File

15 September 1982
New Orleans District

DATA FOR TESTIFYING OFFICERS ON FY 1984 CIVIL WORKS BUDGET
LAKE PONTCHARTRAIN, LOUISIANA, AND VICINITY

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LAKE PONTCHARTRAIN, LA.

15 September 1982
New Orleans District

DATA FOR TESTIFYING OFFICERS ON FY 1984 CIVIL WORKS BUDGET

LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY

BENEFIT-COST RATIO:

a. Comparison of Remaining B/C Ratios. - The remaining B/C ratio is 16.2 to 1, an increase of 1.0 from that last presented to Congress (15.2 to 1). This change is due to the elimination of economic loss on land from annaul changes and revision of current normalized agricultural prices. Remaining B/C ratios are based on comparison of the benefits remaining to be realized by completing construction of the project and the cost remaining as of the budget year.

b. Annual Benefits: The following tabulation is provided for the purpose of comparing the Benefits presented in the justification paragraph of the Justification Sheet.

	TOTAL BENEFITS		
Annual Benefits	Last Est. Submitted to Congress ($)	Current Estimate at Project Interest Rate ($)	Change From Last (+ or -$)
Flood Control	$322,361,000	$351,780,000	
Inundation Reduction 1/	(308,886,000)	(336,688,000)	+27,802,000 3/ 5/
Intensification 2/	(13,475,000)	(15,092,000)	+1,617,000 6/
Area Redevelopment	4,324,000	4,559,000	+235,000 3/
Total Annual Benefit	326,685,000	356,339,000 4/	+29,654,000
Interest Rate Used	3-1/8%	3-1/8%	

1/ Essentially complete protection will be provided to 151,580 acres, comprised or 45,640 acres of urban type development, 10,970 acres of partially developed land, 21,160 acres of open land, and 73,810 acres of woodland, swamp and/or marsh. Protection in varying degrees will also be provided for an additional 350,200 acres comprised of 2,400 acres of urban development, 7,600 acres of open land, and 340,200 acres of woodland, swamp and/or marsh. The current value of all lands is $7,012,000,000 and of improvements is $13,545,000,000. 1980 population: 858,000.
2/ Intensification benefits will accrue to approximately 68,500 acres of urban type land and 260 acres of protected swamp and marshland.
3/ Due to higher price levels (ENR Index).
4/ Chalmette Unit will be reported separately upon completion of revised EIS. See WDTO - 17 and YDTO-5.
5/ Increase due to revision of current normalized agricultural prices to reflect 1981 dollars.
6/ Increase due to land value increases.

BENEFIT-COST RATIO: (Continued)

b. Annual Benefits (Continued)

Annual Benefits	Benefits & Costs When 1st Funded for Construction In FY 1967 1/ ($)	Remaining Benefits/Cost: Last Presented to Congress ($)	Remaining Benefits/Cost: Current Estimate At Project Interest Rate ($)	Change From Last (+ or -$)
Flood Control				
Inundation Reduction 2/	$51,389,400	$218,729,000	$232,209,000	+13,480,000 5/ 6/
Intensification 3/	344,000	11,993,000	12,798,000	+805,000 7/
Area Redevelopment	--	2,986,000	3,135,000	+149,000 5/
Total Annual Benefits	$51,733,400	$233,708,000	$248,142,000	
Total Annual Costs	$2,945,500	$15,360,000	$15,320,000	-40,000
B/C Ratio	17.6	15.2	16.2 4/	+1.0
Interest Rate Used	3-1/8%	3-1/8%	3-1/8%	

1/ Based on cost estimate effective 1 July 1975.

2/ Essentially complete protection will be provided to 151,580 acres, comprised of 45,640 acres of urban-type development, 10,970 acres of partially developed land, 21,160 acres of open land, and 73,810 acres of woodland, swamp, and/or marsh. Protection in varying degrees will also be provided for an additional 350,200 acres comprised of 2,400 acres of urban-type development, 7,600 acres of open land, and 340,200 acres of woodland, swamp, and/or marsh. The current value of all lands is $7,012,000,000 and or improvements is $13,544,000,000. 1980 population 858,000.

3/ Intensification benefits will accrue to approximately 68,500 acres of uban-type land and 260 acres of protected swamp and marshland.

4/ Chalmette Unit will be reported separately upon completion of revised EIS. See WDTO - 17 and YDTO-5.

5/ Due to higher price levels (ENR Index).

6/ Increase due to revision of current normalized agricultural prices to reflect current 1981 prices.

7/ Increase due to land value increases.

ALLOCATION AND APPORTIONMENT OF FIRST COSTS:

Purpose	Allocation of First Costs: Based on Last Estimate Presented to Congress	Allocation of First Costs: Current	Percent of Current Total
Flood Control	$896,300,000	$609,857,000	95
Navigation (Seabrook Lock)	27,700,000	35,143,000	5
TOTAL	$924,000,000	$645,000,000	100

Purpose	Apportionment of First Cost Based on Estimate Last Presented to Congress: Federal	Apportionment of First Cost Based on Estimate Last Presented to Congress: Non-Federal	Based on Current Estimate, Costs: Federal	Based on Current Estimate, Costs: Non-Federal	Based on Current Estimate, Percent of Total: Federal	Based on Current Estimate, Percent of Total: Non-Federal
Flood Control	$601,300,000	$295,000,000	$403,857,000	$206,000,000	63	32
Navigation (Seabrook Lock)	27,700,000	0	35,143,000	0	5	0
TOTAL	$629,000,000	$295,000,000	$439,000,000	$206,000,000	68	32

The apportionment of cost is based on the cost sharing formula as outlined in House Document No. 231, 89th Congress and authorized by Flood Control Act of 1965. H.D. No. 231 specifies that local interests contribute in cash or equivalent work not less than 30 percent of the total project cost, said 30 percent to include the fair market value of lands, damages, and alterations (relocations) for the construction of the project.

One-half the cost of the Seabrook Lock is allocated to the hurricane protection purpose and these costs are apportioned in accordance with the 70/30 percent cost sharing formula. The other half of the cost of Seabrook Lock is allocated to the navigation purpose and is Federal cost. In addition, local interests are required to contribute the capitalized cost of operation, maintenance and repair of Rigolets Lock and these funds are to be used by the Federal Government in project construction.

Apportionment of First Costs: Last Estimate to Congress: Federal	Last Estimate to Congress: Non-Federal	Current Estimate: Federal	Current Estimate: Non-Federal
$629,000,000	$295,000,000	$439,000,000	$206,000,000

ALLOCATION AND APPORTIONMENT OF FIRST COSTS: (Continued)

	Details of Apportionment				
	Project Costs to be Apportioned	Apportionment			
		Federal		Non-Federal	
To be apportioned on 70/30 basis:	$608,142,000				
70% of Project Costs:		$425,522,000			
30% of Project Costs:				$182,620,000	
One-Half the cost of Seabrook Lock that is allocated to the Navigation purpose:	35,143,000	35,143,000			
Cost of Beautification:	1,485,000	1,485,000			
Cost of Realinement at Florida Avenue Container Plant	230,000			230,000	1/
Subtotal	$645,000,000	$462,150,000		$182,850,000	
Capitalized cost at 3-1/8% of the Excess equivalent work by local interest above 30% in the New Orleans East Unit		-4,750,000		+4,750,000	
OM&R of Rigolets Lock to be contributed by local interests and used by the Federal Government in construction		-18,400,000		+18,400,000	1/
Total Project Cost (Ultimate)	$645,000,000	$439,000,000	2/	$206,000,000	3/
Reimbursement		+29,000,000		-29,000,000	
Total Current Estimate (Allocations)		$468,000,000		$177,000,000	

1/ See YDTO - 11, Local Cooperation, paragraphs (a)(4) and (5).

2/ Excludes $29,000,000 which local interest are required to reimburse the Federal Government for costs allocated due to the Water Resources Development Act of 1974. Section 92, which specifies that local interest may agree to pay the unpaid balance of their required cash payment due in annual installments in accordance with a specific formula.

3/ Includes $29,000,000 which local interest are required to reimburse the Federal Government for costs allocated due to the Water Resources Development Act of 1974. Section 92, which specifies that local interest may agree to pay the unpaid balance of their required cash payment due in annual installments in accordance with a specific formula.

