



**US Army Corps
of Engineers®**
New Orleans District

ATCHAFALAYA RIVER BAR CHANNEL, LOUISIANA

SITE MANAGEMENT PLAN
FOR THE MAINTENANCE DREDGING
OCEAN DREDGED MATERIAL DISPOSAL SITE

AS REQUIRED BY
SECTION 102 OF THE
MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT

SITE MANAGEMENT PLAN
ATCHAFALAYA RIVER BAR CHANNEL, LOUISIANA
OCEAN DREDGED MATERIAL DISPOSAL SITES

I. General

The Marine Protection, Research and Sanctuaries Act (MPRSA) of 1972 (33 U.S.C. Section 1401, et seq.) is the legislative authority regulating the disposal of dredged material into ocean waters, including the territorial sea. The transportation of dredged material for the purpose of placement into ocean waters is permitted by the Corps of Engineers or, in the case of Federal projects, authorized for disposal under MPRSA Section 103(e), applying environmental criteria established by the Environmental Protection Agency in the Ocean Dumping Regulations (40 CFR Parts 220-229).

Section 102(c) of the MPRSA and 40 CFR 228.4(e)(1) authorize the Environmental Protection Agency (EPA) to designate ocean dredged material disposal sites (ODMDSs) in accordance with requirements at 40 CFR 228.5 and 228.6. Section 103(b) of MPRSA requires that the Corps of Engineers (USACE) use dredged material sites designated by EPA to the maximum extent feasible. Where use of an EPA-designated site is not feasible, the USACE may, with concurrence of EPA, select an alternative site in accordance with MPRSA 103(b).

Section 228.3 of the Ocean Dumping Regulations established disposal site management responsibilities; however, the Water Resources Development Act of 1992 (WRDA 92; Public Law 102-580) included a number of amendments to the MPRSA specific to ODMDS management. Section 102(c) of MPRSA as amended by Section 506 of WRDA 92 provides that:

1. Site management plans shall be developed for each ODMDS designated pursuant to Section 102(c) of MPRSA.
2. After January 1, 1995, no ODMDS shall receive a final designation unless a site management plan has been developed.
3. For ODMDSs that received a final designation prior to January 1, 1995, site management plans shall be developed as expeditiously as practicable, but no later than January 1, 1997, giving priority to sites with the greatest potential impact on the environment.

4. Beginning on January 1, 1997, no permit or authorization for dumping shall be issued for a site unless it has received a final designation pursuant to Section 102(c) MPRSA or it is an alternate site selected by the USACE under Section 103(b) of MPRSA.

This Site Management Plan, for the Atchafalaya River Bar Channel, LA Ocean Dredged Material Disposal Sites, was developed jointly by the U.S. Environmental Protection Agency, Region 6 (EPA, Region 6) and the U.S. Army Corps of Engineers, New Orleans District (CEMVN). In accordance with Section 102(c)(3) of the MPRSA, as amended by WRDA 92, the plan includes the following:

1. A baseline assessment of conditions at the site;
2. A program for monitoring the site;
3. Special management conditions or practices to be implemented at the site, that are necessary for protection of the environment;
4. Consideration of the quantity of dredged material to be discharged at the site, and the presence, nature, and bioavailability of the contaminants in the material;
5. Consideration of the anticipated use of the site over the long term, including the anticipated closure date for the site, if applicable, and any need for management of the site after the closure;
6. A schedule for review and revision of the plan.

II. Site Management Objectives

The purpose of ODMDS management is to ensure that placement activities do not unreasonably degrade the marine environment or interfere with other beneficial uses (e.g., navigation) of the ocean. The specific objectives of management of the Atchafalaya River Bar Channel, LA Ocean Dredged Material Disposal Site for maintenance material are as follows:

1. beneficial use of all dredged material of suitable grain size for stacking;
2. ocean disposal of only that dredged material that satisfies the criteria set forth in

40 CFR Part 227 Subparts B, C, D, E, and G and Part 228.4(e) and is suitable for unrestricted placement at the ODMDS; and

3. avoidance of excessive and prolonged mounding either within the site boundaries or in areas adjacent to the site as a direct result of disposal operations.

These objectives will be achieved through the following measures:

1. Regulation and administration of ocean dumping permits;
2. Development and maintenance of a site monitoring program;
3. Evaluation of permit compliance and monitoring results.

