

1998

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Lake Pontchartrain, Louisiana, and Vicinity (Hurricane Protection) (Continuing)

LOCATION: The project is located in St. Charles, Jefferson, Orleans, St. Bernard and St. Tammany Parishes in southeast Louisiana in the general vicinity of New Orleans, adjacent to Lake Pontchartrain.

DESCRIPTION: The recommended plan consists of a new levee north of US HWY 61, from the east Bonnet Carré Spillway guide levee to the Jefferson-St. Charles Parish boundary; a floodwall along the Jefferson-St. Charles Parish line; an enlarged levee along the Jefferson Parish lakefront; an enlarged New Orleans lakefront levee landward of the seawall including parallel flood protection on the 17th Street, Orleans Avenue, and London Avenue outfall canals; a new and enlarged levee and floodwall along both sides of the Inner Harbor Navigation Canal (IHNC); a new levee and floodwall along the lakefront from the airport to South Point; an enlarged levee from South Point to the Gulf Intracoastal Waterway (GIW); an enlarged levee and new floodwall along the northside of the Mississippi River-Gulf Outlet (MR-GO) and GIW; a new levee in the Chalmette area from the IHNC levee along the south bank of the MR-GO to approximately 2-1/2 miles northwest of Verret and west to the Mississippi River levee near Caernarvon; a strengthened Mandeville seawall on the north shore at present height; and a new pumping station and vertical lift gates for the Florida Avenue Complex. The parallel protection work for Orleans and London Avenue Outfall canals is unprogrammed after FY 1997.

AUTHORIZATION: Flood Control Act of 1965; Water Resources Development Acts of 1974, 1986, 1990, and 1992.

REMAINING BENEFIT TO REMAINING COST RATIO: 3.2 to 1 at 3 1/8 percent.

TOTAL BENEFIT - COST RATIO: 3.0 to 1 at 3 1/8 percent.

INITIAL BENEFIT-COST RATIO: 17.6 to 1 at 3-1/8 percent (FY 1967).

BASIS OF BENEFIT - COST RATIO: Benefits are from the latest available evaluation dated December 1982 at 1981 price levels.

REFERENCE ER 11-2-240 WHICH STATES THAT BUDGETARY INFORMATION IS NOT TO BE RELEASED OUTSIDE THE DEPARTMENT OF THE ARMY

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SUMMARIZED FINANCIAL DATA

	Estimated Total Appropriation Requirement		STATUS (1 January 1997)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Programmed Construction	\$475,570,000		New Orleans East Unit	90	Sep 2013
Unprogrammed Construction	29,430,000		New Orleans West Unit	12	Sep 2013
			Mandeville Unit	100	Mar 1996
Future Non-Federal Reimbursement Programmed Construction	7,000,000		Chalmette Unit	98	Sep 2006
Unprogrammed Construction	0		Entire Project	80	Sep 2013
Estimated Federal Cost (Ultimate)		498,000,000			
Programmed Construction		468,570,000			
Unprogrammed Construction		29,430,000			
Estimated Non-Federal Cost		212,000,000.00			
Programmed Construction		212,000,000			
Cash Contribution	\$140,638,000				
Other Costs	64,362,000				
Reimbursements:					
Hurricane Protection	7,000,000				
Unprogrammed Construction		0			
Cash Contribution		0			
Other Costs		0			
Reimbursements		0			

1 Work accomplished by the Fiscal year 1992 Dire Emergency Supplemental under Appropriation 96X3125, Flood Control and Coastal Emergencies.

