412 and 1418.

NOTES: NOTES APPLICABLE TO ENTIRE CHAPTER:

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40 CFR 228.9

[PUBLISHER'S NOTE: Nomenclature changes to Chapter I appear at 65 FR 47323, 47324, 47325, Aug. 2, 2000.]
@ 227.13 Dredged materials.

(a) Dredged materials are bottom sediments or materials that have been dredged or excavated from the navigable waters of the United States, and their disposal into ocean waters is regulated by the U.S. Army Corps of Engineers using the criteria of applicable sections of Parts 227 and 228. Dredged material consists primarily of natural sediments or materials which may be contaminated by municipal or industrial wastes or by runoff from terrestrial sources such as agricultural lands.

(b) Dredged material which meets the criteria set forth in the following paragraphs (b)(1), (2), or (3) of this section is environmentally acceptable for ocean dumping without further testing under this section:

(1) Dredged material is composed predominantly of sand, gravel, rock, or any other naturally occurring bottom material with particle sizes larger than silt, and the material is found in areas of high current or wave energy such as streams with large bed loads or coastal areas with shifting bars and channels; or

(2) Dredged material is for beach nourishment or restoration and is composed predominantly of sand, gravel or shell with particle sizes compatible with material on the receiving beaches; or

(3) When: (i) The material proposed for dumping is substantially the same as the substrate at the proposed disposal site; and

(ii) The site from which the material proposed for dumping is to be taken is far removed from known existing and historical sources of pollution so as to
provide reasonable assurance that such material has not been contaminated by such pollution.

(c) When dredged material proposed for ocean dumping does not meet the criteria of paragraph (b) of this section, further testing of the liquid, suspended particulate, and solid phases, as defined in $\S 227.32$, is required. Based on the results of such testing, dredged material can be considered to be environmentally acceptable for ocean dumping only under the following conditions:

(1) The material is in compliance with the requirements of $\S 227.6$; and

(2)(i) All major constituents of the liquid phase are in compliance with the applicable marine water quality criteria after allowance for initial mixing; or

(ii) When the liquid phase contains major constituents not included in the applicable marine water quality criteria, or there is reason to suspect synergistic effects of certain contaminants, bioassays on the liquid phase of the dredged material show that it can be discharged so as not to exceed the limiting permissible concentration as defined in paragraph (a) of $\S 227.27$; and

(3) Bioassays on the suspended particulate and solid phases show that it can be discharged so as not to exceed the limiting permissible concentration as defined in paragraph (b) of $\S 227.27$.

(d) For the purposes of paragraph (c)(2) of this section, major constituents to be analyzed in the liquid phase are those deemed critical by the District Engineer, after evaluating and considering any comments received from the Regional Administrator, and considering known sources of discharges in the area.


AUTHORITY: AUTHORITY NOTE APPLICABLE TO ENTIRE PART:

33 U.S.C. 1412 and 1418.

NOTES: NOTES APPLICABLE TO ENTIRE CHAPTER:
[PUBLISHER'S NOTE: Nomenclature changes to Chapter I appear at 65 FR 47323, 47324, 47325, Aug. 2, 2000.]
@ 227.27 Limiting permissible concentration (LPC).

(a) The limiting permissible concentration of the liquid phase of a material is:

(1) That concentration of a constituent which, after allowance for initial mixing as provided in @ 227.29, does not exceed applicable marine water quality criteria; or, when there are no applicable marine water quality criteria,

(2) That concentration of waste or dredged material in the receiving water which, after allowance for initial mixing, as specified in @ 227.29, will not exceed a toxicity threshold defined as 0.01 of a concentration shown to be acutely toxic to appropriate sensitive marine organisms in a bioassay carried out in accordance with approved EPA procedures.

(3) When there is reasonable scientific evidence on a specific waste material to justify the use of an application factor other than 0.01 as specified in paragraph (a)(2) of this section, such alternative application factor shall be used in calculating the LPC.