FINANCIAL DATA:

a. Comparison of Federal Cost Estimates (Full Funding): The current Federal cost estimate of $468,000,000 is a decrease of $232,000,000 from the latest full funding estimate ($700,000,000) submitted to Congress (FY 1983). This change includes decreases of $211,700,000 for adjustments in the estimated inflation allowance through the construction period, $5,566,000 based on more detailed project cost estimates and $20,300,000 due to reanalysis of Federal cost sharing requirements. These decreases were partially offset by increases of $518,000 based on actual bids, $251,000 based on actual cost of completed work, $3,942,000 based on design modifications and $855,000 based on a reanalysis of Engineering and Design requirements.

b. Comparison of Non-Federal Cost Estimate (Full Funding). The current non-Federal cost estimate of $177,000,000 is a decrease of $47,000,000 from the latest estimate ($224,000,000) submitted to Congress. This change includes decreases of $66,730,000 for adjustments in the estimated inflation allowance through the construction period; $1,520,000 based on more detailed cost and $395,000 for Lands and Damages and Relocations. These decreases were offset by an increase of $20,855,000 due to change in the apportionment between Federal and non-Federal funds on remaining work.

c. Comparison of Preconstruction Cost Estimate. - Not applicable.

d. Comparison of Project Cost Estimate (Full Funding). -

Feature	Latest Estimate to Congress FY 1983 Budget	Current Estimate	Change from Latest to Congress: Total	Price Level	Other
BARRIER UNIT					
Lands & Damages	$4,684,000	$3,792,000	$ -892,000	-$892,000	-
Relocations	320,000	227,000	-93,000	-93,000	-
Locks	80,550,000	75,170,000	-5,380,000	-5,380,000	-
Roads, Railroads & Bridges	1,425,000	245,000	-1,180,000	-1,180,000	-
Channels & Canals	10,575,000	7,420,000	-3,155,000	-3,155,000	-
Breakwaters & Seawalls	5,015,000	6,030,000	+1,015,000	+1,015,000	-
Levees & Floodwalls	136,790,000	58,820,000	-77,970,000	-78,214,000	+244,000 1/
Flood Control & Diversion Structure	142,635,000	98,799,000	-43,836,000	-43,836,000	-
Permanent Operating Equip.	15,000	17,000	+2,000	+2,000	-

FINANCIAL DATA: (Continued)

d. Comparison of Project Total Cost Estimate (Full Funding). - (Continued)

Feature	Latest Estimate to Congress FY 1983 Budget	Current Estimate		Change from Latest to Congress: Total	Price Level	Other	
BARRIER UNIT (Cont'd)							
Engineering & Design	$ 17,415,000	$ 14,350,000	2/	$ -3,065,000	$ -3,915,000	$ +850,000	3/
Supervision & Administration	25,491,000	10,790,000		-14,701,000	-14,701,000		
Subtotal - BARRIER UNIT	$424,915,000	$275,660,000		$-149,255,000	$-150,349,000	$+1,094,000	

1/ Based on actual cost of completed work.
2/ Includes $58,000 for U.S. Fish and Wildlife Service.
3/ Based on E&D letter report approved 17 Jun 81.

NEW ORLEANS EAST UNIT							
Lands & Damages	$ 12,584,000	$ 13,287,000		$ +703,000	$ +116,000	$ +587,000	1/
Relocations	11,644,000	12,088,000		+444,000	+460,000	-16,000	2/
Levees & Floodwalls	103,112,000	95,896,000		-7,216,000	-3,476,000	-3,740,000	3/
Pumping Plants	22,720,000	19,484,000		-3,236,000	-1,716,000	-1,520,000	4/
Engineering & Design	14,050,000	15,200,000	5/	+1,150,000	+1,150,000	-	
Supervision & Administration	7,480,000	8,200,000		+720,000	+720,000	-	
Subtotal-NEW ORLEANS EAST UNIT	$171,590,000	$164,155,000		$-7,435,000	$-2,746,000	$-4,689,000	

1/ Based on more detailed real estate cost estimates. Additional R/W required.
2/ Decrease due to more detailed cost estimates.
3/ Decrease due to more detailed project cost estimate.
4/ Decrease is due to reanalysis of creditable funds.
5/ Includes $13,000 for US Fish and Wildlife Service.

FINANCIAL DATA: (Continued)

d. Comparison of Project Total Cost Estimate (Full Funding). - (Continued)

Feature	Latest Estimate to Congress FY 1983 Budget	Current Estimate	Change from Latest to Congress: Total	Change from Latest to Congress: Price Level	Change from Latest to Congress: Other
NEW ORLEANS WEST UNIT					
Lands & Damages	$ 1,140,000	$ 1,140,000	0		
Relocations	2,300,000	1,345,000	$ -955,000	$ -955,000	
Levees & Floodwalls	163,740,000	50,015,000	-113,725,000	-113,725,000	
Engineering & Design	9,240,000	3,220,000	-6,020,000	-6,020,000	
Supervision & Administration	5,960,000	1,865,000	-4,095,000	-4,095,000	
Subtotal-NEW ORLEANS WEST UNIT	$182,380,000	$ 57,585,000	$-124,795,000	$-124,795,000	
MANDEVILLE UNIT					
Levees & Floodwalls	$ 1,000,000	$ 1,125,000	$ +125,000	$ +125,000	
Engineering & Design	77,000	240,000	+163,000	+13,000	$ +150,000 1/
Supervision & Administration	78,000	80,000	+2,000	+2,000	
Subtotal-MANDEVILLE UNIT	$ 1,155,000	$ 1,145,000	$ +290,000	$ +140,000	$ +150,000

1/ Based on E&D letter report approved 20 April 1981.

CHALMETTE UNIT					
Lands & Damages	$ 7,389,000	$ 7,213,000	$ -176,000	$ 0	$ -176,000 1/
Relocations	3,825,000	3,879,000	+54,000	+54,000	0
Levees & floodwalls	110,224,000	107,530,000	-2,694,000	-5,745,000	+3,051,000 2/
Permanent Operating Equip.	21,000	21,000	0		
Engineering & Design	11,501,000	14,035,000	+2,534,000	+2,534,000	
Supervision & Administration	11,000,000	13,477,000	+2,477,000	+2,477,000	
Subtotal-CHALMETTE UNIT	$143,960,000	$146,155,000	$+2,195,000	$ -680,000	$+2,875,000

1/ Based on more detailed cost estimate.
2/ Based on design modification and more detailed cost estimates.

FINANCIAL DATA: (Continued)

d. Comparison of Project Total Cost Estimate (Full Funding). - (Continued)

Feature	Latest Estimate to Congress FY 1983 Budget	Current Estimate		Change from Latest to Congress: Total	Price Level	Other
GRAND TOTAL (Federal & Non-Federal)	$924,000,000	$645,000,000		$-297,000,000	$-278,430,000	$ -570,000
Total Federal Cost	700,000,000	468,000,000	1/	-232,000,000	-211,700,000	-20,300,000
Total Non-Federal Cost:	224,000,000	177,000,000	2/	-47,000,000	-66,730,000	+19,730,000
Cash Contribution	180,114,000	134,029,000		-46,085,000	-65,420,000	+19,335,000
Other	43,886,000	42,971,000	3/	-915,000	-1,310,000	+395,000

1/ Includes future non-Federal reimbursement of $29,000,000; ultimate estimate Federal cost is $439,000,000.
2/ Excludes future non-Federal reimbursement of $29,000,000; ultimate estimate non-Federal cost is $206,000,000.
3/ Includes $25,432,000 for lands and damages and $17,539,000 for relocations.

E&D is 9.0% of the construction cost.
S&A is 6.0% of the construction and E&D costs.

e. Contingencies. - The estimate includes $70,536,000 for contingencies which is 21% of the uncompleted work.

The estimate last presented to Congress included $128,029,000 for contingencies which was 23% of the uncompleted work.

f. Firmness of Federal Cost Estimate. - The current estimate is of GDM scope and reliability with costs projected through the construction period.

FINANCIAL DATA: (Continued)

g. Appropriation History. -

Appropriation History			
Total thru	FY 1978	$92,214,000	
	FY 1979	230,000	
	FY 1980	13,320,000	
	FY 1981	8,800,000	
	FY 1982	13,000,000	2/
	FY 1983	14,800,000	3/
Total to Date		$142,364,000	

FY 1983 Budget History		
LMVD Recommendation	$18,800,000	
OCE Recommendation	18,800,000	
OMB Allowance	18,800,000	
House Allowance		
Senate Allowance		
Conferees Allowance		
Work Allowance	14,800,000	3/
Capability		

FY 1984 Budget Request
$22,000,000
16,800,000

1/ Initial construction funds received in FY 1967.
2/ Reflects an increase of $1,000,000 from return of FY deferral and a transfer of $2,000,000 from the project.
3/ Reflects a reduction of $4,000,000 assigned as savings and slippage.

h. Capability.

i. Transfers: -

FY 1982:

From	To	Month of Transfer	Amount	Reason
Lake Pontchartrain	OCE	Aug 82	$1,000,000	Favorable bid on NOE Lakefront Levee and Paris Rd to South Point Gap Closure Contract.

Anticipated:

Lake Pontchartrain	Red River Waterway	Sep 82	$2,000,000	Funds available due to contract earnings being less than anticipated and are required to prevent exhaustion of funds in FY 82 on Lock & Dam No. 1.

FY 1983: None.

Anticipated: None.

FINANCIAL DATA: (Continued)

j. Unobligated and Unexpended Balances. -

	End of FY 1982	Estimated at End of FY 1983
Unobligated Balance	0	0
Undelivered Orders	0	0
Unexpended Balance	0	0

k. Comparison of Bids.

Item	No. of Bidders	Low Bid	High Bid	Government Estimate	Last Est. to Congress	Current Est. to Congress	Current Working Estimate
Paris Road to South Point-Levee Closures	4	$1,632,843	$ 1,943,087	$ 1,712,767	$ 2,200,000	$ 1,715,000	$ 1,715,000
IHNC East Levee-North of Florida Ave	15	$2,228,046	$ 3,585,287	$ 2,781,449	$ 4,800,000	$ 2,450,000	$ 2,450,000
Verret Closure, Levee Shaping and Creedmore Drainage Structure	13	$9,299,490	$13,726,766	$10,344,734	$10,400,000	$10,000,000	$10,000,000

l. Maintenance. -

Federal. Operation and maintenance of Seabrook Lock, and Rigolets Lock and navigation channel will be the responsibility of the United States. Seabrook Lock will be maintained as a feature of the Mississippi River - Gulf Outlet project. Rigolets Lock and navigation channel will be maintained and operated by the United States; the costs involved will, however, be borne by local interests who will provide a cash contribution equal to the capitalized value of the estimated annual maintenance charge for the lock. The estimated annual Federal maintenance cost is $603,000.

