

**MINUTES OF
SOUTHEAST LOUISIANA FLOOD PROTECTION AUTHORITY-EAST
ENGINEERING ADVISORY COMMITTEE MEETING
HELD ON MARCH 3, 2011**

PRESENT: Thomas Jackson, Chair
Stephen Estopinal, Vice Chair
Ricky Brouillette, Office of Coastal Protection and Restoration (OCPR)
Robert Turner, SLFPA-E Regional Director

The Engineering Advisory Committee met on March 3, 2011, in the Second Floor Hall of the Lake Vista Community Center, 6500 Spanish Fort Blvd., New Orleans, Louisiana. Chairman Jackson called the meeting to order at 10:35 a.m.

Opening Comments: None.

Adoption of Agenda: The agenda was amended to add Item VII.B – discussion of cracks in the T-wall base (LPV 145). The amended agenda was unanimously adopted by a roll call vote.

Approval of Minutes: The minutes of the February 3, 2011 Committee meeting were approved.

Public Comments: None.

Old Business:

A. Update by Taylor Engineering, Inc. on review of USACE Hurricane Surge Frequency Analysis.

Robert Jacobsen with Taylor Engineering, Inc. (Taylor) provided a status report on two task orders issued to Taylor: 1) Task Order No. 5 - St. Charles/East Jefferson Internal Levee Compartmentalization Study, and 2) Task Order No. 6 - Review of USACE Hurricane Surge Frequency Analysis.

Mr. Jacobsen advised that Task Order No. 5 (St. Charles East Jefferson Internal Levee Compartmentalization Study) is funded under a Community Development Block Grant (CDBG) received by the SLFPA-E. Task Order No. 5 is for the first phase of a two phase project and looks at potentially improving and completing the levee structure along the St. Charles/East Jefferson Parish line. The structure currently extends south from the Airport to Airline Highway. Phase two will look at other potential structures inside the various polders. Data collection associated with the preparation of a 2-D routing model has been completed. Taylor proposed the preparation of a 2-D routing ADCIRC model within the polder. Flows can be introduced from a breach, overtopping or similar scenario and routed inside the polder to the pump stations. The majority of the major conveyance features inside of the subject polder are surface. A few of the conveyance features are subsurface.

No pressure systems are included. Surface features include the Metairie Ridge and the railroad embankment. The basin and conveyances are being treated as open channel flow. Hydrographs in different portions of the polder can be looked at, as well as how the hydrographs are modified by putting in a structure. Scenarios that far exceed the one percent probability will be used.

Mr. Jacobsen anticipated having a completed test model mesh in about four weeks. Geometry data for the topography will come from Lidar and the invert elevations on the channels from either the existing drainage models or approximated. He proposed that the discussion of the type of scenarios to be used for the evaluation be conducted in two steps. The first step would be the discussion among a small group of individuals of the issues to be covered at the stakeholder meeting. The second step would be a stakeholder meeting, which is a requirement of the CDBG. Issues to be covered in the stakeholder meeting include the purpose of the project, description of the 2-D model, suggestions for model improvement, surge scenarios, residual risk analysis and other compartmentalization structures for Phase II. Interest in compartmentalization has spurred other efforts, such as long term water management issues for the region. The first priority of the SLFPA-E is the perimeter Hurricane and Storm Damage Risk Reduction System (HSDRRS). Supplemental structures may reduce or increase risk, depending upon their design and location, and this information should be evidenced in the hydrographs. This study of internal structures is just one way that the Board can look at further improvements to residual risk management. Projects will be identified and the potential effects on residual risks will be considered. A determination will need to be made of how much initial rainfall will be placed in the model. It was pointed out that this model is not meant to be a drainage model.

Mr. Jacobsen addressed Task Order 6 - Review of USACE Hurricane Surge Frequency Analysis. He explained that the U.S. Army Corps of Engineers (USACE) prepared a document in 2007 that was the basis for selecting system elevations. It basically built on the 152 storm characterization of the one percent and point zero two percent return frequency surge height and wave information and was augmented with some additional analysis. Basically, using the Monte Carlo Analysis, the USACE was not only able to estimate what a value would be for a design height, but also a reasonable band of uncertainty around the overtopping criteria using the 90 percent confidence limit for setting an overtopping criteria based on a one percent return frequency. The USACE was also able to analyze what the same rate of flow would be for a 500 year event. Since the preparation of this document, other engineering and construction issues have caused the modification of some of the designs. Therefore, the plans and specifications (P/S) elevations in some cases are different from the recommended heights. An addendum is being prepared to the 2007 report to address those reaches that have P/S that are somewhat different and caused the need for recalculations.