(b) The limiting permissible concentration of the suspended particulate and solid phases of a material means that concentration which will not cause unreasonable acute or chronic toxicity or other sublethal adverse effects based on bioassay results using appropriate sensitive marine organisms in the case of the suspended particulate phase, or appropriate sensitive benthic marine organisms in the case of the solid phase; and which will not cause accumulation of toxic materials in the human food chain. Suspended particulate phase bioaccumulation testing is not required. These bioassays are to be conducted in
n1 An implementation manual is being developed jointly by EPA and the Corps of Engineers, and announcement of the availability of the manual will be published in the Federal Register. Until this manual is available, interim guidance on the appropriate procedures can be obtained from the Marine Protection Branch, WH-548, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460, or the Corps of Engineers, as the case may be.

(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. Bioassays, except on phytoplankton or zooplankton, shall be run for a minimum of 96 hours under temperature, salinity, and dissolved oxygen conditions representing the extremes of environmental stress at the disposal site. Bioassays on phytoplankton or zooplankton may be run for shorter periods of time as appropriate for the organisms tested at the discretion of EPA, or EPA and the Corps of Engineers, as the case may be.

(d) Appropriate sensitive benthic marine organisms means two or more species that together represent filter-feeding, deposit-feeding, and burrowing characteristics. These organisms shall be chosen from among the species that are most sensitive for each type they represent, and that are documented in the scientific literature and accepted by EPA as being reliable test organisms to determine the anticipated impact on the site; provided, however, that until sufficient species are adequately tested and documented, interim guidance on appropriate organisms available for use will be provided by the Administrator, Regional Administrator, or the District Engineer, as the case may be.


AUTHORITY: AUTHORITY NOTE APPLICABLE TO ENTIRE PART:
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Research Information:

Lexstat 40 CFR 227.27

Note:
requirement for bioassay for ocean dumping of materials. Also sending another section.

PAGE 1
NOTE: NOTES APPLICABLE TO ENTIRE CHAPTER:

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CHAPTER I -- ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER H -- OCEAN DUMPING

PART 228 -- CRITERIA FOR THE MANAGEMENT OF DISPOSAL SITES FOR OCEAN DUMPING

40 CFR 228.9

@ 228.9 Disposal site monitoring.

(a) The monitoring program, if deemed necessary by the Regional Administrator or the District Engineer, as appropriate, may include baseline or trend assessment surveys by EPA, NOAA, other Federal agencies, or contractors, special studies by permittees, and the analysis and interpretation of data from remote or automatic sampling and/or sensing devices. The primary purpose of the monitoring program is to evaluate the impact of disposal on the marine environment by referencing the monitoring results to a set of baseline conditions. When disposal sites are being used on a continuing basis, such programs may consist of the following components:

(1) Trend assessment surveys conducted at intervals frequent enough to assess the extent and trends of environmental impact. Until survey data or other information are adequate to show that changes in frequency or scope are necessary or desirable, trend assessment and baseline surveys should generally conform to the applicable requirements of @ 228.13. These surveys shall be the responsibility of the Federal government.

(2) Special studies conducted by the permittee to identify immediate and short-term impacts of disposal operations.

(b) These surveys may be supplemented, where feasible and useful, by data collected from the use of automatic sampling buoys, satellites or in situ platforms, and from experimental programs.

(c) EPA will require the full participation of permittees, and encourage the full participation of other Federal and State and local agencies in the development and implementation of disposal site monitoring programs. The monitoring and research programs presently supported by permittees may be incorporated into the overall monitoring program insofar as feasible.

