

**MINUTES OF
SOUTHEAST LOUISIANA FLOOD PROTECTION AUTHORITY-EAST
OPERATIONS COMMITTEE MEETING
HELD ON SEPTEMBER 5, 2013**

PRESENT: Louis Wittie, Chair
Stephen Estopinal, Committee Member

The Operations Committee of the Southeast Louisiana Flood Protection Authority-East (SLFPA-E or Authority) met on September 5, 2013, in Meeting Room 221, Orleans Levee District Franklin Administrative Complex, 6920 Franklin Avenue, New Orleans, Louisiana. Mr. Wittie called the meeting to order at 9:30 a.m.

Opening Comments: None.

Adoption of Agenda: The agenda was approved as presented.

Approval of Minutes: The minutes of the June 6, 2013 Operations Committee meeting were approved.

Public Comments: None.

New Business:

A. Discussion of new bathymetry data for Lake Pontchartrain.

Mr. Estopinal advised that it was brought to his attention through NOAA (National Oceanic and Atmospheric Administration) that the bathymetry data for Lake Pontchartrain and the adjoining waters is quite old. This information has been used in a number of modeling efforts. He asked that the SLFPA-E investigate a method or means by which this bathymetry data can be updated. He requested that Bob Jacobsen discuss the effectiveness of bathymetry and the reason it should be kept up-to-date.

Mr. Jacobsen (Bob Jacobsen, P.E., LLC) explained that he recently authored a report for the SLFPA-E on the hurricane surge hazard analysis for the region and the state of the practice. The study identified a number of areas of research needed to better define surge hazards. There is a tremendous uncertainty band around the 100-year and 500-year surge hazard numbers. He commented on a hand out provided to the Committee (12 Points for Improving Our Understanding and Management of Surge Risk). Point 11 in the handout discusses some of the key areas that have not been grappled with in the science and engineering of understanding surge hazard. There is not enough information in these key areas to improve the estimates of surge risks. He noted that one of the recommendations in his report was that the SLFPA-E go on record and inform the Coastal Protection and Restoration Authority (CPRA) that these research areas should become a focal effort for the CPRA, The Water Institute of the Gulf and the universities working in these areas so that better information is available the next time a surge hazard analysis is done.

Mr. Jacobsen discussed five areas of water data collection that are necessary to improve the surge hazard analysis:

1. An expanded network of permanent, real-time, hardened wind speed and water level gages — An expanded network of sentinel type stations (hardened stations that can survive a Category 4 storm and continue to collect data) is needed across southeast Louisiana on the East and West Banks. This subject has been previously discussed by the SLFPA-E. There are gages that are maintained by the U.S. Army Corps of Engineers (USACE) and U.S. Geological Survey (USGS); however, these gages are not hardened. If a gage fails, high water marks must be collected, which only provides one set of data and not the necessary hydrographs.
2. A network of permanent, real-time, hardened water current instruments —The speed of the water moving through key critical areas (e.g., Chef, Rigolets and Manchac Passes, Seabrook and other areas in the Delta and Barataria) is needed.
3. A network of permanent, real-time, hardened open water wave gages — These stations would collect data in open bodies of water, such as Lake Pontchartrain, Lake Borgne, Mississippi/Breton/Chandeleur Sounds and various other areas.
4. A program for installing additional temporary instruments to measure wind speed, water level, current and open-water waves during storms.
5. A program for temporary monitoring/measuring of foreshore wave transformation, breaking, run-up and overtopping at various Hurricane and Storm Damage Risk Reduction System (HSDRRS) reaches during storms — Currently, equations generated for other conditions in the North Sea are being used. A specific concern is wave overtopping.