III. Roles and Responsibilities

In accordance with Section 102 (c) of the MPRSA and with the Regional MOU between CEMVN and EPA, Region 6 on Management of ODMDSs signed August 13, 1993, EPA is responsible for designation of ODMDSs. Where use of an EPA-designated site is not feasible, the CEMVN may, with concurrence with EPA, Region 6 select an alternative site in accordance with Section 103(b) of the MPRSA as amended by Section 506 of WRDA 1992.

Development of site management plans for ODMDSs within the New Orleans District is the joint responsibility of EPA, Region 6 and the CEMVN. Both agencies are responsible for assuring that all components of the site management plans are implementable, practical, and applicable to site management decision-making.

IV. Funding

Physical, chemical, and biological effects-based testing shall be undertaken on sediments to be deposited at the ODMDS. When actively utilized for dredged material disposal this testing will be conducted at least every five years (as of December 2008 this site is not actively utilized for dredged material disposal but is available if needed), or as necessary to address contaminant concerns due to unanticipated events, and will be funded by the permittee if the project is permitted, or CEMVN for Federal projects. The permittee or CEMVN, as appropriate, shall also be responsible for costs associated with placement site hydrographic monitoring. Should monitoring indicate that additional studies and/or tests are needed at the ODMDS; the cost for such work would be shared by the permittee or CEMVN and EPA, Region 6. Physical, chemical, and biological effects-based

testing at the ODMDS, or in the site environs after discharge, that is not required as a result of hydrographic monitoring, shall be funded by EPA, Region 6. Federal funding of all aspects of this Site Management Plan is contingent on availability of appropriated funds.

V. Baseline Assessment

A. Site Characterization. The Atchafalaya River Bar Channel ODMDS is located east of and parallel to the Atchafalaya River and Bayous Chene, Boeuf, and Black, LA, bar channel and is 29.6 kilometers (km) (18.5 miles) long (Figure 1.). The coordinates of the rectangular-shaped site are as follows:

29° 20' 59.92" N, 91° 23' 33.23" W;
29° 20' 43.94" N, 91° 23' 09.73" W;
29° 08' 15.46" N, 91° 34' 51.02" W;
29° 07' 50.43" N, 91° 34' 27.51" W.

The center of the site is approximately 16 km (10 miles) from the mouth of the Atchafalaya River. North Point of Point au Fer Island is about 4 km (2 miles) east of the northern end of the site. Point au Fer Shell Reef, an area that has been subjected to extensive shell dredging, lies just shoreward of the ODMDS.

Baseline conditions at the Atchafalaya River Bar Channel ODMDS were assessed during the site designation process. Details of baseline conditions, including descriptions of the marine environment in the site vicinity and the physical, chemical and biological characteristics of the sediments and the water column at the site, are contained in the Final Environmental Impact Statement (EIS) for the Atchafalaya River Bar Channel Ocean Dredged Material Disposal Site (ODMDS) Designation, St. Mary Parish, Louisiana" (EPA, 1996).

B. Historical Use of the Site. The Rivers and Harbors Act of June 25, 1910 authorized the CEMVN to construct and maintain the Atchafalaya River, Morgan City to the Gulf of Mexico, LA, project which provided a navigation channel 20 feet deep, 200 feet wide and 15.75 miles long from the 20-foot contour in the Atchafalaya Bay, approximately 4 miles beyond the mouth of the Atchafalaya River, to the 20-foot contour in the Gulf of Mexico. Traffic sufficient to warrant maintenance of the authorized navigation channel to full project dimensions did not immediately develop. The channel was progressively enlarged during maintenance events from 10- by 100-feet in 1939 to 20- by 200-feet in 1974.

The Rivers and Harbors Act of 1968 authorized construction of the Atchafalaya River and

Bayous Chene, Boeuf, and Black, LA, project which incorporated the existing project and provided for an increase in channel width of the navigation channel in Atchafalaya Bay and bar to 400 feet. Construction of the channel in the bay and bar was initiated in April, 1974 and completed in December of the same year. History of disposal of dredged material from the Atchafalaya River Bar Channel prior to construction of the enlarged channel in 1974 is incomplete. Dredging records dating back to 1957 indicate that maintenance of discontinuous reaches of the bay and/or bar channel occurred on an annual basis from 1957 until 1974 except for 1961. It is likely that dredged material was placed unconfined in open water on either side of the navigation channel.