FINANCIAL DATA: (Continued)

1. Maintenance. (Continued)

Non-Federal. The estimated annual Non-Federal cost for maintenance is $1,069,000 which include $443,000 for replacements. (Refer to YDTO-11, Local Cooperation).

STATUS AND SCHEDULE:

a. Scheduled Completion Dates: No change since last presented to Congress.

b. Performance - FY 83:

Last Presented to Congress/Item	Present Schedule	Remarks
NEW ORLEANS EAST UNIT		
Not Presented:		
Citrus Back Levee Floodwall Capping	Complete	Additonal 3 mos of construction time required for concrete work due to retest of waterstop.
Levee Station 773-1006, 2nd Lift	Complete	Completion delayed 5 mos due to additional time required to locate suitable borrow material.
New Orleans East Lakefront Levee, Paris Road to South Point, Gap Closure	Complete	Delayed 2 mos due to additional time required to complete design modifications requested by local interest.

STATUS AND SCHEDULE: (Continued)

b. Performance - FY 83: (Continued)

Last Presented to Congress/Item	Present Schedule	Remarks
Chalmette Unit		
Not Presented:		
Paris Road Bridge Floodwall	Complete	4 mos delay in piledriving due to retest of paint.

c. Construction Difficulties: None.

PHYSICAL DATA CHANGES: Physical data are the same as last presented to Congress.

OTHER DATA CHANGES: None.

15 September 1982
New Orleans District

LOCAL COOPERATION: (Refer to YDTO-11)

a. Rights-of-way Schedule for Items which could be Initiated in the Remainder of the Current Fiscal Year and in the Budget Fiscal Year.

Item of Work	Action taken by District	Scheduled Date for Receipt of R/W	Date R/W Was Obtained	Scheduled Award Date Actual (A)
NEW ORLEANS EAST UNIT				
Citrus Lakefront Levee IHNC-				
Paris Road Foreshore Protection	To be requested Feb 83	Oct 83		Apr 84
IHNC East & West Floodwall Capping	Mar 83	Jun 83		Oct 83
MANDEVILLE UNIT				
Mandeville Seawall	Mar 83	Jun 83		Jan 84
CHALMETTE UNIT				
Station 278-355, 2nd Lift	May 83	Aug 83		Jan 84
Station 705-934, Final Enlgt	Nov 82	Feb 83		Apr 83
Sta. 945-1117 3d Lift & PL Fail; 2nd Lift	requested 25 Aug 82	Oct 82		Dec 82
P/L Canal & Gap Closure	requested 29 Jul 82	Oct 82		Dec 82

PROBLEMS: All questions were fully answered in last year's appropriation hearing.

LOCAL COOPERATION: (Cont'd)

ADDITIONAL INFORMATION:

a. Inner Harbor Navigation Canal Flooding. - Subsequent to project authorization, owners of industries located along the IHNC on the floodside of the hurricane protection complained that the authorized Seabrook Lock, located at the Lake Pontchartrain terminus of the IHNC, would increase the hurricane surge elevation in the IHNC by eliminating lakeward flow in the canal. Further, in the fall of 1967, owners requested from the late Senator Ellender, and Senator Russell Long and the Late Congressman Hale Boggs and the late Congressman Hebert that consideration be given to providing protection to industries along the IHNC located on the floodside of the protection system.

(1) By Letter Report, "Lake Pontchartrain, La., and Vicinity - Report on Controlling Elevation of Seabrook Lock", the District Engineer recommended that the controlling elevation of the Seabrook Complex Rock Dike be reduced from 13.2 feet to 7.2 feet NGVD. The reduction will decrease the surge elevation in the IHNC north of its junction with MR-GO for hurricanes on tracks critical to the canal by allowing lakeward flow, thus reducing flood damages to industries on the banks of the canal north of the MR-GO. The reduction of the controlling elevation of the Seabrook Rock Dike from 13.2 to 7.2 feet NGVD was approved by the Office of the Chief of Engineers on 12 January 1967. Further, the Seabrook Lock complex is being designed to include a flow structure on the east side of the lock to give greater flexibility in control of salinity, flood stages, excessive current velocities in the IHNC, and to satisfy riparian flow requirements. The general design memorandum provides for a control structure with vertical lift gates to accomplish that control.

(2) A study was performed to determine the feasibility of constructing a floodgate-type structure to prevent hurricane surges, occurring in the Lake Borgne, from entering the IHNC. Insofar as possible, location of the structure considered conditions which would provide maximum benefits and be least detrimental to navigation. The three locations considered are:

(1) In the IHNC just north of its juncture with the MRGO,
(2) In the MRGO just east of its juncture with the IHNC, and
(3) In the MRGO in the vicinity of Paris Road bridge

A meeting was held on 17 March 1969 with representatives of local interests to discuss the results of our studies. It was explained that none of the plans considered were found to be economically justified. Further benefits claimed for the plan located in the MR-GO in the vicinity of the Paris Road bridge do not include any benefits that would result from construction of the proposed port development along the south bank of the MR-GO from the IHNC to Paris Road. Plans for the port development had not advanced to a stage where it could be determined what the plan of improvement was to consist of or when it was to be accomplished. Representatives of the Board of Commissioners of the Port of New Orleans indicated that they would furnish additional information concerning the proposed port development. In December 1969 the Dock Board announced the proposed "Centroport" concept which is the plan of development for the port to occupy both banks of the MR-GO from the IHNC to the GIWW. In conjunction with these plans, it has been proposed that a structure be placed in the MR-GO south of its juncture with the GIWW and connected by levee to another gated facility in the shallow draft waterway. The benefits of such a plan are based on construction savings due to lower floodwall and levee elevation requirements and increased operating efficiencies for Centroport. However, the slow pace of the port development in this area and the completion of the higher floodwalls and levees in the interim have largely negated any benefits which might have resulted from this plan.

ADDITIONAL INFORMATION: (Continued)

b. Florida Avenue Complex. - The addition of a major pumping station has been approved for the Florida Avenue Complex in addition to vertical lift gates in the drainage canal. The current cost estimate includes the vertical lift gates and the pumping station. Since the pumping station is an interior drainage item, local interests will fund and construct the station as part of their required project contribution. In addition, local interests plan to construct the floodwall reaches in this vicinity on both sides of the Inner Harbor Navigation Canal as a work-in-kind contribution.

c. St. Charles Parish Lakefront Levee. - In view of the need for further environmental studies as well as the inclusion of Bayous LaBranche and Trepagnier in the Louisiana Natural and Scenic River System, the construction of this levee has been deferred. As a result of litigation on the project, alternatives to the authorized lakefront levee in St. Charles Parish were examined. The most favorable alternative is a levee which would generally parallel and run north of Airline Highway (US Highway 61). Though our studies are not yet complete, it appears questionable that a levee through St. Charles Parish would be economically justified.

d. Mandeville Seawall. The Mandeville Unit portion of the project had previously been placed in an indefinite category due to local interests objections to the project. St. Tammany Parish Police Jury refused to furnish the financial assurances. (Refer to YDTO-12, Current Status of Assurances, Lake Pontchartrain Barrier Plan.) By virtue of a meeting on 6 July and a letter dated 8 August 1978, the mayor of Mandeville indicated interest in the seawall repairs. In October 1980 the Town of Mandeville furnished a letter of intent to provide the finanacial support for the seawall restoration providing that the restoration could be accomplished in such a way as to not preclude future recreational swimming at the seawall. The authorized plan requires that protection of the seawall be accomplished by using damaged riprap. This plan would make any future swimming hazardous. The District plans to work with the town's representatives in developing an acceptable plan.

e. Report of Significant Post-Authorization Changes. In compliance with OCE letter dated 21 November 1973, subject, "Lake Pontchartrain, Louisiana and Vicinity, Lake Pontchartrain Barrier Plan Report on size selection, Chef Menteur Navigation Structure and the Rigolets and Seabrook Locks," and LMVD 1st Ind thereto, a significant post-authorization change report was prepared and submitted by NOD for review and approval on 7 January 1974. The report was returned by OCE on 16 December 1974 for additional information. A Public Meeting was held on 22 February 1975 in which comments were received on the sizes of the navigation structures. Additional work on the report was delayed until a review of the previous sizing decisions could be made. This review was completed and a new report was submitted on 25 June 1976. This report, which covers the Rigolets Lock only, was approved by OCE on 21 September 1976, subject to agreement with the local sponsor, which has been subsequently received.

(1) Larger Structures at Rigolets and Chef Menteur. The originally planned location for the Rigolets control structure was in a new, manmade cut through the Fort Pike peninsula. It was later determined that a siting of the new structure in the natural pass would be more economical. To insure that the flow and salinity regimens tested in the original model study of the project area would still be valid with the new location, a model of the Rigolets area with the new location was prepared and has been tested. Based on results of these model studies, a letter was sent to LMVD on 5 August 1977 recommending an increase in the cross sectional area for the Rigolets Control Structure from 25% to 35% of the cross sectional area of the existing channel and a shift in the structure 250 feet eastward to achieve the design goals.