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The purpose of a baseline or trend assessment survey is to determine the physical, chemical, geological, and biological structure of a proposed or existing disposal site at the time of the survey. A baseline or trend assessment survey is to be regarded as a comprehensive synoptic and representative picture of existing conditions; each such survey is to be planned as part of a continual monitoring program through which changes in conditions at a disposal site can be documented and assessed. Surveys will be planned in coordination with the ongoing programs of NOAA and other Federal, State, local, or private agencies with missions in the marine environment. The field survey data collection phase of a disposal site evaluation or designation study shall be planned and conducted to obtain a body of information both representative of the site at the time of study and obtained by techniques reproducible in precision and accuracy in future studies. A full plan of study which will provide a record of sampling, analytical, and data reduction procedures must be developed, documented and approved by the EPA management authority. Plans for all surveys which will produce information to be used in the preparation of environmental impact statements will be approved by the Administrator or his designee. This plan of study also shall be incorporated as an appendix into a technical report on the study, together with notations describing deviations from the plan required in actual operations. Relative emphasis on individual aspects of the environment at each site will depend on the type of wastes disposed of at the site and the manner in which such wastes are likely to affect the local environment, but no major feature of the disposal site may be neglected. The observations made and the data obtained are to be based on the information necessary to evaluate the site for ocean dumping. The parameters measured will be those indicative, either directly or indirectly, of the immediate and long-term impact of pollutants on the environment at the disposal site and adjacent land or water areas. An initial disposal site evaluation or designation study should provide an immediate baseline appraisal of a particular site, but it should also be
regarded as the first of a series of studies to be continued as long as the site
is used for waste disposal.

(a) Timing. Baseline or trend assessment surveys will be conducted with due
regard for climatic and seasonal impact on stratification and other conditions

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in the upper layers of the water column. Where a choice of season is feasible,
trend assessment surveys should be made during those months when pollutant
accumulation within disposal sites is likely to be most severe, or when
pollutant impact within disposal sites is likely to be most noticeable.

(1) Where disposal sites are near large riverine inflows to the ocean,
surveys will be done with due regard for the seasonal variation in river flow.
In some cases several surveys at various river flows may be necessary before a
site can be approved.

(2) When initial surveys show that seasonal variation is not significant and
surveys at greater than seasonable intervals are adequate for characterizing a
site, resurveys shall be carried out in climatic conditions as similar to those
of the original surveys as possible, particularly in depths less than 200
meters.

(b) Duration. The actual duration of a field survey will depend upon the
size and depth of the site, weather conditions during the survey, and the types
of data to be collected. For example, for a survey of an area of 100 square
miles on the continental shelf, including an average dump site and the region
contiguous to it, an on-site operation would be scheduled for completion within
one week of weather suitable for on-site operations. More on-site operating time
may be scheduled for larger or highly complex sites.

(c) Numbers and locations of sampling stations. The numbers and locations of
sampling stations will depend in part on the local bathymetry with minimum
numbers of stations per site fixed as specified in the following sections. Where
the bottom is smooth or evenly sloping, stations for water column measurements
and benthic sampling and collections, other than trawls, shall be spaced
throughout the survey area in a manner planned to provide maximum coverage of
both the disposal site and contiguous control areas, considering known water
movement characteristics. Where there are major irregularities in the bottom
topography, such as canyons or gullies, or in the nature of the bottom, sampling stations for sediments and benthic communities shall be spaced to provide representative sampling of the major different features.

Sampling shall be done within the dump site itself and in the contiguous area. Sufficient control stations outside a disposal site shall be occupied to characterize the control area environment at least as well as the disposal site itself. Where there are known persistent currents, sampling in contiguous areas shall include at least two stations downcurrent of the dump site, and at least two stations upcurrent of the site.

(d) Measurements in the water column at and near the dump site--(1) Water quality parameters measured. These shall include the major indicators of water quality, particularly those likely to be affected by the waste proposed to be dumped. Specifically included at all stations are measurements of temperature, dissolved oxygen, salinity, suspended solids, turbidity, total organic carbon, pH, inorganic nutrients, and chlorophyll a.

(i) At one station near the center of the disposal site, samples of the water column shall be taken for the analysis of the following parameters: Mercury, cadmium, copper, chromium, zinc, lead, arsenic, selenium, vanadium, beryllium, nickel, pesticides, petroleum hydrocarbons, and persistent organohalogen. These samples shall be preserved for subsequent analysis by or under the direct supervision of EPA laboratories in accordance with the approved plan of study.

(ii) These parameters are the basic requirements for all sites. For the evaluation of any specific disposal site additional measurements may be required, depending on the present or intended use of the site. Additional parameters may be selected based on the materials likely to be in wastes dumped at the site, and on parameters likely to be affected by constituents of such wastes. Analysis for other constituents characteristic of wastes discharged to a particular disposal site, or of the impact of such wastes on water quality, will be included in accordance with the approved plan of study.