Between 1974 and 1991, all of the dredged material removed during routine maintenance of the bar channel was placed in the ODMDS. Prior to the 1991 maintenance event, the 193-acre upper end of the ODMDS was incorporated into a 360-acre disposal area designated under Section 404 of the Clean Water Act for placement of dredged material for creation of islands for colonial nesting seabirds. Beginning with the 1991 maintenance event and during subsequent annual maintenance events, dredged material from the bar channel suitable for stacking has been used beneficially by deposition in the Section 404 site. To date, approximately 750,000 cubic yards of dredged material has been placed annually at the Section 404 site. Material not suitable for beneficial use has been placed in the ODMDS. Table 1.1 provides a summary of the disposal history for the Atchafalaya River Bar Channel ODMDS.

Maintenance dredging of the Atchafalaya River Bar Channel is required on an annual basis and only material from the navigation channel is placed in the ODMDS. Material is removed using a hydraulic cutterhead pipeline dredge and is discharged as a slurry through a floating pipeline into the ODMDS. Dredging in the bar channel normally begins in January and continues through October; however, dredging is not continuous. Dredges may be assigned to the bar channel anytime between January and October to restore authorized channel dimensions. When a dredge is working in the bar channel, disposal operations will 24 hours a day, seven days a week until authorized channel dimensions are restored.