Based on the results obtained from the Rigolets analytical studies, the Chef Menteur control structure was investigated for possible deficiency of discharge capacity and high velocities. The analytical studies indicated that the Chef Menteur control structure needed to be enlarged similarly. No shift in its location was needed. Both of these changes were approved by the Division Engineer, Lower Mississippi Valley Division, with the stipulation that a post-authorization change report be submitted. The post-authorization change was approved by LMVD on 16 December 1977.

ADDITIONAL INFORMATION: (Continued)

(2) Tainter Gate Study. The feasibility of providing tainter gates in lieu of vertical lift gates at both the Chef Menteur and Rigolets control structures has been investigated. The main advantage of tainter gates is the much shorter operating time of 45 minutes compared to 6 hours for the vertial lift gates. Also, the tainter gates could be operated from a remote station, whereas vertical lift gates would have to be operated by people on the structures during bad weather conditions on the approach of a hurricane. A recommendation to use tainter gates instead of vertical lift gates was included in the 5 August 1977 letter to LMVD requesting the changes in the sizes of the Rigolets and Chef Menteur Control Structure. This was also approved by LMVD and is included in the Post-Authorization Change report approved by LMVD on 16 December 1977.

f. Save Our Wetlands Suit. Save Our Wetlands, Inc., filed suit on 8 December 1975 in United States District Court for the Eastern District of Louisiana against the New Orleans District Engineer, the Secretary of the Army, the Administrator of the Environmental Protection Agency, and the President of the Orleans Levee Board. The Clio Sportsman's League joined the suit on 21 June 1976. The suit alleges the following:

(1) that the regional cumulative Environmental Impact Statement should be accomplished prior to proceeding with the project;
(2) that the Corps has not complied with the conditions of final approval by the Environmental Protection Agency of Section 404 requirements of the Federal Water Pollution Control Act;
(3) that the Corps has not completely eliminated the St. Charles Parish lakefront levee as required by the Environmental Protection Agency. The suit also seeks to have the New Orleans East lakefront levee removed and to have three openings for tidal interchange provided under the Southern Railroad embankment.

The Government moved to dismiss the lawsuit based on laches and the contention that the allegations of the plaintiffs were not liable to trial in a court of justice under the National Environmental Policy Act. A hearing was held on 5 November 1976 and the court denied the motion on 7 December 1976. In addition, a hearing was held on 15 December 1976 on the Orleans Levee District's (a co-defendant) motion to dismiss issues regarding assurances for the project. The court denied the motion. On 30 December 1977, Judge Charles Schwartz, of the Federal District Court in New Orleans, issued an order enjoining any further construction of the Chef Menteur and Rigolets Complexes, New Orleans East Area (East of Paris Road), and the Chalmette Area of the project until a new environmental statement is prepared.

On 8, 10, and 27 March 1978 Judge Charles Schwartz lifted the injunction on the New Orleans East Area (East of Paris Road) and on 10 March 1978 he lifted the injunction on the Chalmette Area Plan.

g. St. Tammany Parish Police Jury Suit. This agency has also filed a lawsuit on 30 March 1977 attacking the project. Their suit was similar to the Save Our Wetlands suit and was combined with that suit.

h. St. Charles Parish Suit. On 12 April 1977 an unincorporated association of citizens and property owners filed suit against the project in an effort to force construction of the St. Charles Parish Lakefront levee which is indefinitely deferred for environmental reasons or in the event the levee is not built, to force the Government to purchase lands in St. Charles Parish which may otherwise be subject to tidal flooding. The U.S. Attorney sought dismissal on the grounds that the plaintiffs lacked cause of action upon which relief could be granted by the court. At a 17 May 1978 hearing, Judge Charles Schwartz declared that the suit was premature and deferred further consideration until completion of the revised EIS.

ADDITIONAL INFORMATION: (Continued)

i. Deferred Payment Plan. The modification authorized by the Water Resources Development Act of 1974, whereby local interests may agree to pay the unpaid balance of the cash payment due with interest in yearly installments, has provided immediate relief to local interests. Initial cash payments were received from local interests in FY 1977 and they have expressed their appreciation of the plan.

j. General - Because of the widespread interest which had been expressed with regard to the Barrier portion of the project, the Sub-Committee of Water Resources fo the House Public Works and Transportation Committee held a hearing in New Orleans on 5 February 1978. The purpose of the hearing was to obtain information on the hurricane protection plan for the project and to give interested parties an opportunity to make their views known.

k. Chalmette Unit Economic Analysis. Since the Chalmette Unit is a separate entity from an engineering, hydrological and economic standpoint, the court has required that a separate economic reanalysis for this unit be conducted separate and apart from the Lake Pontchartrain Hurricane Protection project economic reanalysis. This reanalysis will be performed jointly with the EIS revision which, when completed, will reflect two benefit/cost ratios (one for the Chalmette Unit and one for the remainder of the project).

l. Tentatively selected high level plan. A public meeting was held in New Orleans on 21 Nov 81 to seek public comment on the tentatively selected high level plan. The high level plan would eliminate the proposed barrier complexes at Rigolets Pass, Chef Menteur Pass and Seabrook, and would substitute, in their place, higher protection levees along the south shore of Lake Pontchartrain. The public response was heavily in favor of the high level plan.

ENVIRONMENTAL INFORMATION:

a. Status of Environmental Impact Statement. - The final statement was filed with CEQ on 17 January 1975. By court order dated 30 December 1977, a new environmental impact statement has been ordered. Preliminary alternative plan studies and environmental investigations indicate that the "high level" alternative to the authorized barrier plan of protection merits further consideration. A draft revised EIS accompanying the draft GDM for the high level plan is scheduled to be filed with the Environmental Protection Agency by January 1983 and the final filed with the Environmental Protection Agency by November 1983 (first quarter FY 84). A revised EIS for the barrier plan could be filed by November 1985 (first quarter of FY 86). A determination as to which plan will be recommended is currently under review.

b. Changes in Environmental Impact Statement Scheduling. -

(1) FY 1981 Budget Submission. The revised final EIS was scheduled to be submitted to EPA in May 1982.

(2) FY 1982 Budget Submission. The revised final EIS was scheduled to be submitted to EPA in January 1984. The delay from the FY 1981 Budget Submission is due to the great technical complexity of the physical, chemical and biological transport studies required at Seabrook, Chef Menteur Pass and Rigolets Pass and difficulty in finding qualified environmental contractors for the required studies. This resulted in a slippage in the EIS schedule of approximately 20 months from May 1982 to January 1984. Of the two contracts involved for the studies, one was awarded 27 December 1979 and the other was awarded on 13 February 1980.

ENVIRONMENTAL INFORMATION: (Continued)

(3) FY 1983 Budget Submission. A "high level" alternative to the authorized barrier plan of protection is under consideration. If a high level plan is adopted, the revised EIS will reflect the high level design and could be filed with EPA by the first quarter of FY 84 (Nov 83). If the barrier plan is retained, a greater study effort on environmental matters will be required. Hence, an EIS for the barrier plan could be filed with EPA by the first quarter of FY 86 (Nov 85). The slip in the filing date since last presented to Congress for the barrier plan EIS from January 1984 (22 months) is reflective of the complexity of the studies and the fact that contracts for environmental studies of the passes have been either terminated or suspended (LSU - terminated and UNO suspended pending termination) while the high level alternative is considered.

(4) FY 1984 Budget Submission. None since last presented to Congress.

c. Environmental Opposition. - The known environmental opposition to the Lake Pontchartrain, Louisiana and Vicinity Hurricane Protection project is summarized below:

(1) The Orleans Audubon Society opposes the disposal and ponding of dredged material in the marshes along the Chef and Rigolets Passes, along the MR-GO and in New Orleans East, and the proposed borrow area on Apple Pie Ridge along US Highway 90. They believe these disposal and borrow plans will destroy valuable marshland that Louisiana cannot afford to lose. They also recommend that levees be built around populated areas only and elimination of the barrier plan.

(2) The Louisiana Wildlife Federation recommends that the St. Charles Parish segment be eliminated from the project plan because it will instigate further encroachment and deterioration of a rapidly dwindling and fragile marsh ecosystem. They feel that the placing of the barrier structures as proposed on the Rigolets and Chef Menteur Pass may have severe, irreversible consequences on the delicate balance which differentiates between the fine line which constitutes a fresh and a saline marsh ecosystem.

(3) The Sierra Club, Delta Chapter believes that wetlands represent economic, environmental and recreational values which are far more important to the public interest than the claimed benefits from developing such lands for increased taxes. For this reason they recommend that the project should be used to protect existing settlement, and not to encourage intensive development in one of the large flood plains between the Mississippi River and the Gulf of Mexico.

(4) The Bonnet Carre' Rod and Gun Club and the St. Charles Environmental Council oppose the St. Charles Parish levee segment as it is now proposed. They favor a hurricane protection levee generally along Airline Highway (US Hwy 61) in St. Charles Parish. They believe this alinement would be environmentally acceptable and would still protect the presently developed areas in St. Charles Parish.