Mr. Jacobsen noted that Points 6 and 7 of the 12 Points discuss how rapidly the science and approaches to surge hazard analysis are evolving. One area that is continuing to evolve is uncertainty. He emphasized that the most important design parameter hydraulically for the system is height; however, there are no design criteria in the manual dealing with height. The criteria are based on the overtopping rate. Height is derived in order to minimize an overtopping rate. He commented on the uncertainty around the 100-year overtopping rate and stressed that this is the most critical design factor in the entire system. The current state of the practice would not develop this estimate (the 100-year overtopping rate at a 90 percent non-exceedance level or q90) in the way that it is currently developed and is likely to produce a number that is a multiple of times higher. If the state of the practice produces a better q90 for the 100-year level, it would also produce a better estimate for the 500-year level, which is being used to discuss resiliency options. A sensitivity analysis has shown that revising the 100-year and 500-year q90s for a proper standard deviation number that includes all of the factors of uncertainty that should be in the number would increase the overtopping rate by factors of greater than 5. He reiterated that the most important design number is off by a factor greater than 5 in terms of the performance versus the design. This has great significance for design and future re-certification. He pointed out that his approach was to look at whether this was a good enough effort for the SLFPA-E to move forward with for management purposes and not at whether it was a good enough effort for FEMA

certification purposes. He recommended that the SLFPA-E work with the CPRA, USACE and the appropriate experts in the application of uncertainty analysis to hydraulic design, particularly those involved in dam safety analysis.

Mr. Estopinal suggested that the Committee forward a recommendation to the Board relative to the establishment of an ad hoc study group to investigate the overtopping rate. The ad hoc committee could formulate a recommendation on how the SLFPA-E should proceed.

Mr. Jacobsen clarified that the major issue is the q90s and how uncertainty is accounted for in the q90s. The design is based on the q90s and not the 100-year still water level. The key component of the q90 is the uncertainty analysis that provides the standard deviation numbers in the determination of the q90s. The question is what approach was used in the development of standard deviation numbers in the q90s and is it appropriate. Mr. Jacobsen commented that he is a participant in the CPRA's team doing a review that has a more rear-view focus, whereas the SLFPA-E's focus is more forward looking. There are a number of other issues; however, this is the top issue. The USACE organized a hurricane surge analysis workshop; however, this issue, as well as a number of other detail issues, was not addressed to the degree that the SLFPA-E would have liked. The workshop was an effort to educate people broadly on how work was done as opposed to getting into the weeds. The issue is whether the existing levees have a projected overtopping rate that is consistent with the expected performance for the expected level of risk management.

A recommendation will be forwarded by the Committee to the Board to consider the establishment of an ad hoc committee to investigate the design criteria for the overtopping rates for the HSDRRS.

Mr. Estopinal pointed out the need for good gravitational observations in order to achieve a good understanding of the datum. This information can be mated with GPS observations in order to begin to develop a mechanism that will support the redevelopment of the bathymetry in Lake Pontchartrain and the adjacent waters.

Robert Turner, SLFPA-E Regional Director, reported that SLFPA-E, NOAA, USACE and levee district personnel participated in a site visit to various complex structures as part of the overall effort to determine the appropriate locations for various gages and for hardened gages. A map was developed with recommended (15 to 20) locations for critical gages; however, there is no funding for this effort. The estimated cost of a hardened gage (equipment and structure) is \$200,000 to \$300,000. The estimated cost to operate and maintain a hardened gage is \$15,000 to \$20,000 per year. The SLFPA-E is investigating the possibility of selecting a location and funding a single gage. An attempt could be made to secure support from area industry that utilize this type of information and have a vested interest to assist with this effort. He discussed several critical areas for the location of hardened gages. He also pointed out the need to collect near-shore data along HSDRRS levees, which is one of the big gaps in the research. Transient gages could be put in place in advance of a storm and would collect extremely valuable data.

Mr. Estopinal commented that all of the recommendations generally fall within the concept of examining how data is collected and utilized and can be considered by the ad hoc committee.

B. Discussion of investigation into turning the New Orleans interior drainage canals over to the Sewerage and Water Board.

Mr. Estopinal explained that the levees that border the New Orleans interior drainage canals (London Avenue, Orleans Avenue and 17th Street Canals) are no longer storm surge flood protection levees. The canals are Sewerage and Water Board (S&WB) drainage canals and the S&WB will be operating the pumps at both ends of the canals. He stated that he would like to investigate what needs to be done to turn the canals over to the City of New Orleans or the most applicable entity, which would probably be the S&WB. However, several things must first be investigated: 1) would this entail an act of Congress; and 2) the applicability of the laws concerning levees rights-of-ways and the toe plus 15-ft. zone. He commented that he thought that the laws concerning rights-of-ways and the toe plus 15-ft. zone only apply to levee board levees. He asked would this issue go away if the S&WB had jurisdiction over the canals. He stated that the interior drainage canals serve only the S&WB and no longer have anything to do with storm surge or riverine flooding. He stated that he thought that the canals are no longer a part of the SLFPA-E's charge and that they should be placed in the hands of the entity that actually uses them. He asked that the Board initiate an investigation into what would need to be done to turn the canals over to the City of New Orleans.