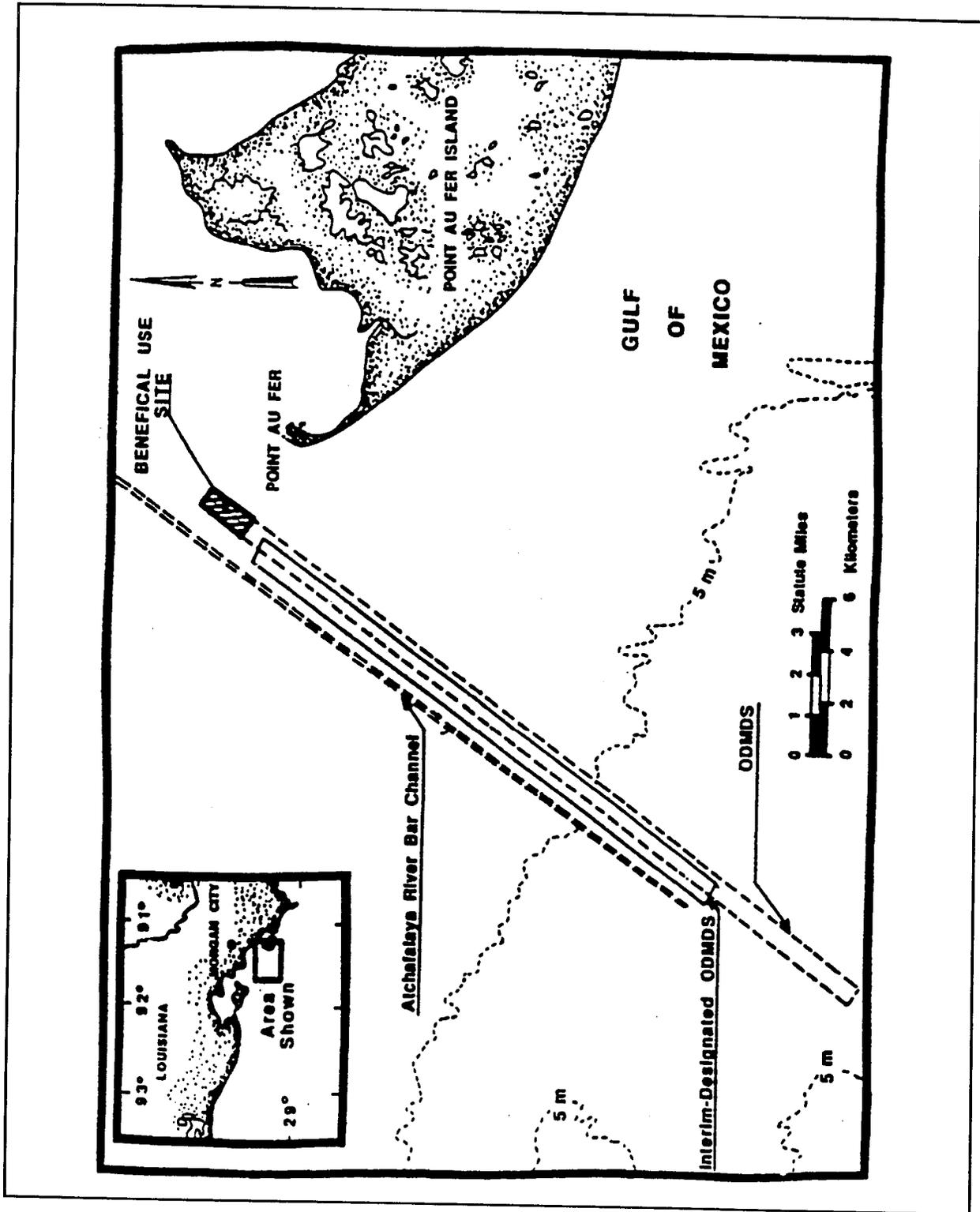


Figure 1. Atchafalaya River Bar Channel ODMDS.

Table 1.1. Date of disposal operations and quantities of material disposed. The Atchafalaya River Bar Channel reach extends from C/L Sta. 475+00 to 1340+00. Available information does not distinguish between the Atchafalaya River Bar Channel and others areas dredged prior to 1973.

Dredging beginning (MM/DD/YY)	Dredging ending (MM/DD/YY)	Quantity Dredged (cubic yards)
04/04/65	05/02/65	765,150
02/25/66	12/27/66	3,024,214
08/26/66	05/18/67	1,769,284
09/04/67	06/30/68	642,632
10/13/68	12/05/68	1,263,258
07/01/68	08/22/68	824,228
08/30/69	12/21/69	2,925,226
07/03/70	08/15/70	1,249,077
07/12/71	10/06/71	2,348,112
06/07/73	08/21/73	3,557,062
04/11/74	12/06/74	14,409,109
08/21/76	02/10/77	10,888,170
12/08/78	04/02/79	10,992,792
07/04/81	11/10/81	9,236,530
06/24/83	11/01/83	10,674,563
09/25/85	02/08/86	8,500,000
07/02/87	08/31/87	10,035,209
08/06/88	11/22/88	10,302,961
06/29/89	09/12/89	11,111,114
08/02/90	11/17/90	9,446,109
01/31/91	04/17/91	1,643,900
05/07/91	09/25/91	9,559,859
02/20/92	05/04/92	1,000,000
05/11/92	12/02/92	9,630,972
03/14/93	05/19/93	4,035,076
08/14/93	09/14/93	2,254,937
06/10/93	09/16/93	11,700,000
05/27/94	10/16/94	8,757,597

04/14/94	05/26/94	1,836,445
06/23/95	10/25/95	9,311,000
FY-1996		11,589,416
FY-1997		6,968,673
FY-1998		10,942,132
FY-1999		10,847,337
FY-2000		10,749,971
FY-2001		10,824,858
FY-2002		9,688,753

VI. Quantity of Material and Level of Contamination

A. *Summary of information used to determine size of the site.* The Atchafalaya River Bar Channel ODMDS is a long, narrow site paralleling the bar channel reach of the Atchafalaya River and Bayous Chene, Boeuf, and Black, LA, navigation channel. When EPA designated it an interim ODMDS in 1977, the site had been used for disposal of dredged material from the bar channel since 1974. The configuration of the site probably resulted from ease of disposal from the navigation channel. No recommendations for changes in the size of the site were made as a result of the site designation studies.

Prior to completion of the supplemental draft EIS for site designation and publication of the proposed rule on February 6, 1991, CEMVN proposed extending the ODMDS limits on both the northern and southern ends to accommodate actual and potential increases in the length of the bar channel reach of the navigation channel as the Atchafalaya Delta progresses gulfward. The ODMDS described in the proposed rule was 30.4 km (19 miles) long and 0.8 km (0.5 mile) wide.

In 1991, the northernmost end of the ODMDS was incorporated into a Section 404 disposal area for the beneficial use of dredged material to construct islands for colonial nesting seabirds. Deletion of the upper end of the ODMDS resulted in a site 29.6 km (18.5 miles) long and 0.8 km (0.5 mile) wide.