(5) The Clio Sportsman's League of New Orleans' position is that they favor hurricane protection but oppose the "so called" policy of unnecessary private land enhancement at the expense of the public and the environment. They opine that the barriers with its borrow, disposal and ponding areas and accompanying future developments will play a leading role in the destruction of Lake Pontchartrain and, eventually, the entire Maurepas, Pontchartrain, Catherine and Borgne estuary system.

ENVIRONMENTAL INFORMATION: (Continued)

c. Environmental Opposition. (Continued)

(6) The St. Tammany Environmental Council is of the opinion that the acknowledged and potential adverse environmental and economic impact of the Lake Pontchartrain, Louisiana and Vicinity hurricane protection plan far outweigh the benefits our population may receive in the form of hurricane protection.

(7) The St. Tammany Sportsman's League is opposed to the "Floodgates" at the Rigolets because they say it will destroy the interplay between the lake and the marshes, which supplies 50 percent of all nutrients that feed the flora and fauna in Lake Pontchartrain. "The loss of these nutrients will result in the death of the lake," they opine.

(8) The Environmental Defense Fund has expressed concern regarding the whole project, more specifically the New Orleans East Area. They consider the wetlands in the New Orleans East Area are still viable and could be restored to a high level of productivity given appropriate redesign of the levees, provision for tidal flows and water circulation and stringent regulation of dredge, fill and drainage activities in accordance with the Corps' regulations and wetland policy.

d. Other Environmental Opinions.

(1) The US Fish and Wildlife Service and the National Marine Fisheries Service have fully cooperated in developing a plan for hurricane protection for the metropolitan area of New Orleans that will alleviate, to the fullest extent feasible, any project impacts on the fish and wildlife resources in the area. Both have opposed the St. Charles Parish levee, as presently proposed, and have made specific recommendations in the other segments of the project to help minimize the destructive features of the project.

(2) The Environmental Protection Agency has also fully cooperated in helping us to develop an environmentally feasible plan. In their review of the statement of findings for the plans for placement of dredged material for this project they stated that tidal interchange should be allowed into the New Orleans East area until developed areas are threatened and that the Seabrook Lock should be constructed as soon as possible in order to reduce salt water intrusion into Lake Pontchartrain.

(3) The Louisiana Wild Life and Fisheries Commission expressed concern regarding damages to productive oyster beds near the Chef Menteur Barrier Structure. In the spirit of full cooperation, they have requested that the design of the ponding areas and wing walls for the Chef structure be coordinated with them and that a periodic review and evaluation regarding the effects of the other project works on fish and wildlife resources be scheduled during the entire construction period. This will insure the minimum destruction of the fish and wildlife resources. They have stated that the Seabrook Complex will provide the capability for managing salinities within the lake.

ENVIRONMENTAL INFORMATION: (Continued)

e. Environmental Studies.

(1) A contract has been entered into with L. Eugene Cronin, PhD. to develop an assessment of the environmental effects of the proposed barrier structures (Chef, Rigolets and Seabrook) and to recommend any modifications if needed to these structures to improve the environmental effectiveness of these structures.

(2) A contract has been entered into with Louisiana State University to prepare an inventory and analysis of the environmental components in Lake Pontchartrain and its surrounding wetlands. This will provide the base condition with which to compare the after condition. This will insure an adequate analysis of the effects of the project on salinity regimens within Lake Pontchartrain and on ingress and egress of marine and estuarine organism through Chef Menteur and the Rigolets Passes. It will also determine the value of the surrounding marshlands to the life systems within the lake and define the interactions between the lake and marsh and thus the effects of varied land use on both systems. This study has been completed and the report received in 1980.

(3) The EPA in their review of the 404 proceedings has requested us to study whether the drainage structures in the South Point to GIWW levee can be changed with regards to their operation. They would like to see the structures remain open during normal tidal conditions to nourish the marsh in New Orleans East with the lake water. The Louisiana Wildlife Federation and the US Fish and Wildlife Service are supportive of this recommendation. We are coordinating with the Orleans Levee District, the Sewerage and Water Board, the Mosquito Control Board and the City Planning Commission to obtain their views on this recommendation. A report on this matter will be presented in the revised EIS.

(4) The New Orleans City Planning Commission has requested us to study the possibility of purchasing wetlands outside the protected area to mitigate the loss of wetlands included in the project. This study will be initiated in the near future.

(5) In addition to the contracts in para e(2) above, Louisiana State University (LSU), and University of New Orleans (UNO) were contracted to study tidal transport in the Chef Menteur and Rigolets Passes and at the site of Seabrook Lock. LSU was responsible for physical and biological transport studies and UNO for chemical transport studies. The contracts were broken down into two phases: Phase I, which is complete, consisted of study design and phase II was to consist of a one year sampling program and data analysis. Prior to initiation of phase II work, the LSU and UNO contracts were terminated. Phase II work can be contracted if future study results warrant such action, i.e., if results indicate that the barrier plan will be retained.

ENVIRONMENTAL INFORMATION: (Cont'd)

f. Status and Impact of Compliance with Section 404, Federal Water Pollution Control act of 1971. - In response to a request from former Congressman F. Edward Hebert, the New Orleans District conducted a public meeting to discuss the entire project on 22 February 1975. A portion of this meeting was dedicated to a presentation of methods for the disposal of dredged effluents for the project with the exception of the St. Charles Lakefront Levee and other isolated features, as required by Section 404 of the Federal Water Pollution Act of 1972. The Statement of Findings on the meeting was forwarded to the Environmental Protection Agency on 22 August 1975 for review and approval. Approval of the plan for the disposal of dredged material was granted on 1 October 1975 contingent upon the complete elimination of the St. Charles Parish portion of the project. On 15 October 1975, clarification of the status of the St. Charles Parish Lakefront Levee was provided to the Environmental Protection Agency to indicate compliance with the conditional approval. EPA has clarified their position by stating that deauthorization of the levee is not essential to meeting their condition. Furthermore, EPA stated that it was not their intent to require the elimination of hurricane protection studies in St. Charles Parish. The provisions of Section 404 of the Clean Water Act, for those items not previously covered, will be followed as detailed plans for individual work items are developed.

15 September 1982
New Orleans District

DATA FOR TESTIFYING OFFICERS ON FY 1984 CIVIL WORKS BUDGET

LAKE PONTCHARTRAIN, LA AND VICINITY

AUTHORIZATION:

Authorization Documents.

Authorizations		Estimated Cost and Year of Price Level
FC Act of 1965 dated 27 October 1965 (PL 89-298) (HD 231/89/1)	A program for protection from hurricane flood levels at New Orleans, LA and surrounding areas by means of levees, floodwalls, control structures, navigation structures, locks, dams and drainage structures.	$56,235,000 (1961) 1/
Water Resources Development Act of 1974 dated 7 March 1974 (PL 93-251) Section 92	A modification of the FC Act of 1965 (PL 89- 298) to provide that non-Federal public bodies may agree to pay the unpaid balance of the cash payment due with interest, in yearly installments.	

1/ This is net cost to the Federal Government. The gross cost is $60,185,000. The difference is $3,950,000, which is capitalized value at 3 1/8 percent interest over 100 years for O&M on Rigolets Lock which is to be contributed by local interests and used by the Federal Government for project construction.

Monetary Authorization. Full monetary authorization was provided in the Flood Control Act of 27 October 1965.

NEED FOR THE PROJECT: The project is located in southeastern Louisiana in the vicinity of Lake Pontchartrain and includes the City of New Orleans and surrounding areas. The project area is susceptible to flooding from wind-driven hurricane tides from Lake Pontchartrain, Lake Borgne, and the Gulf of Mexico. Historical hurricanes have produced recorded stages up to 13 feet on the southwest shore of the lake, 6.2 feet at the south shore, 7.1 feet at the southeast shore, and 7.7 feet at the north shore. The protective works have been overtopped and developed areas flooded by surges from hurricanes several times in recent years.

In 1915, the 7.7 foot stage on the north shore and the 13 foot stage on the southwest shore caused considerable flooding.

The 1947 hurricane caused extensive flooding in Jefferson Parish when a lakeshore embankment proved inadequate to prevent overtopping, even though the stage was only about 5 feet. Considerable overtopping of the New Orleans seawall occurred during this storm and about 9 square miles of residential area were flooded.

NEED FOR THE PROJECT: (Cont'd)

In 1956 the New Orleans seawall was again overtopped, resulting in the flooding of about 2.5 square miles of residential and commercial area in the lakefront area.

Hurricane Betsy in September 1965 caused extensive flooding of urban areas of the New Orleans area to depths of up to 10 feet.

Hurricane Camille in August 1969 caused flooding of low lying areas adjacent to the IHNC.

Although Hurricane Carmen, in September 1974, caused little flooding in the project area, it was rated by the National Weather Service as more dangerous than Hurricane Betsy. Had Carmen continued its northerly course or shifted slightly to the east, it would have passed thru the vicinity of New Orleans and would have caused extensive flooding within the project area.

Wave action during moderate to high lake stages has undermined the existing seawall at Mandeville, causing it to become ineffective as a hurricane protective structure.

On several occasions, the area between Lake Pontchartrain and Lake Borgne has been flooded by stages up to 11 feet.