Mr. Jacobsen advised that a meeting is being arranged with Nancy Powell with the USACE to discuss various issues relative to the addendum, including the number of reaches effected, the structure elevation to be used, the hydraulic methods being incorporated in the analysis and the treatment of uncertainties. He stated that, he wanted to make the Committee aware that these issues are being reconsidered because of the scheduling of

Task Order No. 6. In addition, IPET Volume VIII - Assessment of Risk and Reliability is being revisited. A first draft of the results is anticipated to be completed within weeks. The USACE will provide a summary of the results and a meeting will be scheduled with the USACE to discuss the SLFPA-E's questions. Mr. Brouillette explained that OCPR is evaluating the best way to monitor the system long term and asked to be included in the meeting with Nancy Powell and the exchange of information.

Mr. Jackson invited Stradford Goins to comment. Mr. Goins stated that he was encouraged by what Mr. Jacobsen is doing and added that this will be good for the future. He stated that the issue he brought to the Board several months ago concerned looking at the modeling that was done to set the 100 year elevations and verification of the assumptions. His three concerns dealt with the paths of the 152 storms, how the coastal restoration piece was tied in, and the interface between Louisiana and Mississippi.

Mr. Jacobsen explained that the assumptions built into various aspects that produced the design elevations will be identified in the report and that the limitations associated with those assumptions within the report are in most cases well recognized and will be highlighted. The information is scattered in various places, such as the FEMA report, LaCPR and other documents. This information will be pulled together in such a way that an individual can work his way through it. He discussed various on-going studies and pointed out that the models and science are continuing to evolve. Taylor will document the state of the science and techniques that existed at the time in question, how the science and techniques are continuing to evolve and where these techniques are within the range of studies that have been done in the last four or five years.

Mr. Brouillette commented that the State is involved in a study in the southwest part of Louisiana in which restoration and protection projects for the first time are being integrated. He pointed out the difficulty in combining these types of projects at the onset since each has a different way of analyzing cost-benefit ratios—one uses environmental benefits and the other uses risk and damage reduction benefits. In the selection stage, all of this information will be combined and the resiliency perspective will be considered. The State is also updating the Master Plan and he encouraged the SLFPA-E to be engaged in this effort.

Mr. Goins stated his concerns were that the level is not as high as it should be and that there may be a false sense of security in calling the system 100-year protection if parts of the system can be overtopped.

B. Status of issue of corrosion protection of St. Bernard T-Walls.

Mr. Brouillette reported that some cracking has been seen on the stabilization slab and that there is continued concern over the issue of corrosion. Internal discussions on how to proceed are on-going amongst OCPR upper management. Additional experts are being engaged to assist in determining how to move forward and the types of procedures that can be used.

C. Status of Orleans Avenue, London Avenue and 17th Street Outfall Canal issues.

Mr. Jackson advised that the meeting scheduled for today with the USACE was rescheduled for March 15th. Therefore, he did not have an update on this item.

New Business:

A. Report on the T-wall voids problem and evaluation of solutions. (LBBLD)

Stuart Williamson, Lake Borgne Basin Levee District (LBBLD) Executive Director, advised that he participated in a site visit on February 25th with Mr. Brouillette and a consultant concerning this issue. A follow up visit was conducted on March 1st at the site to discuss the stabilization slab issue with the USACE. There was concern about the voids around the piles and the USACE was requested to refrain from using Bentonite. The LBBLD was informed yesterday that the USACE wants to remove the stabilization slab from monoliths W2 through W8, which is in the vicinity of the old Bayou Dupre Channel. The LBBLD has concerns about stability issues and has requested that surveys be done across the slab up to the tie-in where the elevation rises. This issue will be closely monitored and communications with the USACE will continue.

B. Discussion of cracks in the T-wall base (LPV 145). (LBBLD)

Mr. Williamson explained that this issue concerns LPV 145 from Bayou Bienvenue to Bayou Dupre. Cracks have developed in the stabilization slab and are propagating to the base slab. The LBBLD is closely monitoring this situation. The LBBLD had not been informed by the USACE concerning the type of procedure that would be used to correct this situation.

John Greishaber with the USACE explained that the stabilization slab was put in place in very warm weather and cracking occurred when the slab experienced very cold weather. In addition, there are some very long lengths of slab placed between construction joints. There is a certain amount of reflective cracking at the three bulb water stop. A repair process is being developed. The cracking is being mapped and the slabs will be looked at individually. Recommendations will be requested from a number of experts. The USACE will wade through the recommendations and determine how the stabilization slab will be sealed and how to insure that the cracking will not reoccur. The USACE Engineer Research and Development Center (ERDC) has been contacted for assistance.

Mr. Jackson requested that the USACE share the proposed solutions with Mr. Turner. Mr. Turner advised that Colonel Sinkler has made a commitment to involve the SLFPA-E in this process.

There was no further business; therefore, the meeting was adjourned at 11:50 a.m.