The location and configuration of the ODMDS involves only short transport of the dredged material from the navigation channel through floating pipeline to the site. This minimizes interference with other activities such as fishing and navigation in the site environs during dredging and disposal operations. The site also is easily accessible for surveillance of dredged material disposal operations and monitoring.

Like most ODMDSs in the Gulf of Mexico, the Atchafalaya River Bar Channel ODMDS is a dispersive site. The dredged material discharged into the site is expected to erode because of the high percentage of very fine-grained components and because of the location of the site in a high-energy inshore area where waves, currents, wind and tides constantly mix and redistribute the sediments and thus, the dredged material, over a wide area.

Since 1974, the Atchafalaya River Bar Channel has been dredged every year except for 1975, 1977, 1978, 1980, and 1982 dredged material has been placed in the ODMDS, the Section 103 EPA designated ODMDS located on the east side of the navigation channel, or in more recent years (after 2001) the Section 102 US Army Corps of Engineers designated Alternative ODMDS. The quantity of dredged material discharged into the ODMDS each year has ranged from 760 thousand cubic meters (1 million cubic yards) to 10.6 million cubic meters (14 million cubic yards). The dredged material generally is comprised of silty-clay with traces of sand (11% sand, 52% silt, 37% clay). It is anticipated that annual maintenance of the Atchafalaya River Bar Channel and disposal of dredged material into either the east side Section 102 ODMDS or the west side Section 103 ODMDS will continue in the future. During each maintenance event, from 6.8 to 8.4 million cubic meters (9.0 to 11.0 million cubic yards) of dredged material will be discharged into an ODMDS.

B. Summary of testing requirements per Regional Implementation Agreement (RIA) and summary of past dredged material evaluations. Dredged material from the Atchafalaya River Bar Channel was sampled and analyzed in accordance with the "1991 Green Book" in 1991, 2002, and 2008. A Tier III evaluation consisting of physical analyses, bulk sediment analyses, water chemistry and elutriate analyses, and toxicity bioassays was conducted. The results of the analyses indicated that the dredged material proposed for discharge into the ODMDS was in compliance with the Ocean Dumping Criteria and was suitable for ocean disposal.

On September 24, 1992, a RIA was executed between EPA Region 6, and the New Orleans District. This RIA was updated on November 3, 2003 (U.S. EPA and U.S. ACE, 2003), and describes protocols for evaluating the quality of the dredged material and implementation of the "GREEN BOOK" (U.S. EPA and U.S. ACE, 1991). These protocols describe chemical parameters to be analyzed, as well as required detection limits. It also specifies how toxicity testing and bioaccumulation assessments are to be conducted, as well as organisms to be utilized.

VII. Anticipated Site Use

Since 2002 the eastern or Section 102 ODMDS has not been utilized for dredged

material disposal. At that time the CEMVN began using the site located on the west side of the Bar Channel. The local sponsor believes the western site is a better disposal site and there is no definitive information to refute that perspective. It is probable that the EPA will designate the west side ODMDS as the Section 102 site in the near future. At that time a Site Management and Monitoring Plan will be developed.

IX. Monitoring Program

The primary purpose of the Site Monitoring Program is to evaluate the impact of the placement of dredged material on the marine environment. The evaluations will be used for making decisions, preventing unacceptable adverse effects beyond the site boundary, and ensuring regulatory compliance over the life of the ODMDS. Emphasis will be placed on determining physical impacts, since, to date, dredged material from the Atchafalaya River Bar Channel Project has been determined to be acceptable for ocean placement, without special conditions; however, consideration of contaminants will also be included. Testing of dredged material is conducted based on “Greenbook” and RIA procedures; however it is necessary to verify the decisions made regarding the suitability of the dredged material are correct and that the material is not having an adverse impact to the environment. In the event that the dredged material persists in the ODMDS, there may be potential for long-term contaminant effects on the benthos.