(2) Water quality sampling requirements. The number of samples collected from the water column should be sufficient to identify representative changes
throughout the water column such as to avoid short-term impact due to disposal activities. The following key locations should be considered in selecting water column depths for sampling:

(i) Surface, below interference from surface waves;
(ii) Middle of the surface layer;
(iii) Bottom of the surface layer;
(iv) Middle of the thermocline or halocline, or both if present;
(v) Near the top of the stable layer beneath a thermocline or halocline;
(vi) Near the middle of a stable layer;
(vii) As near the bottom as feasible;
(viii) Near the center of any zone showing pronounced biological activity or lack thereof.

In very shallow waters where only a few of these would be pertinent, as a minimum, surface, mid-depth and bottom samples shall be taken, with samples at additional depths being added as indicated by local conditions. At disposal sites far enough away from the influence of major river inflows, ocean or coastal currents, or other features which might cause local perturbations in water chemistry, a minimum of 5 water chemistry stations should be occupied within the boundaries of a site. Additional stations should be added when the area to be covered in the survey is more than 20 square miles or when local perturbations in water chemistry may be expected because of the presence of one of the features mentioned above. In zones where such impacts are likely, stations shall be distributed so that at least 3 stations are occupied in the transition from one stable regime to another. Each water column chemistry station shall be replicated a minimum of 2 times during a survey except in waters over 200 meters deep.

(3) Water column biota. Sampling stations for the biota in the water column shall be as near as feasible to stations used for water quality; in addition at least two night-time stations in the disposal site and contiguous area are required. At each station vertical or oblique tows with appropriately-meshed
nets shall be used to assess the microzooplankton, the nekton, and the

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maczooplankton. Towing times and distances shall be sufficient to obtain representative samples of organisms near water quality stations. Organisms shall be sorted and identified to taxonomic levels necessary to identify dominant organisms, sensitive or indicator organisms, and organism diversity. Tissue samples of representative species shall be analyzed for pesticides, persistent organohalogens, and heavy metals. Discrete water samples shall also be used to quantitatively assess the phytoplankton at each station.

These requirements are the minimum necessary in all cases. Where there are discontinuities present, such as thermoclines, haloclines, convergences, or upwelling, additional tows shall be made in each water mass as appropriate.

(e) Measurements of the benthic region—(1) Bottom sampling. Samples of the bottom shall be taken for both sediment composition and structure, and to determine the nature and numbers of benthic biota.

(i) At each station sampling may consist of core samples, grab samples, dredge samples, trawls, and bottom photography or television, where available and feasible, depending on the nature of the bottom and the type of disposal site. Each type of sampling shall be replicated sufficiently to obtain a representative set of samples. The minimum numbers of replicates of successful samples at each continental shelf station for each type of device mentioned above are as follows:

<table>
<thead>
<tr>
<th>Device</th>
<th>Replicates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cores</td>
<td>3</td>
</tr>
<tr>
<td>Grabs</td>
<td>5</td>
</tr>
<tr>
<td>Dredge</td>
<td>3</td>
</tr>
<tr>
<td>Trawl</td>
<td>20-min. tow</td>
</tr>
</tbody>
</table>

Lesser numbers of replicates may be allowed in water deeper than 200 meters, at those sites where pollution impacts on the bottom are unlikely in the judgment of the EPA management authority.

(ii) Selection of bottom stations will be based to a large extent on the bottom topography and hydrography as determined by the bathymetric survey. On the continental shelf, where the bottom has no significant discontinuities, a
bottom station density of at least three times the water column stations is recommended, depending on the type of site being evaluated. Where there are significant differences in bottom topography, additional stations shall be occupied near the discontinuity and on each side of it. Beyond the continental shelf, lesser densities may be used.

(2) Bathymetric survey. Sufficient tracklines shall be run to develop complete bottom coverage of bathymetry with reasonable assurance of accurate coverage of bottom topography, with trackline direction and spacing as close as available control allows. The site itself is to be developed at the greatest density possible, with data to be collected to a suitable distance about the site as is required to identify major changes in bathymetry which might affect the site. Specifications for each bathymetric survey will vary, depending on control, bottom complexity, depths, equipment, and map scale required. In most cases, a bathymetric map at a scale of 1:25,000 to 1:10,000 will be required, with a minimum of 1-5 meter contour interval except in very flat areas. When the foregoing bathymetric detail is available from recent surveys of the disposal site, bathymetry during a baseline or trend assessment survey may be limited to sonar profiles of bathymetry on transects between sampling stations.