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Total Estimated Programmed Construction Cost \$680,570,000
 Total Estimated Unprogrammed Construction Cost 29,430,000
 Total Estimated Project Cost \$710,000,000

Allocations to 30 September 1996 329,497,000
 Conference Allowance for FY 1997 17,025,000
 Allocation for FY 1997 18,525,000¹
 Allocations through FY 1997 348,022,000

Allocation Requested for FY 1998 6,448,000
 Programmed Balance to Complete after FY 1998 121,100,000
 Unprogrammed Balance to Complete after FY 1998 29,430,000

PHYSICAL DATA

Levees: Average Height: 16 feet
 Length: 80 miles
 Drainage Structures: 9
 Dam Closures: 2
 Floodwalls: 17.9 miles
 Pumping Plant: 1
 Floodgates: 2
 Control Valve Structures: 3

JUSTIFICATION: The lowlands in the Lake Pontchartrain tidal basin are subject to tidal overflow. The Greater New Orleans Metropolitan Area which lies in this basin will continue its rapid economic development in the future years even though severe damages have resulted from several hurricanes in the past years. Hurricane damages result from surges entering Lake Pontchartrain from Lake Borgne through natural tidal passes at the Rigolets and Chef Menteur Passes and the Inner Harbor Navigaton Canal. The surges are intensified by local wind effects and the combination of waves and surges causing overtopping of the pre project protective works along the shores of Lake Pontchartrain. The eastern portion of the area is also subject to flooding by surges and waves that move directly from Lake Borgne and overtop the then existing inadequate protective system seaward of the developed land areas. As a result, residences and industrial and commercial establishments suffer damage, business activities are disrupted, lives are endangered, and hazards to health are created. Hurricanes much more severe than any of record are possible. In the event of the occurrence of such a severe hurricane, catastrophic property damage and loss of human life would be experienced. Local interests have requested protection against these threats to life and property. Hurricane Betsy in September 1965 caused extensive damage and flooding of urban areas of the New Orleans area to depths of up to 10 feet. Hurricane Camille occurred in the project area in August 1969 and flooded

¹ Includes an anticipated reprogramming of \$1,500,000 to the project.

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areas along the Inner Harbor Navigation Canal. Extensive flooding and overtopping of levees would have occurred in the project area in September 1974 if Hurricane Carmen had continued on its predicted course. In 1985 Hurricane Juan caused extensive flooding in the St. Charles Parish area. The Lake Pontchartrain hurricane protection project will provide protection from similar occurrences. The project will provide protection against flooding from the Standard Project Hurricane (SPH). The average annual benefits, all flood control, are \$95,771,000.

FISCAL YEAR 1998: The requested amount will be applied as follows:

NEW ORLEANS EAST UNIT		
Initiate and Complete:		\$ 210,000
New Orleans Lakefront Airport FW		313,000
Floodgate at Hammond Highway		246,000
Pontchartrain Beach Berm		20,000
Federal Real Estate Support		60,000
Surveys and Layouts		100,000
Planning, Engineering and Design		100,000
Supervision and Administration		1,049,000
Subtotal		
NEW ORLEANS WEST UNIT		
Initiate: Reach 1B, Sand		600,000
Reaches 4 and 5, Landside Runoff		539,000
Initiate and Complete: Flood-Gates at Hammond Highway		348,000
Complete: Reach 1, Landside Runoff		937,000
Reach 2, Landside Runoff		757,000
Reach 3, Enlargement and Landside Runoff		725,000
Federal Real Estate Support		8,000
Survey and Layouts		45,000
Planning, Engineering and Design		677,000
Supervision and Administration		713,000
Subtotal		\$ 5,349,000
CHALMETTE UNIT		
Planning, Engineering and Design		50,000
Subtotal		\$ 50,000
Total		\$ 6,448,000

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NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Flood Control Act of 1965, the non-Federal sponsors must comply with the requirements listed below:

Requirements of Local Cooperation

Provide lands, easements, and right-of-ways, and borrow and excavated or dredged material disposal areas. \$ 43,327,000

Accomplish alterations to roads, pipelines, cables, wharves, oil wells, and any other facilities necessary for construction of the project. 19,950,000

Pay 30 percent of the total project cost, including the items listed above and a cash contribution or equivalent work specifically undertaken as an integral part of the project after authorization and in accordance with construction schedules as required by the Chief of Engineers, excluding a reimbursement to the Federal Government for costs allocated pursuant to the Water Resources Development Act of 1974. 141,723,000