The size and location of the Atchafalaya River Bar Channel Project ODMDS were determined pursuant to the General Criteria as listed in 40 CFR 228.5, and the Specific Criteria at 40 CFR 228.6(a). There are no significant environmental resources delineated within or immediately outside of the designated ODMDS. Since this site is dispersive in nature, the primary concern of the use of the site is the potential short-term build up of dredged material, such that a hazard to navigation is presented. Another concern is whether there is significant short-term movement of the dredged material beyond the ODMDS boundaries; specifically, the benthic community can be impacted if significant rapid movement of material off the site occurs, resulting in burial of benthic populations outside the site. Studies have shown that benthic organisms can burrow through 6-9 inches of dredged material without significant impacts on the community (Maurer, et al., 1978).

The Site Monitoring Program is designed as a tiered program. If initial tier results fail predetermined limits, then a more complex set of tests is invoked at the next tier to determine the extent of impact. The tiers are used to facilitate rapid, accurate and economical collection of information for use by the EPA, Region 6, and the CEMVN. The tiered testing for these factors is described below.

MAINTENANCE MATERIAL

TIER M1

Physical and chemical evaluations of the ODMDS material shall be conducted to characterize possible effects from the placement of dredged material occurring at the site. Physical analyses of the sediment can assist in assessing the impact of disposal practices on the benthic environment at the disposal site and determine if dredged material is migrating offsite. Chemical analyses of the sediment shall be conducted to establish whether contaminants of concern are suspected to be affecting the benthic environment at the disposal site.

Bathymetric Surveys

The ODMDS is located outside of the safety fairway for large vessel traffic, therefore, the mounding will be considered in regard to shallow-draft vessels, only. Considering the grain-size characteristics of typical maintenance dredged material from this channel, significant mounding is not expected subsequent to discharge operations. The threshold elevation for mounding of dredged material within the ODMDS will be two (2) feet above the existing bottom elevation.

Since the site is dispersive, movement of material from the site is expected to occur after disposal operations cease. In order to detect if short-term movement of the material out of the designated ODMDS is occurring at a significant rate, hydrographic surveys of the ODMDS shall be obtained before the start of disposal operations, and after completion of disposal operations. An accumulation of twelve (12) inches of sedimentation along the ODMDS boundary will be considered the threshold level for movement of material outside of the designated ODMDS. This determination shall be based on a comparison of the results of these before and after surveys.

Hydrographic surveys shall be conducted along transects within the ODMDS. These transects shall be oriented perpendicular to the channel in the direction of sediment transport (i.e., southwest). Transect intervals shall be every 1,000 feet extending 1,000 feet outside each boundary. In addition, a depth profile shall be obtained along each boundary.

Surveys shall be obtained using a USACE, or contract survey vessel equipped with electronic surveying capabilities. The vessel must be equipped with positioning equipment with a horizontal precision of one (1) foot. The fathometer, which shall display real-time depth on real-time location, must have a precision of 0.5 feet. All data shall be collected using methodology described in Engineer Manual EM 1110-2-1003, dated January 1, 2002.

Data Analysis

- ◆ If deposited dredged material is not mounding to elevations greater than the threshold elevation above the existing bottom elevation, and there is no short-term movement of material beyond the limits of the ODMDS, then the management objectives are met. No further post-disposal monitoring will be required.
- ◆ If mounding to elevations greater than the threshold elevations, and/or movement of material out of the ODMDS has occurred, as determined by the post-dredging survey, then the monitoring program shall proceed to Tier M2.

Sediment Chemistry

Sediment chemistry analyses shall be conducted in conjunction with the dredged material evaluations from samples collected in the navigation channel. Collecting samples from both the navigation channel and ODMDS during the same sampling event has been determined to be the most efficient use of resources. Because most ODMDSs lie directly adjacent to the navigation channels, there are relatively short distances between the two areas. As described in the RIA, sediment testing in the navigation channels generally occurs on a five-year cycle. Sediment chemistry results from the ODMDS and Navigation Channel should be compared to the results collected from the Reference Area. Significantly elevated sediment concentrations are defined as concentrations above the range of contaminant levels in dredged sediments that the Regional Administrator and the District Engineer found to be suitable for disposal at the ODMDS.

Data Analysis

- ◆ If contaminant concentrations are not significantly different than navigation channel concentrations then no further testing is needed.
- ◆ If significant increases in levels of contaminants are observed at the ODMDS, then a determination will be made whether a bioassay/bioaccumulation study is warranted to determine effects on the benthic community. The studies are described below as Biological Testing under Tier M2.

