2006

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 Highway 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 (GIWW); an enlarged levee and new floodwall along the northside of the Mississippi River-Gulf Outlet (MR-GO) and GIWW; 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 2006.

AUTHORIZATION: Flood Control Act of 1965; Water Resources Development Acts of 1974, 1986, 1990, 1992, 1996, and 2000.

REMAINING BENEFIT TO REMAINING COST RATIO: 3.2 to 1 at 7 percent.

TOTAL BENEFIT - COST RATIO: 2.8 to 1 at 7 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.

## SUMMARIZED FINANCIAL DATA

| | | | |
|---|---|---|---|
| Estimated Federal Total Appropriation Requirement | | | $ 528,000,000 |
| Programmed Construction | | $ 527,666,000 | |
| Unprogrammed Construction | | 334,000 | |
| Future Non-Federal Reimbursement | | | 258,000 |
| Programmed Construction | | 258,000 | |
| Unprogrammed Construction | | 0 | |
| Estimated Federal Cost (Ultimate) | | | 527,742,000 |
| Programmed Construction | | 527,408,000 | |
| Unprogrammed Construction | | 334,000 | |
| Estimated Non-Federal Cost | | | 210,000,000 |
| Programmed Construction | | 188,503,000 | |
| Cash Contribution | $ 81,889,000 | | |
| Other Costs | 106,614,000 | | |
| Reimbursements: | | | |
| Hurricane Protection | 258,000 | | |
| Unprogrammed Construction | | 21,497,000 | |
| Cash Contribution | 21,203,000 | | |
| Other Costs | 294,000 | | |
| Reimbursements | 0 | | |

| STATUS (1 Jan 2005) | PERCENT COMPLETE | PHYSICAL COMPLETION SCHEDULE |
|---|---|---|
| New Orleans East Unit | 92 | TBD |
| New Orleans West Unit | 65 | TBD |
| Mandeville Unit | 100 | March 1996 [1] |
| Chalmette Unit | 98 | TBD |
| Entire Project | 80 | TBD |

## PHYSICAL DATA

Levees: Average Height: 16 feet
Length: 120 miles

Drainage Structures: 9

Dam Closures: 2

Floodwalls: 17.9 miles

Pumping Plant: 1

Floodgates: 52

Control Valve Structures: 3

[1] Work accomplished by the Fiscal Year 1992 Dire Emergency Supplemental under Appropriation 96x3125, Flood Control and Coastal Emergencies.

SUMMARIZED FINANCIAL DATA (Continued)

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|---|---|---|---|
| Total Estimated Programmed Construction Cost | $ 716,169,000 | | |
| Total Estimated Unprogrammed Construction Cost | 21,831,000 | | |
| Total Estimated Project Cost | $ 738,000,000 | | |
| | | | ACCUM. |
| Allocations to 30 September 2004 | $ 452,512,000 | | PCT. OF EST. |
| Conference Allowance for FY 2005 | 5,719,000 | | FED. COST |
| Allocation for FY 2005 | 5,081,000 | 1/ | |
| Allocations through FY 2005 | 457,593,000 | | 87 |
| Allocation Requested for FY 2006 | $ 2,977,000 | | 87 |
| Programmed Balance to Complete After FY 2006 | 67,096,000 | | |
| Unprogrammed Balance to Completed After FY 2006 | 334,000 | | |

1/ Reflects $597,000 reduction assigned as savings and slippage and $41,000 rescinded in accordance with the Consolidated Appropriations Act, 2005.

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 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 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. In 1998, Hurricane Georges passed to the east of the project area causing high surge levels in Lake Pontchartrain and Breton Sound. In 2002, Hurricane Lilli passed to the west of the project area and Tropical Storm Isidore passed over the project area; both storms caused flooding in St. Charles Parish on the north side of Lake Pontchartrain. 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. Between 1983 and 1998, the project has prevented over $11,000,000,000 in flood damages in the greater New Orleans Metropolitan Area.

FISCAL YEAR 2006: The requested amount will be applied as follows:

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| NEW ORLEANS EAST UNIT | |
| Complete: | |
| Pump Station 4 | $ 300,000 |
| Lands and Damages | 20,000 |
| Surveys and Layouts | 20,000 |
| Planning, Engineering and Design | 900,000 |
| Construction Management | 237,000 |
| Subtotal | 1,477,000 |
| | |
| NEW ORLEANS WEST UNIT | |
| Complete: | |
| Hammond Hwy | 300,000 |
| Lands and Damages | 20,000 |
| Survey and Layouts | 30,000 |
| Planning, Engineering and Design | 900,000 |
| Construction Management | 250,000 |
| Subtotal | 1,500,000 |
| | |
| Total | $ 2,977,000 |

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Flood Control Act of 1965 and the Water Resources Development Act of 1974, the non-Federal sponsors must comply with the requirements listed below:

| Requirements of Local Cooperation | Payments During Construction and Reimbursements | Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs |
|---|---|---|
| Provide lands, easements, and right-of-ways, and borrow and excavated or dredged material disposal areas. | $ 43,335,000 | |
| Accomplish alterations to roads, pipelines, cables, wharves, oil wells, and any other facilities necessary for construction of the project. | 21,035,000 | |
| 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. | 145,372,000 | |
| Reimburse the Federal Government for costs allocated pursuant to the Water Resources Development Act of 1974. | 258,000 | |
| Pay all costs of operations, maintenance, repair, rehabilitation, and replacements of all features of the project works. | | $ 1,392,000 |
| Total Non-Federal Costs | $ 210,000,000 | $ 1,392,000 |

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:

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

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 ESTIMATES: The current Federal cost estimate of $528,000,000 is the same as the latest estimate presented to Congress (FY 2005).

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.

The project was initially designed in the 1960s, and a reanalysis was performed for part of the project in the mid-1980s. Continuing coastal land loss and settlement of land in the project area may have impacted the ability of the project to withstand the design storm. Refinement of existing computer models to assist in determining the impact of these environmental changes on the project will continue.

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. | |
| 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) | |
| 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 Section 116(k) | |

[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.

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| 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 104-303) Section 325 | A modification to the project to provide that St. Bernard Parish, Louisiana, and the Lake Borgne Basin Levee District, Louisiana, shall not be required to pay the unpaid balance, including interest, of the non-Federal cost-share of the project. |
| Water Resources Development Act of 2000, dated 11 December 2000 (PL 106-541) Section 432 | A post authorization change report to include structural modifications to the seawall providing protection along the south shore of Lake Pontchartrain not later than 180 days after WRDA enactment. |