

DATA FOR TESTIFYING OFFICERS ON FY 1993 CIVIL WORKS BUDGET
LAKE PONTCHARTRAIN, LOUISIANA, AND VICINITY

AUTHORIZATION	1
Authorization Documents	1
Monetary Authorization	1
NEED FOR THE PROJECT	2
PLAN OF IMPROVEMENT	3
CHANGE IN SCOPE	4
MAJOR CHANGES IN DESIGN	5
BENEFIT-COST RATIO	5
Period of Economic Analysis	5
Derivation of B/C Ratio	5
Composite B/C Ratio	5
PHYSICAL DATA	5
Land Requirements	5
Recreation Facilities	5
Disposal Areas	5
Operator's Quarters	5
JUSTIFICATION	6
Flood Damages	6
Flood History	7
Power	7
LOCAL COOPERATION	8
Requirements	8
Modification to Authorizing Law	8
Requirements of PL 91-611 and PL 91-646	8
Current Status of Assurances	9
Repayment Contracts	11
Other Current and Anticipated Difficulties, and Proposed Remedial Action	11
SUPPORT AND OPPOSITION	11
Interested Senators and Representatives, and Nature and Extent of Support or Opposition	11
Support or Opposition by Local Interests	11
Attitude of Affected Property Owners	11
Adverse Effects	11
<u>AUTHORIZATION:</u>	

DATA FOR TESTIFYING OFFICERS ON FY 1993 CIVIL WORKS BUDGET
LAKE PONTCHARTRAIN, LOUISIANA, AND VICINITY

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.

(1961)¹

\$56,235,000

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.

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.

\$ 3,500,000 (1985)

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)

FY 1992 Energy and Water Development
Appropriation Bill dated 17 August 1991
(PL 102-104)

Directed construction of parallel protection on the London Avenue and Orleans Avenue Outfall Canals (\$105 million) in lieu of less expensive frontal protection (\$25 million)

\$80,000,000

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

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.

DATA FOR TESTIFYING OFFICERS ON FY 1993 CIVIL WORKS BUDGET
LAKE PONTCHARTRAIN, LOUISIANA, AND VICINITY

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.

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, create serious hazards to life and health, disrupt business and community life, and 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 current recommended plan for hurricane flood protection follows:

- a. Construct a new levee parallel to and immediately north of US Highway 61, between the levee along the Jefferson-St. Charles Parish boundary and the east Bonnet Carre' Spillway guide levee.
- b. Enlarge existing levees and construct floodwalls along the Jefferson Parish lakefront and along the Jefferson-St. Charles Parish boundary between the lake and U.S. Highway 61.
- c. Enlarge the New Orleans lakefront levee landward of the seawall and construct parallel levees and floodwalls at the drainage outfall canals.
- d. Enlarge existing levees, construct new levees, and a concrete-capped sheetpile wall along the east and west levees of the Inner Harbor Navigation Canal in New Orleans.
- e. Construct a new levee and floodwall along the lakefront extending from the floodwall at the New Orleans Airport to South Point.
- f. Enlarge the levee from South Point to the GIWW.
- g. Enlarge the levee along and north of the Mississippi River-Gulf Outlet and Gulf Intracoastal Waterway from the Inner Harbor Navigation Canal to its intersection with the South Point to GIWW levee and construct floodwalls where necessary.
- h. Construct a new levee protecting the area generally referred to as the Chalmette area extending from the Inner Harbor Navigation Canal levee along 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.
- i. Strengthen the existing Mandeville seawall on the north shore at its present height.
- j. Construct a new pumping station and vertical lift gates for the Florida Avenue drainage canal.

CHANGE IN SCOPE:

<u>Year</u>	<u>Change in Scope Since Authorization</u>	<u>Estimated Cost</u>
1967	The authorized alignment 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 accommodate 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. 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.	\$12,938,700
1984	The Reevaluation Study, dated July 1984, recommends the use of the High Level Plan rather than the Barrier Plan. The plan would provide for improving the existing hurricane protection levee systems in Orleans Parish and the east bank of Jefferson Parish, improving existing levees and constructing new ones in St. Bernard Parish, repairing and rehabilitating the Mandeville Seawall in St. Tammany Parish, building a new mainline hurricane levee on the east bank of St. Charles Parish immediately north of US Highway 61 (Airline Hwy), raising and strengthening the existing levee which extends along the Jefferson-St. Charles Parish boundary between Lake Pontchartrain and Airline Highway, and deferring construction of the proposed Seabrook Lock until its feasibility as a feature of the MRGO navigation project can be determined.	

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. A pumping plant was added to the Florida Avenue Complex to provide uninterrupted drainage relief during hurricane conditions.
- c. The reevaluation of the project resulted in the recommendation for a design change from the authorized Barrier Plan of protection to a High Level Plan without barrier structures. Under the High Level Plan the design height of the levees and floodwalls proposed for the Barrier Plan would be increased to contain the lake levels that would occur without the barrier structures.
- d. The FY 1992 Appropriations Bill directed that paralled protection be constructed on the London Avenue and Orleans Avenue Outfall Canals in lieu of loss expensive fronting protection.