Reimburse the Federal Government for costs allocated pursuant to the Water Resources Development Act of 1974. 7,000,000

Pay all costs of operations, maintenance, repair, rehabilitation, and replacements of all features of the project works. \$1,223,000

Total Non-Federal Costs \$212,000,000 \$1,223,000

In addition, local interests, through the combined efforts of the State of Louisiana, local levee and drainage districts, and parish police juries, have spent an estimated \$25,366,000 between 1930-1963, based on the best cost records available, to improve and maintain the hurricane protection system existing prior to project authorization. Available costs of record are as follows:

Combination of State of Louisiana and Lake Borgne Levee District and Chalmette Back	4,410,000	
Levee District on the Chalmette Back Levee Protection Systems	12,010,000	
Orleans Levee District	924,000	
Port of New Orleans (levees along Industrial Canal)	5,022,000	
Pontchartrain Levee District	3,000,000	
Fourth Drainage District of Jefferson Parish	25,366,000	
Total		

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A very severe hurricane, "Betsy," occurred in the project area in September 1965, just prior to the authorization of the project in October 1965. Considerable damage was done to many of the existing levees, and local interests immediately instituted an accelerated rehabilitation program, with the view of restoring and strengthening existing protection prior to succeeding hurricane seasons. Any work performed by the non-federal interests after project authorization, that conforms to the project design criteria and alignment, is considered as work-in-kind in lieu of a cash contribution.

STATUS OF LOCAL COOPERATION: Assurances are required for the two independently justified plans.

1. Chalmette Area Plan:

a. Orleans Levee District: New agreements of assurances covering all project cooperation requirements and a deferred payment plan as authorized by the Water Resources Development Act of 1974 were executed on 30 March 1976. These assurances were accepted on behalf of the United States on 7 December 1977.

b. St. Bernard Parish Police Jury and Lake Borgne Basin Levee District: New joint agreements of assurances covering all project cooperation requirements and a deferred payment plan as authorized by the Water Resources Development Act of 1974, were executed on 2 April 1976. These assurances were accepted on behalf of the United States on 7 December 1977.

2. High Level Plan:

a. Orleans Levee District: For the Barrier Plan, new agreements of assurances covering all project cooperation requirements and a deferred payment plan as authorized by the Water Resources Development Act of 1974, were executed on 30 March 1976. These assurances were accepted on behalf of the United States on 7 December 1977. Amended assurances for the High Level Plan were executed by the local sponsor on 29 May 1985, and accepted by the United States on 21 June 1985.

b. St. Tammany Parish: The Louisiana Office of Public Works executed an act of assurance dated 8 November 1976, agreeing to fulfill all project cooperation requirements for that portion of the project in St. Tammany Parish. These assurances were accepted on behalf of the United States on 7 December 1977. Amended assurances for the High Level Plan are required; however, due to failure of the local sponsor to agree to the items of local cooperation, this portion of the project has an indefinite completion date.

c. Pontchartrain Levee District: New agreements of assurances covering all project cooperation requirements and a deferred payment plan as authorized by the Water Resources Development Act of 1974, were executed on 20 September 1976. On 8 November 1976, the Louisiana Office of Public Works agreed to lend financial assistance above \$100,000 to the Pontchartrain Levee District for that portion of the Barrier Plan which is the responsibility of that levee district. These assurances were accepted on behalf of the United States on 7 December 1977. Supplemental assurances for the High Level Plan were executed by the Pontchartrain Levee District for the St. Charles Parish portion of the project on 20 April 1987, and accepted on behalf of the United States on 7 August 1987.

d. East Jefferson Levee District: Supplemental assurances for the High Level Plan were executed by the East Jefferson Levee District for the Jefferson Parish portion of the project on 16 January 1987. A financial plan was received on 25 November 1987, and accepted on behalf of the United States on 21 December 1987. These levees were previously the responsibility of the Pontchartrain Levee District.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of \$505,000,000 is an increase of \$1,000,000 from the latest estimate (\$504,000,000) presented to Congress (FY 1997). This change includes the following item:

Item	Amount
Price Escalation on Construction Features	\$1,000,000
Total	\$1,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Council on Environmental Quality on 17 January 1975. By court order dated 30 December 1977, a revised Environmental Impact Statement was ordered. A draft revised Environmental Impact Statement for the High Level Plan and the Reevaluation Report, which documents the proposal to adopt that plan instead of the Barrier Plan, were released to the public and filed with the Environmental Protection Agency on 16 December 1983. The final revised Environmental Impact Statement was filed with the Environmental Protection Agency on 7 December 1984.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1966, and funds to initiate construction were appropriated in Fiscal Year 1967.

Authorizations

	Estimated Cost and Year of Price Level
FC Act of 1965 dated 27 October 1965 (PL 89-298) (HD 231/89/1)	\$56,235,000 (1961) 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.	

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.

Authorizations

Estimated Cost and
Year of Price Level

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.

\$3,500,000 (1985)

Water Resources Development Act of
1986, dated 17 November 1986
(PL 99-662), Section 805

A modification of the project to include construction of a floodwall with sluice gates or other necessary means to ensure that hurricane-flood protection within Jefferson Parish will be unimpaired as a result of any pumping station constructed by local interests.

Water Resources Development Act of
1990, dated 28 November 1990
(PL 101-640) Section 116(k)

A restudy of and report on project benefits to determine whether or not sponsors have received expected benefits and whether or not there should be a reallocation of costs as a result of any unrealized expected benefits. No non-Federal payment for the St. Bernard Parish portion of project was required during the study period (28 November 1990 - 28 November 1991)

Water Resources Development Act of
1992, dated 31 October 1992
(PL 102-580) Section 102(j) (2)

A reevaluation of the reallocation of project cost based on the benefit study required by the WRDA 1990 Sec. 116K

Water Resources Development Act of
1992, dated 31 October 1992
(PL 102-580) Section 102(j) (1)

A modification to the project to include conveying landsite runoff from the Jefferson Parish Lakefront levee from the levee right-of-way to the street drainage system.

Water Resources Development Act of
1996, dated 12 October 1996
(PL 109-843) section

A modification to the project to provide that St. Bernard Parish, Louisiana, and the Lake Borgue Basin Levee District, Louisiana, shall not be required to pay the unpaid balance, including interest, of the non-Federal cost-share of the project.

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* Revised 13 Jan 1997

Total Estimated Programmed Construction Cost
 Total Estimated Unprogrammed Construction Cost
 Total Estimated Project Cost
 Allocations to 30 September 1996
 Conference Allowance for FY 1997
 Allocation for FY 1997
 Allocations through FY 1997
 Allocation Requested for FY 1998
 Allocation Requested for FY 1999
 Allocation Requested for FY 2000
 Allocation Requested for FY 2001
 Allocation Requested for FY 2002
 Allocation Requested for FY 2003
 Allocation Requested for FY 2004
 Allocation Requested for FY 2005
 Allocation Requested for FY 2006
 Allocation Requested for FY 2007
 Allocation Requested for FY 2008
 Allocation Requested for FY 2009
 Allocation Requested for FY 2010
 Allocation Requested for FY 2011
 Allocation Requested for FY 2012
 Allocation Requested for FY 2013
 Programmed Balance to Complete
 Unprogrammed Balance to Complete after FY 1998

	\$680,570,000	ACCUM.
	29,430,000	PCT. OF EST.
	\$710,000,000	FED. COST
	\$329,497,000	
	17,025,000	
	18,525,000	
	\$348,022,000	69
	6,448,000	70
	6,921,000	
	7,043,000	
	15,374,000	
	12,708,000	
	16,203,000	
	13,481,000	
	11,837,000	
	16,032,000	
	17,618,000	
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	3,883,000	
	0	
	29,430,000	

PHYSICAL DATA

Levees: Average Height: 16 feet
 Length: 80 miles
 Dam Closures: 2
 Pumping Plant: 1