Much of the developed area in New Orleans and in Jefferson Parish is below normal lake level; some land being as low as 7 feet below national geodetic vertical datum, with a considerable portion lower than 2 feet below national geodetic vertical datum. Stages attending a standard project hurricane would cause overtopping of all existing protective works by several feet and ponding as deep as 16 feet in the developed areas and the pumping system on which removal of all flood waters is dependent would be inoperable for an extended period of time. This prolonged inundation would cause enormous damage to private and public property, would create serious hazards to life and health, would disrupt business and community life, and would require an immense expenditure of public and private funds for evacuation and subsequent rehabilitation of local residents.

Prior to construction of the Mississippi River-Gulf Outlet navigation project, tidal flow between Lake Pontchartrain and Lake Borgne was interchanged through the Rigolets, Chef Menteur Pass, and the Gulf Intracoastal Waterway-Inner Harbor Navigation Canal channel. Salinities of the incoming tides from Lake Borgne were reduced primarily by fresh water flows from the Pearl River basin, and from the northern tributary inflow to Lake Pontchartrain. However, the Mississippi River-Gulf Outlet project now permits tidal flows from Breton Sound and the Gulf of Mexico to enter Lake Pontchartrain directly through the Inner Harbor Navigation Canal via its enlarged channel. As a result, salinities in the lake have increased significantly. Also, increased current velocities in the Inner Harbor Navigation Canal caused by the Gulf Outlet navigation project have resulted in an increase in navigation difficulties and the creation of major scour problems along existing bridges and harbor developments. The restricted section through the Seabrook Bridge has enlarged greatly since construction of the Gulf Outlet project.

PLAN OF IMPROVEMENT:

The most suitable plan for protection from hurricane flood levels consists of the following:

a. A barrier is to be constructed generally along United States Highway 90 from the eastern most existing levee to high ground east of the Rigolets, together with a control structure and a navigation lock in the Rigolets and a control structure and navigation gates in Chef Menteur Pass. The purpose of the barrier is to limit hurricane tides from entering Lake Pontchartrain through the natural passes and over the low lying areas. This plan is under review with the preparation of a revised EIS.

b. A new lakeside levee is to be constructed in St. Charles Parish extending from the Bonnet Carre Spillway east guide levee to the Jefferson Parish line. This is deferred indefinitely due to environmental problems.

c. Existing riprap slope protection is to be enlarged along the Jefferson Parish lakefront levee.

d. The New Orleans lakefront levee landward of the seawall is to be enlarged.

e. A lock, rock dike, and control structure are to be constructed at Seabrook. The Seabrook complex is to serve the purposes of (1) eliminating navigation difficulties due to current velocities in the Inner Harbor Navigation Canal, (2) reduction of hurricane stages along the lakefront by controlling the surge entrance into Lake Pontchartrain through the Mississippi River-Gulf Outlet and Inner Navigation Canal, (3) prevention of excessive salt water intrusion into Lake Pontchartrain, and (4) assuring satisfactory riparian flow requirements.

f. Enlargement of existing levees, construction of new levees, and a concrete-capped sheetpile wall are to be constructed along the east and west levees of the Inner Harbor Navigation Canal in New Orleans.

g. A new levee and floodwall are to be constructed along the lakefront extending from the floodwall at the New Orleans Airport to South Point.

h. The levee from South Point to the GIWW is to be enlarged.

i. The levee along and north of the Mississippi River-Gulf Outlet and Gulf Intracoastal Waterway from the Inner Harbor Navigation Canal to the beginning of the barrier is to be enlarged and floodwalls constructed where necessary.

j. A new levee is to be constructed to protect the area generally referred to as the Chalmette area and will extend from the Inner Harbor Navigation Canal levee along and on the south bank of the Mississippi River-Gulf Outlet to a point approximately 2-1/2 miles northeast of Verret and then in a generally westerly direction to the Mississippi River Levee near Caernarvon.

k. The existing Mandeville seawall on the north shore will be strengthened at its present height.

l. A new pumping station and vertical lift gates for the Florida Avenue Complex are to be constructed. This will complete the protection provided in the Inner Harbor Navigation Canal System. (See above.)

CHANGE IN SCOPE:

Year	Change in Scope since Authorization	Estimated Cost
1967	The authorized alinement of protective works in the vicinity of Chef Menteur Pass was modified and the New Orleans East Levee was extended to Chef Menteur Pass under the discretionary authority of the Chief of Engineers to provide protection for an additional 1,533 acres. The letter report recommending this modification was submitted to OCE 28 March 1967.	$4,775,600
1967	The project was also modified under the discretionary authority of the Chief of Engineers to delete from the Lake Pontchartrain project as a mitigating measure the costs of protecting a portion of the foreshore along the Mississippi River-Gulf Outlet project. Construction of the Mississippi River-Gulf Outlet project exposed levees of substantial size and the foreshore between them and the project channel along both banks of the project navigation canal in the City of New Orleans to direct attack with resultant damages from waves generated by seagoing vessels utilizing the waterway. The navigation project should have included adequate provisions for protecting these levees and their foreshore from damage. The new levees in this project located adjacent to the ship channel will also require protection. The costs deleted from this project have been added to the Mississippi River-Gulf Outlet project. (There are about 6 miles along the north bank and 18 miles along the south bank of the navigation project that require protection.) GDM No. 2, Supplement No. 4, Mississippi River-Gulf Outlet, La., Foreshore Protection was submitted to OCE 29 May 1968.	-3,495,000
1967	In accordance with the desires of local interests the project was again modified under the discretionary authority of the Chief of Engineers to provide protection to a larger area in the vicinity of New Orleans known as the Chalmette area. This change incorporated the need to increase levee heights to accomodate the new hurricane parameters. This modification will provide protection for an additional 18,800 acres. The letter report recommending this modification was submitted to OCE on 12 December 1966.	$12,938,700

The Director of Civil Works by letter of 27 November 1967 informed the Chairmen of the Committees on Appropriations of the House and Senate that the above changes in scope had been approved by the Chief of Engineers.

The Office, Chief of Engineers, by letter report dated 17 December 1968 informed the Bureau of the Budget of an increase in cost from $136,200,000 to $166,000,000 in accordance with ER 1165-2-305 dated 25 Sep 68, "Significant Post-Authorization Changes in Corps of Engineers Projects". This change was approved by the Office of Management and Budget on 25 March 1969.

MAJOR CHANGES IN DESIGN:

a. The net grades of all the protective levees and structures except for the levees and structures adjacent to the Chef Menteur Pass and the Rigolets were revised upward by 1 to 2 feet in accordance with the results of tidal hydraulic studies utilizing more severe hurricane parameters developed by the U.S. Weather Bureau subsequent to project authorization.

b. The controlling elevation of the rock dikes at the Seabrook Complex was changed from elevation 13.2 feet to 7.2 feet MSL to provide a greater stage relief from surges in the Inner Harbor Navigation Canal. This was done to reduce flood damage to industrial developments along the Inner Harbor Navigation Canal on the floodside of the levees by permitting some lakeward flow in the canal to overtop the dikes.

c. The size of the Chef Menteur Complex navigation structure was increased from 56' wide by El.-12.0 M.L.G. (sill elevation) to 84' wide by El.-16.0 M.L.G. This change resulted from a reevaluation of marine user requirements and was based on information received from local shipbuilding and related industries in the project area.

d. The size of the Rigolets lock was increased from 84 feet wide to 110 feet wide. This change resulted from a reevaluation of marine user requirements and was based on information received from local shipbuilding and related industries in the project area and on a system analysis of the GIWW system.

e. A pumping plant was added to the Florida Avenue Complex to provide uninterrupted drainage relief during hurricane conditions.

f. Tainter gates will be used instead of vertical lift gates at both the Chef Menteur and Rigolets control structures to provide a shorter operating time of 45 minutes compared to 6 hours.

BENEFIT-COST RATIO:

a. Period of Economic Analysis. - The economic life of the project, excluding Seabrook Lock, is 100 years based on our estimate that protection from hurricane tidal overflow to this area will be needed long beyond the life of the project. The economic life of Seabrook Lock is 50 years based on the navigation life of the lock.

b. Derivation of B/C Ratio. - The Chalmette Area Plan and the Barrier Levee Plan function as two separable units. Preproject levees provide the area a degree of protection from headwater and tidal overflow and no benefits are claimed for this protection. Benefits credited to the total project consist of reduction of flood damage from hurricane overflow including that damage caused by overtopping existing levees, intensified land use and area redevelopment of otherwise underemployed labor resources.

BENEFIT-COST RATIO: (Continued)

c. Composite B/C Ratio. - Although the Chalmette Area Plan will function as a separable unit, the B/C ratio is presented for the total project plan. The benefit-cost ratio was derived by measuring the total benefits credited to these hurricane barrier plan components against their total costs.