BENEFIT-COST RATIO:

- a. Period of Economic Analysis. The economic life of the project 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.
- b. Derivation of B/C Ratio. The project functions independently. 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 tidal overflow including that damage caused by overtopping existing levees.
- 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.

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 interest.
- b. Recreation Facilities. Not applicable.
- c. Disposal Areas. Easements for disposal areas are the responsibility of local interests.
- d. Operator's Quarters. None.

LAKE PONTCHARTRAIN, LOUISIANA, AND VICINITY

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 is designed to protect against a hurricane 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.

<u>Description of Flooded Area</u>	<u>Design Flood¹</u>	<u>Protected by Authorized Works Against Design Flood</u>
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	(23,695,000,000) ²	(23,695,000,000) ²
Lands	7,615,000,000	7,615,000,000
Improvements	16,080,000,000	16,080,000,000
Population (1980)		
Residing	815,000	
Working (Addition to Residing)	80,000	

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

² Escalated to October 1990 price levels.

JUSTIFICATION: (Continued)

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

Flood Date	Natural Stage	Area (Acres)			Damages (Dollars)				
		Flooded Without Project	Protected With Project in Full Operation	Protected at Time of Flood	Without Project	Preventable at time of Flooding With Project in Full Operation	Prevented at time of Flood	Preventable Under Present Conditions with Project in Full Operation	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	
A. Past 5 Fiscal Years:					\$	\$	\$	\$ ¹	
None									
B. Major Floods Prior to 5 Fiscal Years:									
Oct 1985 (Juan)	2	105,190	105,190	99,900	5,818,000,000	5,818,000,000	5,527,000,000	6,431,875,000	
Aug 1969 (Camille)	2	23,000	23,000	22,000	92,500,000	91,500,000	90,000,000	366,745,000	
Sep 1965 (Betsy)	2	23,000	23,000	N.O.	85,000,000	85,000,000	N.A.	479,495,000	
Sep 1956 (Flossy)	2	8,000	8,000	N.O.	750,000	750,000	N.A.	3,531,125	
Sep 1947	2	33,000	33,000	N.O.	5,300,000	5,300,000	N.A.	57,978,000	

c. Power. Not applicable.

¹ October 1991 price levels.

² HIGHEST RECORDED STAGE (N.G.V.D.)

	<u>Oct 1985</u>	<u>Aug 1969</u>	<u>Sep 1965</u>	<u>Sep 1956</u>	<u>Sep 1947</u>
Lake Pontchartrain at West End	6.1 ft.	5.2 ft.	7.6 ft.	5.5 ft.	5.46 ft.
Rigolets Pass near Lake Pontchartrain	5.7 ft.	9.0 ft.	7.0 ft.	6.49 ft.	7.18 ft.

LOCAL COOPERATION: (October 1991 price levels)¹

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, a sum presently estimated at \$190,000,000, to consist of \$60,937,000 for items listed in subparagraphs (1) and (2) above, and a cash contribution presently estimated at \$129,063,000 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 schedule, 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.
- (5) Provide all interior drainage and pumping plants required for reclamation and development of the protected areas;
- (6) 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
- (7) 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 interest to comply. The estimated cost to local interest is \$45,000.

¹ The total non-Federal contribution including future reimbursement is determined as follows: Land and Relocations (\$60,937,000) + Cash/Equivalent Work Contribution (\$129,063,000) + Future Reimbursement (\$7,000,000) = (\$197,000,000).

LOCAL COOPERATION: (Continued)

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 High Level Plan. Supplemental assurances for the High Level Plan were executed by the Pontchartrain Levee District for the St. Charles Parish portion of the project on 7 August 1987.

(1) 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. 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. 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.

(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. 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.

(2) 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 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, the Governor of the State of Louisiana 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: (Continued)

d. Current Status of Assurances. (Continued)

(d) Supplemental assurances covering Public Law 91-646:

1. Supplemental assurances were executed by the Orleans Levee District 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 were executed by local interests incorporating a deferred payment plan in 1976, 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.

(3) High Level Plan:

(a) Orleans Levee District: For the Barrier Plan, new agreements of assurances covering all local 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 local 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 local 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 submitted on 24 November 1987, and the supplemental assurances were accepted on behalf of the United States on 21 December 1987. These levees were previously the responsibility of the Pontchartrain Levee District.

(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.

LOCAL COOPERATION: (Continued)

d. Current Status of Assurances. (Continued)

(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.

e. Repayment Contracts. Not applicable.

f. 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.

SUPPORT AND OPPOSITION:

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

Senator J. Bennett Johnston - support
Senator John B. Breaux - not known
Representative William Jefferson (2nd Dist) - support

Louisiana

Representative Robert L. Livingston, Jr. (1st Dist) - support
Representative Richard Baker (6th Dist) - not known
Representative Billy Tauzin (3rd Dist) - not known

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.

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 2,100 acres of marsh and swamp wetland and 900 acres of lake bottom will be used for construction of the hurricane protection plan. Loss of this habitat will cause a decrease in wildlife and fisheries in the Lake Pontchartrain area.

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.