Mr. Wittie commented that he thought that this issue had been discussed years ago and that Congress had placed the canal levees in the hurricane protection system.

Mr. Lacour asked for a clarification on whether the requested investigation concerned the canals or the levees. Mr. Estopinal clarified that he was referring to the levees, since the canals from water line to water line are already under jurisdiction of the S&WB. He clarified that he was not asking that the Board initiate an investigation, but that it initiate the discussion of an investigation.

C. Discussion of change order to Franklin Avenue Silo Demolition Contract.

Gerry Gillen, Orleans Levee District (O.L.D.) Executive Director, explained that there is currently an on-going contract for the silo demolition work. As the work progressed, an additional area (an old tire shop in the northwest corner of the building) that needs to be demolished was discovered. The additional demolition will cause the budget to be exceeded by about \$30,000 (from \$320,000 to \$350,000) and will necessitate a change order to the contract. The Board will be requested to approve the increase in budget.

Levee District Reports: (copy appended to minutes)

Hurricane and Storm Damage Risk Reduction System (HSDRRS) Status Report:

Robert Turner, SLFPA-E Regional Director, reviewed the highlights of the HSDRRS status report. He commented on the following issues:

- Hwy. 11 Floodgate – Several problems remain primarily dealing with unanticipated settlement. A more complex analysis will be done to determine whether there are issues that must be resolved.
- IHNC Surge Barrier Barge Gate – Issues remain concerning the windlasses. The USACE is working with its contractor to resolve the issue dealing with the sensors. Consideration is being given to the placement of dampers on the windlasses.
- Bayou Bienvenue Bridge – The design is complete. The solicitation will be issued within the next two months.
- New Bayou Dupre Sector Gate – The gate is operational; however, there are some problems with the bearing surfaces for the hinge and pintle. The USACE will begin the repair of this problem in January, 2014. Repairs are anticipated to be completed by June or July, 2014.
- LPV 149 T-wall and Sector Gate – The USACE is expected to issue the Notification of Contract Completion (NCC) for the project. LBBLD personnel have been operating the gate. Addition work will be done by the USACE in the latter part of this year at the point where the floodwall ties into the Mississippi River levee.

Lake Borgne Basin Levee District (LBBLD):

Nick Cali, LBBLD Executive Director, reviewed the highlights of the LBBLD status report. He commented on the following issues:

- The kickoff meeting will be held today with Dewberry Consultants, LLC, the successful respondent for the joint community outreach endeavor with St. Bernard Parish. The project is for the communication of risks and is being funded through a Hazard Mitigation Program Grant (HMPG).
- The design of the pump station engine upgrades and safe rooms being funded through a HMPG is anticipated to begin soon.
- FEMA projects: A contract has been awarded for the replacement of fences around the canals and pump stations. A contract will be awarded soon for the erosion protection at Pump Stations (PS) Nos. 1 and 6. The next project will be the refurbishment of the pumps at PS No. 6 and the pipe hangars at PS Nos. 6 and 7.

Mr. Wittie inquired about the access road from Bayou Dupre to Highway 46. Mr. Cali reported that some settlement has occurred; however, the road is functional. He cautioned that a pro-active approach should be taken so that it does not become a problem. Mr. Turner explained that the access roads were constructed for construction access. The roads are about 75-ft. wide and consist of layers of sand, geotextile and about 6-inches of stone. It was thought that the USACE would remove the road materials and return the area to its original state; however, this did not happen. The SLFPA-E is working with the USACE to address several issues from a safety standpoint and to address the utility and pipeline crossings. The USACE advised that it has money budgeted to address these issues; however, it is not known to what extent they will be addressed.

Mr. Turner briefly discussed the ECI (early contractor involvement) contract process used by the USACE for the construction of the access roads and the construction of the T-walls atop the levees. The USACE took advantage of a number of things in the ECI contracts that significantly reduced project costs, but will increase the operation and maintenance costs. Mr. Cali advised that the USACE has agreed to fix the utility and pipeline crossings. Instrumentation is in place to monitor long term settlement.

