



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF:

CELMN-PM-M (1110-2-1150a)

30 September 1996

MEMORANDUM FOR CELMV-PM-E

SUBJECT: Lake Pontchartrain and Vicinity, LA, Hurricane Protection Project, St. Charles Parish Construction Acceleration and Addition of Pump Stations

1. Ten copies of subject report are enclosed in response to language in Senate Report 104-120, Energy and Water Development Appropriations Bill of 1996 which directed the Corps to evaluate the feasibility of expediting the remaining work in St. Charles Parish and providing additional pumping stations and other structures as needed.
2. The findings of this investigation indicate that beneficial completion of the remaining work in St. Charles Parish cannot be accelerated due to the physical limitations of constructing the project (i.e., the considerable settlement period required between constructing each levee lift). A scenario of no funding constraints (both Federal and non-Federal) allows some individual contracts to be accelerated, but produces no significant change in the project completion date. The addition of four pump stations in the St. Charles Parish would be beneficial from the standpoint of eliminating the risk of failure of local interior levee systems during periods of high interior ponding and ensuring an adequate evacuation route during a hurricane. However, these pump stations are currently not authorized for the St. Charles Parish portion of the project and previous economic analyses concluded that pump stations would not be incrementally justified. Therefore, before proceeding with the construction of additional pump stations and related structures, a detailed economic analysis would be required. If economic justification is established, we would prepare a post authorization change report (PAC). With demonstrated economic justification and policy and NEPA compliance, the PAC report could be processed to Congress for authorization, if appropriate. Inclusion of the pump stations would delay beneficial completion of the St. Charles Parish portion of the project by approximately one year. Unless otherwise directed, we plan no further investigations regarding subject pumping stations.

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3. We will notify congressional interest of the findings contained in this report and recommend this report be furnished to HQUSACE for appropriate action.

FOR THE COMMANDER:

Encl


ROBERT L. TISDALE
Deputy District Engineer
for Project Management

Executive Summary

Lake Pontchartrain and Vicinity, LA, Hurricane Protection Project
St. Charles Parish

Construction Acceleration and Addition of Pumps Stations

1. Purpose: Subject report has been prepared in response to language included in Senate Report 104-120, Energy and Water Development Appropriations Bill, 1996, which states ...In addition, in light of recent devastating flooding, the Corps is directed to evaluate the feasibility of expediting the remaining features of the project in the vicinity of St. Charles Parish, and to provide the Committee with an accelerated construction schedule and funding profile through project completion, along with the feasibility and impacts of incorporating four additional pumping stations, and other needed structures, in the New Orleans West Unit, St. Charles Parish levee part of the project.

2. Background Information:

a. Authority: Public Law 298, 89th Congress, 1st Session, approved 27 October 1965, authorized the Lake Pontchartrain, Louisiana, and Vicinity, hurricane protection project, substantially in accordance with the recommendations of the Chief of Engineers in House Document No. 231, 89th Congress, 1st Session.

b. Project Plan and Modifications thereto: The St. Charles Parish levee is a feature of the New Orleans West Unit of the Lake Pontchartrain High Levee Plan. Based on the 1984 Lake Pontchartrain reevaluation study, the project document plan (Barrier Plan) which consisted of levees along the lake front in St. Charles Parish was modified into the current High Level Plan which consists of levees near U.S. Highway 61.

c. Recent Flood Events: In recent years, there have been two rainfall events that caused flood damages in developed areas of East St. Charles Parish (November 1989 and May 1995). A failure of the interior levee system in East St. Charles would cause estimated flood damages ranging from \$50 to \$68 million dollars.

3. Findings and Conclusions:

a. Accelerate Remaining Construction. The subject report concludes that the Corps ability to accelerate construction is primarily limited by the design and construction methods being used for the project. The project requires several levee lifts and a considerable settlement period between each lift. A

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scenario of no funding constraints (both Federal and non-Federal) allows some individual contracts to be accelerated, but produces no significant change in the project completion date. Remaining real estate acquisition (Reach 1) is estimated to take at least 18 months and prevents initiation of any construction work on that reach until the real estate acquisition is completed. Construction of the first lift of the reach 2A levee is now under contract. Reach 2B is scheduled for award in the summer of 1996.

b. Addition of Pumping Stations. Four pump stations were evaluated. These pump stations would be located where the Federal levee (line of protection) crosses Bayou Trepagnier (i.e., adjacent to the Bonnet Carre' lower guide levee), Cross Bayou, St. Rose Canal and Walker Canal. The design of the planned floodgates at these locations would require modification to accommodate the addition of the pump stations. Results of the analysis indicate that there is a risk for the failure of the interior locally built levee systems which could result in significant economic damages. There is also the potential for increased water surface elevations that could occur on the protected side of the hurricane levee rendering a major hurricane evacuation route (U.S. Highway 61) impassable. Because of the potential for these events occurring, adding pumping stations to the hurricane protection for St. Charles Parish would be beneficial. However, pump stations are currently not authorized for the St. Charles Parish portion of the project and previous economic analyses concluded that pump stations were not incrementally justified. Therefore, before proceeding with the construction of additional pump stations and related structures, a detailed economic analysis would be required. If economic justification is established, a post-authorization change (PAC) report would be prepared. With demonstrated economic justification and policy and NEPA compliance, the PAC report could be processed to Congress if Congressional authorization is required. The addition of the pumping stations, if incrementally justified, may be appropriate in view of the proposed Corps policy on interior drainage facilities and the need to reevaluate problems associated with residual interior flooding. Inclusion of pumping stations would delay beneficial completion of the project by about one year.