STATUS AND SCHEDULE, PLANNING:

a. Design Memorandums. -

Item	% Complete 15 Sep 82	Est % Complete 30 Sep 83	Actual (A) or Scheduled (S) Submission Date to LMVD
Phase I GDM Supplement (draft)	90	100	Jan 83 (S)
Phase II GDM Supplement (final)	50	100	Sep 83 (S)
GDM - Supp. No. 5-Orleans Parish Lakefront Levees W. of IHNC to Orleans Marina	30	70	Mar 84 (S)
Supp. No. 5C-Orleans Parish Outfall Canals, West of IHNC	10	30	May 84 (S)
Supp. No. 7-St. Tammany Parish, Mandeville Seawall	70	70	Indefinite 2/
Supp. No. 10-Jefferson Parish Lakefront Levees	0	30	Aug 84 (S)
DDM-6 Rigolets Control Structure & Closure	0	0	Indefinite 1/
DDM-7 Chef Menteur Pass Control Structure & Closure	0	0	Indefinite 1/
DDM-9 Chef Menteur Pass Navigation Structure	0	0	Indefinite 1/

1/ Indefinite due to court order delaying work until a new environmental impact statement has been prepared.
2/ Completion of report has been delayed until local interest can reach a decision as to plan of improvement to be used for seawall restoration.

STATUS AND SCHEDULE, PLANNING: (Cont'd)

b. Plans and Specifications.

Item	% Complete 15 Sep 82	% Complete 30 Sep 83	Actual (A) or Scheduled (S) Submission Date to LMVD	Scheduled Award (A) Date
BARRIER UNIT				
Seabrook Lock and Outlet Structure	30	60	Aug 84	Dec 84
NEW ORLEANS EAST UNIT				
Citrus BackLevee Station 176-574 (3rd lift)	0	10	Jun 84	Oct 84
Citrus Lakefront Levee IHNC-Paris Road (FSP)	0	75	Dec 83	Apr 84
INHC East & West Capping Floodwalls	25	100	N/A	Oct 83
New Orleans East Lakefront-Paris Road to South Point (FSP)	0	10	Jun 84	Oct 84
CHALMETTE UNIT				
Station 278-355-2nd Lift	5	80	N/A	Jan 84
Station 705-945 (Final)	20	100	Jan 83	Apr 83
Sta. 945-1117 3rd Lift & P/L Fall. 2nd Lift	75	100	N/A	Dec 82
Pipeline Canal and Gap Closures (2nd Lift)	80	100	13 Sep 82 (A)	Dec 82
Sta. 1121 to 1568, Verret Floodwall 1st Levee Enlgt. and Creedmore Canal Drainage Structure	100	100	Approved Oct 75	15 Sep 82 1/
MANDEVILLE UNIT				
Mandeville Seawall	0	80	Oct 83	Jan 84

1/ Actual award date.

PHYSICAL DATA:

a. Land Requirements.

(1) Scope, Status and Schedule of Acquisition: Acquisition of lands, easements, R/W and disposal areas is the responsibility of local interests.

b. Recreation Facilities. Not applicable.

c. Disposal Areas. Easements for disposal areas are the responsibility of local interests.

d. Operator's Quarters. None.

JUSTIFICATION:

a. Flood Damages. The duration of flooding within the project areas extends up to 2 weeks. Wind driven hurricane waters overtopping the levees become entrapped behind the levees. If the levee is seriously eroded, the water will slowly recede with the reduction in tides, but must also be pumped; if the levee remains intact, portions of it are degraded to facilitate removal of flood waters along with supplementary pumping. Depth of flooding caused by Hurricane Betsy of September 1965 varied to a maximum of approximately 10 feet in urban areas; this storm is also considered the flood of record.

The project including barriers is designed to protect against a huricane with a frequency of about once in 250 years. The 1965 hurricane approached the design hurricane in magnitude in part of the area. The high order protection was selected because of the urban character of much of the region and the hazard to life.

JUSTIFICATION: (Cont'd)

a. Flood Damages. - (Cont'd)

Description of Flood Area	Design Flood 1/	Protected by Authorized Works Against Design Flood
Number of Acres:	(501,780)	(501,780)
Residential	33,530	33,530
Commercial, Industrial	14,510	14,510
Open Land (Idle)	28,760	28,760
Woods, Swamp, Marsh	414,010	414,010
Other Developed Land	10,970	10,970
Value of Lands and Improvements	($20,556,000,000) 2/	($20,556,000,000)
Lands	7,012,000,000	7,012,000,000
Improvements	13,544,000,000	13,544,000,000
Population (1970)		
Residing	585,000	585,000
Working (Addition to Residing)	80,000	80,000

1/ Based on theoretical design flood which has yet to be experienced.

2/ Escalated to October 1982 price levels.

JUSTIFICATION:

b. Flood History. Legend: Actual Acres Flooded=(c)-(e); Actual $ Damages= (f)-(h); N.O.= Not Operable.

	Area (Acres)				Damages (Dollars)			
Flood Date	Natural Stage	Flooded Without Project	Protected With Project In Full Operation	Protected at Time of Flood	Without Project	Preventive at Time of Flooding With Project In Full Operation	Prevented at time of Flood	Preventable Under Present Condition with Project In Full Operation
					$	$	$	$
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i) 2/
(A) Past 5 Fiscal Years: None.								
(B) Major Floods Prior to 5 Fiscal Years:								
Aug 1969 (Camille)	1/	23,000	23,000	22,000	92,500,000	91,500,000	90,000,000	308,906,000
Sep 1965 (Betsy)	1/	23,000	23,000	N.O.	85,000,000	85,000,000	N.O.	403,954,000
Sep 1956 (Flossy)	1/	8,000	8,000	N.O.	750,000	750,000	N.O.	2,974,000
Sep 1947	1/	33,000	33,000	N.O.	5,300,000	5,300,000	N.O.	48,832,000

HIGHEST RECORDED STAGE (N.G.V.D.)

	Aug 1969	Sep 1965	Sep 1956	Sep 1947
Lake Pontchartrain at West End	5.2 ft.	7.6 ft.	5.5 ft.	5.46 ft.
Rigolets Pass near Lake Pontchartrain	9.0 ft.	7.0 ft.	6.49 ft.	7.18 ft.

2/ October 1982 price levels.

c. Power. Not applicable.

LOCAL COOPERATION: (October 1981 price levels)

a. Requirements. Prior to construction, local interests furnished assurances satisfactory to the Secretary of the Army that they will, without cost to the United States:

(1) Provide all lands, easements and rights-of-way, including borrow and spoil disposal areas, necessary for construction of the project;

(2) Accomplish all necessary alterations and relocations to roads, railroads, pipelines, cables, wharves, drainage structures, and other facilities made necessary by the construction works;

(3) Hold and save the United States free from damages due to the construction works;

(4) Bear 30 percent of the first cost of the project, $645,000,000, reduced by the cost of two items of Federal costs, $35,143,000 (one-half the cost of Seabrook Lock), $1,485,000 (Beautification for St. Charles Parish Levees) and further reduced by $230,000 which is an all non-Federal cost for realinement of protective works at the Florida Avenue Containerization Plant. This leaves $608,142,000, which at 30% equals $182,620,000 plus $230,000 for realinement of Florida Avenue Containerization Plant equals $182,850,000 to be paid by local interests. This sum includes $42,971,000 for the fair market value of the items listed in subparagraphs (1) and (2) above and a cash contribution which is presently estimated at $139,879,000 1/:$107,126,000 for the Barrier Plan (which does not include the estimate shown in subparagraph (5) below and $4,750,000 excess equivalent work by local interests above 30% in New Orleans East Unit) and $32,753,000 for the Chalmette Area Plan; to be paid either in a lump sum prior to initiation of construction or in installments at least annually in proportion to the federal appropriation prior to start of pertinent work items in accordance with construction schedules as required by the Chief of Engineers, or as a substitute for any part of the cash contribution, accomplish in accordance with approved construction schedules, items of work of equivalent value as determined by the Chief of Engineers, the final apportionment of costs to be made after actual costs and values have been determined (see WDTO-3, Apportionment of First Costs);

(5) For the Barrier Plan, provide an additional cash contribution equivalent to the estimated capitalized value of operation and maintenance of the Rigolets navigation lock and channel to be undertaken by the United States, presently estimated at $18,400,000, said amount to be paid either in a lump sum prior to initiation of construction of the barrier or in installments at least annually in proportion to the Federal appropriation for the construction of the barrier;

(6) Provide all interior drainage and pumping plants required for reclamation and development of the protected areas;

(7) Maintain and operate all features of the works in accordance with regulations prescribed by the Secretary of the Army, including levees, floodgates and approach channels, drainage structures, drainage ditches or canals, floodwalls, seawalls, and stoplog structures, but excluding the Rigolets navigation lock and channel and modified dual-purpose Seabrook Lock; and

1/ The total non-Federal cash contribution (excluding future reimbursement) of $134,029,000 (shown on WDTO-8) is determined as follows: $139,879,000 + $18,400,000 + $4,750,000 - $29,000,000 = $134,029,000.

a. Requirements. (Cont'd)

(8) Acquire adequate easements or other interest in land to prevent encroachment on existing ponding areas unless substitute storage capacity or equivalent pumping capacity is provided promptly. Local interests are also required to comply with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646), in acquiring real property.

b. Modification to Authorizing Law. Recognizing the increasing burden of providing required matching local funds, the former Representative F. Edward Hebert sponsored Congressional legislation to defer required local payments over an extended period of time. This legislation was enacted in February 1974, as Section 92 of the Water Resources Development Act of 1974. This act modifies the authorizing law by providing that non-Federal public bodies may agree to pay the unpaid balance of their required cash payment due, with interest, in annual installments in accordance with a formula specified by the Act.

c. Requirements of PL 91-611 and PL 91-646. (1) PL 91-611 - not applicable. Construction started prior to 1 January 1972. (2) PL 91-646 - a Constitutional Amendment was provided by the Louisiana Legislature on 1 February 1972 allowing local interests to comply. The estimated cost to local interests is $29,000.

d. Current Status of Assurances. Assurances are required for the two independently justified plans authorized by Congress; the Chalmette Area Plan and the Lake Pontchartrain Barrier Plan. Revised assurances from the Pontchartrain Levee District and the Jefferson Levee District are currently under review within COE channels.