Drainage Structures: 9
 Floodwalls: 17.9 miles
 Floodgates: 2

Control Valve Structures: 3
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* *AWARD Reflect an anticipated reprogramming of \$1,500,000 to the project.*

JUSTIFICATION: The lowlands in the Lake Pontchartrain tidal basin are subject to tidal overflow. The Greater New Orleans Metropolitan Area which lies in this basin will continue its rapid economic development in the future years even though severe damages have resulted from several hurricanes in the past years. Hurricane damages result from surges entering Lake Pontchartrain from Lake Borgne through natural tidal passes at the Rigolets and Chef Menteur Passes and the Inner Harbor Navigation Canal. The surges are intensified by local wind effects and the combination of waves and surges causing overtopping of the pre project works along the shores of Lake Pontchartrain. The eastern portion of the area is also subject to flooding by surges and waves that move directly from Lake Borgne and overtop the then existing inadequate protective system seaward of the developed land areas. As a result, residences and industrial and commercial establishments suffer damage, business activities are disrupted, lives are endangered, and hazards to health are created. Hurricanes much more severe than any of record are possible. In the event of the occurrence of such a severe hurricane, catastrophic property damage and loss of human life would be experienced. Local interests have requested protection against these threats to life and property. Hurricane Betsy in September 1965 caused extensive damage and flooding of urban areas of the New Orleans area to depths of up to 10 feet. Hurricane Camille occurred in the project area in August 1969 and flooded areas along the Inner Harbor Navigation Canal. Extensive flooding and overtopping of levees would have occurred in the project area in September 1974 if Hurricane Carmen had continued on its predicted course. In 1985 Hurricane Juan caused extensive flooding in the St. Charles Parish area. The Lake Pontchartrain hurricane protection project will provide protection from similar occurrences. The project will provide protection against flooding from the standard Project Hurricane (SPH). The average annual benefits, all flood control, are \$95,771,000.

FISCAL YEAR 1998: The requested amount will be applied as follows:

NEW ORLEANS EAST UNIT

Initiate and Complete:		\$	210,000
N.O. Lakefront Airport FW			313,000
Floodgate at Hammond Hwy			246,000
Pontchartrain Beach Berm			20,000
Federal Real Estate Support			60,000
Surveys and Layouts			100,000
Planning, Engineering & Design			100,000
Supervision and Administration			100,000
Subtotal		\$	1,049,000

NEW ORLEANS WEST UNIT

Initiate:		\$	600,000
Rch 1B Sand			539,000
Rch 4 & 5 Landside Runoff			
Initiate and Complete:			348,000
Floodgates at Hammond Hwy			
Complete:			937,000
Rch 1 Landside Runoff			757,000
Rch 2 Landside Runoff			725,000
Rch 3 Enlgmt & Landside Runoff			8,000
Federal Real Estate Support			45,000
Survey and Layouts			677,000
Planning, Engineering and Design			713,000
Supervision and Administration			
Subtotal		\$	5,349,000

CHALMETTE UNIT

Planning, Engineering and Design			50,000
Subtotal			50,000
Total		\$	6,448,000

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Requirements of Local Cooperation

Provide lands, easements, and right-of-way, and borrow and excavated or dredged material disposal areas.	\$ 43,327,000	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Accomplish alterations to roads, pipelines, cables, wharves, oil wells, and any other facilities necessary for construction of the project.	19,950,000	
Pay 30 percent of the total project cost, including the items listed above and a cash contribution or equivalent work specifically undertaken as an integral part of the project after authorization and in accordance with construction schedules as required by the Chief of Engineers, excluding a reimbursement to the Federal Government for costs allocated pursuant to the Water Resources Development Act of 1974.	141,723,000	
Reimburse the Federal Government for costs allocated pursuant to the Water Resources Development Act of 1974.	7,000,000	\$1,223,000
Pay all costs of operations, maintenance, repair, rehabilitation, and replacements of all features of the project works.	\$212,000,000	\$1,223,000
Total Non-Federal Costs		

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