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(3) Nature of bottom. The size distribution of sediments, mineral character and chemical quality of the bottom will be determined to a depth appropriate for the type of bottom. The following parameters will be measured at all stations: Particle size distribution, major mineral constituents, texture, settling rate, and organic carbon.

(i) At several stations near the center of the disposal site, samples of sediments shall be taken for the analysis of the following parameters: Mercury, cadmium, copper, chromium, zinc, lead, arsenic, selenium, vanadium, beryllium, nickel, pesticides, persistent organohalogens, and petroleum hydrocarbons. These samples shall be preserved for subsequent analysis by or under the direct supervision of EPA laboratories in accordance with the approved plan of study.

(ii) These parameters are the basic requirements for all sites. For the evaluation of any specific disposal site additional measurements may be required, depending on the present or intended use of the site. Additional parameters may be selected based on the materials likely to be in wastes dumped...
at the site, and on parameters likely to be affected by constituents of such wastes. Such additional parameters will be selected by the EPA management authority.

(4) Benthic biota. This shall consist of a quantitative and qualitative evaluation of benthic communities including macroinfauna and macroepifauna, meiobenthos, and microbenthos, and should include an appraisal, based on existing information, of the sensitivity of indigenous species to the waste proposed to be discharged. Organisms shall be sorted, and identified to taxonomic levels necessary to identify dominant organisms, sensitive or indicator organisms, and organism diversity. Tissue samples of the following types of organisms shall be analyzed for persistent organohalogens, pesticides, and heavy metals:

(i) A predominant species of demersal fish;

(ii) The most abundant macroinfaunal species; and

(iii) A dominant epifaunal species, with particular preference for a species of economic importance.

(f) Other measurements—(1) Hydrodynamic features. The direction and speed of water movement shall be characterized at levels appropriate for the site and type of waste to be dumped. Where depths and climatic conditions are great enough for a thermocline or halocline to exist, the relationship of water movement to such a feature shall be characterized.

(i) Current measurements. When current meters are used as the primary source of hydrodynamic data, at least 4 current meter stations with at least 3 meters at depths appropriate for the observed or expected discontinuities in the water column should be operated for as long as possible during the survey. Where feasible, current meters should be deployed at the initiation of the survey and recovered after its completion. Stations should be at least a mile apart, and should be placed along the long axis of the dumping site. For dumping sites more than 10 miles along the long axis, one current meter station every 5 miles should be operated. Where there are discontinuities in surface layers, e.g., due to land runoff, stations should be operated in each water mass.

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(ii) Water mass movement. Acceptable methods include: dye, drogues, surface drifters, side scan sonar, bottom drifters, and bottom photography or television. When such techniques are the primary source of hydrodynamic data, coverage should be such that all significant hydrodynamic features likely to affect waste movement are measured.

2. Sea state. Observations of sea state and of standard meteorological parameters shall be made at 8-hour intervals.

3. Surface phenomena. Observations shall be made of oil slicks, floating materials, and other visible evidence of pollution; and, where possible, collections of floating materials shall be made.

(g) Survey procedures and techniques. Techniques and procedures used for sampling and analysis shall represent the state-of-the-art in oceanographic survey and analytical practice. Survey plans shall specify the methods to be used and will be subject to approval by EPA.

(h) Quality assurance. The EPA management authority may require that certain samples be submitted on a routine basis to EPA laboratories for analysis as well as being analyzed by the surveyor, and that EPA personnel participate in some field surveys.


AUTHORITY: 33 U.S.C. 1412 and 1418.

NOTES: NOTES APPLICABLE TO ENTIRE CHAPTER:

[PUBLISHER'S NOTE: Nomenclature changes to Chapter I appear at 65 FR 47323, 47324, 47325, Aug. 2, 2000.]

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