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IN REPLY REFER TO: WESHH

21 JUL '80

SUBJECT: Progress Report, Lake Pontchartrain Hurricane Barrier Study

District Engineer
U. S. Army Engineer District, New Orleans
P. O. Box 60267
New Orleans, LA 70160

1. Progress on the Lake Pontchartrain Hurricane Barrier Study during May and June 1980 included the following:

a. A progress report by Louisiana State University (LSU), New Orleans District (LMN) contractor, was reviewed and comments were forwarded to LMN during June.

b. A letter (Incl 1) was sent to the five WES consultants on the subject study requesting their review of LMN's response to comments from the Third Consultants Meeting. These responses are included as Incls 2-4. Comments have not been received from Profs. Yu and Pritchard. We have requested that they expedite their reviews and forward their comments as soon as possible.

c. The numerical tidal circulation model was converted from the CYBER 176 to the CRAY computer during May.

d. SPH wind-field representation for Hurricane Betsy was completed and converted to the CRAY computer during May.

e. The numerical hurricane surge model also was converted from the CYBER 176 to the CRAY computer during May.

f. Sensitivity tests of the grid size and characterization of the seaward bathymetry were completed for the hurricane surge model in June.

g. All numerical computations were completed in June for the steady-state ebb and flood flows through The Rigolets control structure, the Chef Menteur control structure, and Seabrook Lock.

h. Work continued on the draft report describing the physical model tests of the Seabrook Lock, Chef Menteur control structure, The Rigolets control structure, and the numerical representation of the head losses across these structures.

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i. Computer runs were completed for verifying the numerical hurricane surge model using Hurricane Betsy data. The model has been verified using an SPH wind-field representation.

j. Work was initiated in preparing the SPH wind-field representation for Hurricane Camille for use in model verification.

2. Plans for July include the following:

a. The SPH wind-field representation for Hurricane Camille is scheduled for completion.

b. Computer runs for verifying the numerical hurricane surge model using Hurricane Camille data are scheduled for completion.

c. Verification of the tidal circulation model for the O_1 constituent is scheduled for completion.

d. Verification of the tidal circulation model for a spring tide and a neap tide condition is scheduled for completion.

e. A check of the numerical stability characteristics of the tidal circulation model for a 4- or 5-day period is scheduled for completion.

f. A draft report describing the physical model of the Chef Menteur control structure, The Rigolets control structure, Seabrook Lock, and the numerical representation of the head losses across these structures will near completion.

g. Another review of a progress report by LSU will be completed and forwarded to LMN during July.

3. Should any questions arise concerning this progress report, please contact Dr. R. W. Whalin (601-634-3418, or FTS 542-3418).

FOR THE COMMANDER AND DIRECTOR:

4 Incl
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F. R. BROWN
Engineer
Technical Director

CF w/o incl:
HQDA (DAEN-CWE-H)
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