Mr. Turner advised that the SLFPA-E received some preliminary data collected by the USACE's corrosion expert. Ricky Brouillette with the CPRA and the State's consultant have been involved in this issue. Mr. Turner commented that there are a number of factors that make it difficult to address the issues related to the T-wall built atop the levee (e.g., the greater possibility of piles being exposed to air, additional stresses in areas with significant settlement and no armor protection on the floodside of the wall).

Mr. Turner explained that State law requires that a profile on the levee system be performed at least once every three years. The State had aero stereo photography performed at a low altitude late last year and converted the data so that there would be a profile of the levee and cross sections approximately every thousand feet. The control was based on NAVD 12A.

Mr. Turner commented on the levee certification effort for the non-federal levees in Orleans and St. Bernard Parishes. The preliminary work has been performed by Tetra Tech. The first phase involved the collection of foundation data, the visual inspection of the levee system and a review of the written operation and maintenance plans. No major issues have been discovered thus far; however, several minor issues must be resolved. A needs analysis was drafted at the end of phase one that at this time includes just the tasks for phase two. Appendices to the needs analysis will provide more detailed information. Phase two of the certification process deals with data collection required for the geotechnical analysis, which may cost several million dollars. Only about one year remains in the window provided for certification under the Provisionally Accredited Levee (PAL) agreement. If the levees are not certified, FEMA can begin taking them off of the maps. This will affect the base flood elevations in the Lower Ninth Ward, New Orleans East and St. Bernard Parish. The original estimate of the levee certification was about four and one-half million dollars with about three-fourths of this cost to be borne by the Lake Borgne Basin Levee District and one-fourth by the Orleans Levee District. Discussions concerning assistance with funding the certification effort have been held with local, State and Federal government representatives. Mr. Estopinal recommended that this issue be referred to the Board for discussion.

Orleans Levee District (O.L.D.):

Gerry Gillen, O.L.D. Executive Director, reviewed the highlights of the O.L.D. status report. He commented on the following issues:

- Tree/vegetation relocation/removal - A meeting was held with USACE representatives concerning tree/vegetation removal along the Mississippi River Levee/Floodwall. Palm trees and other vegetation in the vicinity of the Convention

Center and World Trade Center and other areas along the river must be removed from the 15-ft. vegetation free zone. Meetings will be held regarding the removal/relocation of trees within the vegetation free zone along the Lakefront Levee.

- Safehouse – The remediation construction is underway.
- Franklin Avenue Parking Lot Replacement Project – One of the project features is landscaping around the Administration Building. The architect's original landscaping plan was scaled back. The current estimate for landscaping is \$50,000 to \$55,000.
- Seawall Erosion Project – Design Engineering, Inc. (DEI) is completing the design of Reaches 4 and 5. A Request for Qualifications (RFQ) will be developed for engineering services for the remaining portions of the Seawall Erosion Project.
- O.L.D. Police Station (Loft) Building Assessment – Remediation/renovation work for the building was budgeted in the FY 2015 Budget; however, the recommendation in the assessment is that the building be demolished and that a smaller, more useful facility be constructed. An RFQ will be developed for the required consulting services.
- LPV 109 and 111 – Discussions are being held with the USACE concerning the O.L.D.'s takeover of the grass cutting of these reaches. A contractor has been selected to assist with this work.

East Jefferson Levee District (EJLD):

Fran Campbell, EJLD Executive Director, reviewed the highlights of the EJLD status report. She commented on the following issues:

- Shoreline protection – EJLD personnel are spraying along the shoreline protection to prohibit weeds and trees from growing between the rocks.
- West Return Floodwall – EJLD personnel will place plates alongside the ladders in order to prohibit individuals from attempting to climb over the floodwall.
- Safehouse and consolidated facility – Revised preliminary plans are being prepared based on input from staff. The title attorney completed the title work and will meet with the attorney for the City of New Orleans to compare property descriptions for the purchase agreement.
- Mississippi River Levee Lift – The right-of-entry has been provided to the USACE. Bids are scheduled to be opened on September 24th. Construction duration is approximately three years. The levee will be lifted approximately one-and-a-half to two feet.

There was no further business; therefore, the meeting was adjourned.