Chalmette Area Plan: The basic assurances for this plan have been accepted.

A. Joint assurances of the St. Bernard Parish Police Jury and the Lake Borgne Basin Levee District were accepted on 28 September 1966. The Lake Borgne Basin Levee District and St. Bernard Parish Police Jury executed a new joint agreement of assurance covering all requirements of local cooperation and a deferred payment plan as authorized by PL 93-251 on 20 April 1976. These assurances were approved on behalf of the United States on 7 December 1977.

B. Assurances from the Board of Commissioners of the Orleans Levee District were accepted on 10 October 1966. The assurances were amended on 16 September 1971 to reflect an increase in cost participation. These amended assurances, which supersede the 10 October 1966 assurances, were approved on behalf of the United States on 29 March 1974. Subsequent to this approval, it became evident that problems would exist in obtaining acceptable assurances from two agencies for the Barrier Plan. For this reason, the original assurances from the Orleans Levee District dated 10 October 1966 are considered in full effect. This 1966 assurance (for Chalmette Plan only) was supplemented to include PL 91-646 on 29 May 1975 and approved on behalf of the United States on 8 July 1975. The Orleans Levee District executed a new agreement of assurances covering all requirements of local cooperation and a deferred payment plan as authorized by PL 93-251 on 30 March 1976. These assurances were approved on behalf of the United States on 7 December 1977.

LOCAL COOPERATION: (Cont'd)

d. Current Status of Assurances. (Cont'd)

C. Supplemental assurances providing for Public Law 91-646: The Louisiana Office of Public Works, coordinating agency under 5 March 1971 designation by the Governor, was requested to have the St. Bernard Parish Police Jury and the Lake Borgne Levee District execute such supplemental assurances and a joint supplemental assurance dated 26 February 1975 was received from the agencies and approved on behalf of the United States on 17 March 1975.

Lake Pontchartrain Barrier Plan. Basic assurances for the plan were obtained from the Board of Commissioners of the Orleans Levee District and accepted on 10 October 1966.

A. The Orleans Levee District requested assistance in carrying out the assurances due to the rising non-Federal cost of participation and the widespread benefits to be derived by the surrounding parishes. The Governor of the State of Louisiana, by Executive Order (5 March 1971), designated the Louisiana Office of Public Works as the local coordinating agency. Through this procedure, the Pontchartrain Levee District, the St. Tammany Parish Police Jury, and the Orleans Levee District are the assurers for the Barrier Plan. See B below.

B. Amended assurances to provide for an increase in cost participation were executed by the Orleans Levee District on 16 September 1971 and approved on behalf of the United States on 29 March 1974. The amended assurances supersede the 10 October 1966 assurances. Subsequent to the approval of the 1971 assurance, it became evident that problems existed in obtaining acceptable assurances from two agencies for this plan. For this reason, the original assurances from the Orleans Levee District dated 10 October 1966 are considered in full effect. The Orleans Levee District executed a new agreement of assurance covering all requirements of local cooperation and a deferred payment plan as authorized by PL 93-251 on 30 March 1976. These assurances were approved on behalf of the United States on 7 December 1977.

C. Assurances providing for participation pursuant to the action of the Governor have been obtained from the Pontchartrain Levee District. Assurances on behalf of the St. Tammany Parish Police Jury were executed by the Governor on 8 May 1972 under Section 81, Title 38, Louisiana Revised Statutes of 1950 as amended. Neither of the last mentioned assurances has been accepted for lack of supporting documents. However, the Pontchartrain Levee District executed a new agreement of assurance covering all requirements of local cooperation and a deferred payment plan as authorized by PL 93-251 on 20 September 1976. On 19 October 1976, Governor Edwards executed an instrument designating, among other things, the Louisiana Office of Public Works to lend financial assistance in connection with this project. The Louisiana Office of Public Works executed an act of assurance dated 8 November 1976 agreeing: to fulfill all local cooperation requirements for that portion of the project in St. Tammany Parish; and to lend financial assistance after the Pontchartrain Levee District has contributed $100,000 in cash toward that portion of the Barrier Plan which is the responsibility of that levee district. These assurances were approved on behalf of the United States on 7 December 1977.

LOCAL COOPERATION: (Cont'd)

d. Current Status of Assurances. (Cont'd)

D. Supplemental assurances covering Public Law 91-646:

1. Supplemental assurances were executed by the Orleans Levee Distirct on 21 September 1973.
2. Supplemental assurances were executed by Pontchartrain Levee District on 15 October 1973.
3. St. Tammany Parish Police Jury-the assurances executed by the Governor on 8 May 1972 included Public Law 91-646 requirements.

The assurances listed as items 2 and 3 above have not been accepted on behalf of the Government due to lack of supporting data; however, substitute assurances incorporating the deferred payment plan authorized by PL 93-251 and PL 91-646 have been executed by these levee districts. These assurances were approved on behalf of the United States on 7 December 1977.

The Water Resources Development Act of 1974, PL 93-251, was enacted on 7 March 1974. This act provided among other things, that local assuring agencies for this project (both plans) could, if they so choose, repay their cash obligation using a deferred payment plan. New assurances have been executed by local interests incorporating a deferred payment plan and these assurances were approved by the Secretary of the Army on 7 December 1977. Local interests have been making payments under this plan. First payments were received in FY 1977.

e. Action Being Taken by Local Interests Toward Compliance. Local interests have cooperated in all efforts to date and have given assurance that all requests for additional cooperation will be expedited; however, local interests have delayed granting of rights-of-way as scheduled on certain items. They are constructing items of flood protection works at vulnerable locations as work-in-kind in lieu of cash contribution. Local interests will be given credit only for the portion meeting project requirements.

f. Status of Clearances for Relocations or Other Negotiations Affecting Construction. All negotiations for relocations are the responsibility of local interests. All negotiations with local owners are on schedule.

g. Repayment Contracts. Not applicable.

h. Other Current and Anticipated Difficulties, and Proposed Remedial Action. As of 1 January 1979, the State of Louisiana formed the Jefferson Levee District and assigned to it the responsibility for Jefferson Parish levees on the east bank of the Mississippi River. These levees were previously the responsibility of the Pontchartrain Levee District. Revised assurances are under review for the St. Charles Parish portion of the project (Pontchartrain Levee District) and for the Jefferson Parish portion of the project (Jefferson Levee District).

SUPPORT AND OPPOSITION:

a. Interested Senators and Representatives, and Nature and Extent of Support or Opposition.

Senator J. Bennett Johnston - support
Senator Russell B. Long - support
Representative Lindy Boggs (2d Dist) - support

LOUISIANA

Representative Robert L. Livingston, Jr. (1st Dist) - not known 1/
Representative Henson W. Moore (6th Dist) - not known
Representative Billy Tauzin (3d Dist) - not known

1/ Has expressed support for hurricane protection but not necessarily the barrier plan.

b. Support or Opposition by Local Interests. The Louisiana Office of Public Works, the agency designated to act in such matters in behalf of the Governor of the State of Louisiana, the Board of Levee Commissioners of the Orleans Levee District and the Board of Commissioners of the Port of New Orleans have concurred with the proposed plan of protection and are assisting in the implementation of the authorized plan. The U.S. Fish and Wildlife Service has been consulted on all aspects of the project and will continue in coordinating future features of the project.

In addition, the following Louisiana State Senators and Representatives have expressed their support or oposition: Senator Samuel B. Nunez, Jr., District 1 - support (for Chalmette Plan)

Senator Nat G. Kiefer, District 2 - support
Representative Edward C. Scogin, District 76 - opposition
Representative A. Charles Borrello, District 100 - support
Representative Joseph Accardo, Jr., District 57 - not known
Representative Theodore J. Marchand, District 102 - support

c. Attitude of Affected Property Owners. Most property owners support the plan of protection although some minor opposition to specific features of the plan has been encountered.

d. Adverse Effects. Approximately 5,265 acres of marsh and swamp wetlands will be used for construction of the hurricane protection plan. The acreage of the total marsh which produces and releases detritus into Lake Pontchartrain will decrease. This action will possibly decrease the amount of secondary production of organic material in Lake Ponchartrain. Wildlife of significant value, primarily waterfowl and fur animals, will have significant project-occasioned losses.

Turbid water conditions with associated silting due to dredging, pumping, and levee construction, will occur only during construction periods. Temporary turbid water conditions during construction will decrease the amount of primary production in the disturbed area by decreasing the light available to phytoplankton and other aquatic plants. Restriction of tidal overflow from Lake Borgne, Lake Pontchartrain and the Mississippi River-Gulf Outlet will have an effect on the salinity of the open marshes. This will tend to change wetlands habitat slowly into a terrestrial environment.

The proposed project will induce the conversion of a portion of the marsh and swamplands in the project area to urban use. The project plan will hasten urbanization and industrialization of valuable marsh and swampland by providing basic features for further flood protection and reclamation.