TIER M2

Bathymetric Surveys

If transport of material from the site is occurring, hydrographic surveys shall be expanded to include the impacted area and shall be performed on a semi-annual basis to determine the changes in dispersion of the material until the impacts are no longer observed. An accumulation of more than one (1) foot of sedimentation along the ODMDS boundary will be considered the threshold level for significant movement of material outside of the designated ODMDS.

Data Analysis

- ◆ If deposited dredged material is mounding to elevations above the threshold value, but less than two (2) feet above the existing bottom elevation along the boundary and there is no significant short-term transport of material beyond the limits of the ODMDS, then semi-annual post-disposal monitoring shall occur as described.
- ◆ If at six months after disposal, deposited dredged material remains mounded to elevations greater than half the post-disposal elevations, then bathymetric surveys shall be continued.
- ◆ If deposited dredged material is mounding to elevations greater than two (2) feet, and/or significant movement of material out of the ODMDS has occurred, the New Orleans District together with EPA Region 6 will consider various management options to rectify the situation. Such options could include, but are not limited to expansion of the ODMDS; or relocation of the ODMDS within the zone of siting feasibility described in the designation EIS.

Biological Testing

If the results of the Tier M1 sediment chemistry evaluation suggest the need for additional testing, then solid-phase bioassay and bioaccumulation testing shall be conducted in accordance with the procedures described in the RIA. If the sediment can be attributable to recent dredging, funding for testing under this Tier will be provided by CEMVN or the permittee, as appropriate; otherwise funding will be provided by EPA, Region 6. Any such testing is contingent on availability of appropriated funds.

Data Analysis

- ◆ If toxicity is not indicated, then no further testing is needed and disposal activities can continue at the ODMDS.
- ◆ If toxicity is indicated at the ODMDS, the New Orleans District together with EPA Region 6 will consider various management options to rectify the situation. Because the ODMDS is a dispersive site, potential sources of toxicity other than dredged material must also be considered. If planned use of the ODMDS is imminent, a decision must also be made whether to allow continued use of this site.

X. References

Maurer, D.L., R.T. Keck, J.C. Tinsman, W.A. Leathem, C.A. Wethe, M. Huntzinger, C. Lord, and T.M. Church. 1978. Vertical Migration of Benthos in Simulated Dredged Material Overburdens, Vol. 1: Marine Benthos. Technical Report D-78-35. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

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U.S. EPA and USACE. 1991. *Evaluation of Dredged Material Proposed for Ocean Disposal - Testing Manual*. EPA-503/8-91/001. U.S. Environmental Protection Agency and U.S. Army Corps of Engineers, Washington, D.C.

U.S. EPA and USACE. 2003. *Regional Implementation Agreement for Testing and Reporting Requirements for Ocean Disposal of Dredged Material off the Louisiana and Texas Coasts Under Section 103 of The Marine Protection, Research and Sanctuaries Act*. U.S. Environmental Protection Agency, Region 6 and U.S. Army Corps of Engineers, Galveston and New Orleans Districts.

XI. Site Management Plan Review and Revision

Pursuant to Section 102(c) of the MPRSA, as amended by WRDA 1992, the Site Management Plan for the Atchafalaya River Bar Channel ODMDS will be reviewed and revised, if necessary, not less frequently than 10 years after adoption and every 10 years, thereafter.

Modifications or updates to the Site Management Plan may be necessary, based on specific needs identified for specific authorized projects. Modifications or updates to the Site Management Plan may be proposed by either the CEMVN or EPA Region 6. Following a thirty (30) day review period of the changes(s), the modifications may be incorporated into the plan by mutual consent of both agencies.

This Site Management Plan complies with Section 102(c)(3) of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. Sections 1401, et seq.) as amended by Section 506 of the Water Resources Development Act of 1992 (WRDA 92; Public Law 102-580), and has been approved by the following officials of Region 6 of the U.S. Environmental Protection Agency, and New Orleans District of the U.S. Army Corps of Engineers. This plan goes into effect upon the date of the last signature:

Richard E. Greene
Regional Administrator
Region 6
U.S. Environmental Protection Agency

Date

Alvin B. Lee
Colonel, US Army
District Commander
New Orleans District
U.S. Army Corps of Engineers

Date