

**MINUTES OF
SOUTHEAST LOUISIANA FLOOD PROTECTION AUTHORITY-EAST
ENGINEERING ADVISORY COMMITTEE MEETING
HELD ON DECEMBER 7, 2010**

PRESENT: Thomas Jackson, Chair
Stephen Estopinal, Vice Chair

The Engineering Advisory Committee (EAC) met on December 7, 2010, 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 10:07 a.m.

Opening Comments: Mr. Jackson advised that several items of old business have been placed on the agenda for monitoring by the Committee.

Adoption of Agenda: The agenda was amended to include status reports on an 8-inch gravity line for the Lakefront Airport and Statements of Qualifications received for the refurbishment of the Franklin Avenue Complex. The amended agenda was adopted.

Approval of Minutes: The minutes of the November 4, 2010 EAC meeting were approved.

Public Comments: None.

Old Business:

1. Corrosion protection of St. Bernard T-Walls – Status of the letter from the Office of Coastal Protection and Restoration.

Mr. Jackson advised that he received a copy of the letter dated November 10, 2010 that was sent to the U.S. Army Corps of Engineers (USACE) by the Coastal Protection and Restoration Authority (CPRA) from Ricky Brouillette with the Office of Coastal Protection and Restoration (OCPR). The letter states the CPRA's support of the resolution adopted by the SLFPA-E Board with regards to corrosion protection on the steel sheet piles and H-piles underneath the T-wall ringing St. Bernard Parish. The CPRA, as a signatory of the Project Partnering Agreement (PPA), has called upon the USACE to respond to its concerns. A copy of the USACE's draft response to the CPRA's letter was also provided by Mr. Brouillette. Mr. Jackson read highlights of the USACE's draft response. In regards to the Independent External Peer Review (IEPR), Mr. Jackson commented that the SLFPA-E is included in the process only after the IEPR is released to the public by the Chief of Engineers, which will be post construction. The USACE states in its letter that the 23-mile portion of the system in St. Bernard Parish, if properly maintained, will adequately perform against a 100-year storm surge for the design-life of the project. Mr. Jackson commented that his understanding is that the USACE's project design-life is fifty years; however, the region will in all probability be dependent on these flood protection projects for a significantly greater period of time. Mr. Estopinal added that the fifty year life span does not give license for engineered obsolescence, but is a fifty

year period as far as needing major maintenance or revision. Mr. Jackson added that he could recall at least three meetings with the USACE that he attended in which this issue was brought up.

Mr. Jackson commented on the meetings held between the USACE and the CPRA, as the contract partners. The USACE in its response referenced the addition of this issue to the agenda for the next Strategic Partnering Meeting to ensure that the CPRA and SLFPA-E has all of the information requested. Mr. Turner pointed out that a table was attached to the letter from CPRA to the USACE that outlined the various things that OCPR was requesting from the USACE. Mr. Jackson suggested that the SLFPA-E should work through the CPRA on this issue, since it has been made a contractual claim or dispute. He stated that he understood that if this issue cannot be resolved locally that it will go to Washington, D.C. Mr. Turner noted that the PPA may include a non-binding mediation process for which the USACE and OCPR would pay an equal share of the cost before the issue is sent to Washington for a resolution.

Mr. Jackson requested that Mr. Turner attend the Strategic Partnering Meeting referred to by the USACE. He also recommended that when the USACE formally issues its letter that the SLFPA-E respond in order to set the record straight. Mr. Turner pointed out that the SLFPA-E has consistently stated its case on this issue since November of 2009.

2. Outfall Canals – Update from Halcrow and meeting with S&WB.

Stevan Spencer, SLFPA-E Regional Chief Engineer, advised that a task order was issued to Halcrow, Inc. (Halcrow) for the review of the USACE's remediation work along the outfall canals. Halcrow is examining the remediation plans and specifications in relation to the safe water elevations and attempting to ensure that all of the areas that need remediation are addressed. The USACE is on the fourth revision of the Safe Water Elevation (SWE) Report. Halcrow's analysis is based upon the USACE's original submissions. Therefore, each time the USACE revises the SWE Report, Halcrow must determine what changes were made and do a re-analysis. As of this time, the numbers produced by Halcrow and the USACE's consultant have basically been close.

Mr. Spencer explained that at this time three issues remain outstanding. The first issue relates to the USACE's decision that rip-rap was no longer required on a section of the west bank side of the 17th Street Canal when using a low water reference plane of minus one. The SLFPA-E wants the USACE to address the lowest most probable elevation in the canal in the SWE Report to clarify the analysis. Mr. Turner suggested that Halcrow check the original design conditions for the floodwalls, particularly with regards to low water elevations. Mr. Jackson pointed out that the outfall canal gates may need to be closed under extreme low lake levels. The second issue concerned possible seepage at the 17th Street Canal and a clarification is needed in the SWE Report as to the consistent use of criteria. The third issue concerns Halcrow's determination of a 1.4 factor of safety at the Orleans Avenue Canal and the USACE's consultant's determination of 1.5. Since the difference could have resulted from the two firms using different models sensitivity testing was done. The USACE's consultant determined that a berm is needed with a top at elevation at minus 2-ft. on the protected

side (east side) of the Orleans Avenue Canal. Halcrow's results indicate that the top of the berm may need to be at elevation minus 0.5-ft. to provide the same level of protection for a 1.4 factor of safety.

Mr. Jackson stated that the Board adopted a resolution last month concerning the investigation of the concept of lowering the elevations of the outfall canal floodwalls to about +9-ft. or an elevation determined reasonable. He asked whether any analysis has been done concerning water levels above the SWE of +8-ft. on the sections of levee/floodwall that the USACE has determined would not require remediation, as well as those sections being addressed with remediation. Mr. Spencer explained that the USACE is using the SWE of +8-ft. in the designs and then checking the factors of safety. Mr. Jackson recommended that Halcrow provide at least enough spot checks in order for the SLFPA-E to address this issue with the USACE. Mr. Turner advised that it may be relatively inexpensive for Halcrow to generate these numbers on the sections that it already reviewed; however, Halcrow would have to establish models and perform calculations for the sections that are not being remediated. The issue of the amount of allowable I-wall stick-up and the embedded section required was discussed. Mr. Jackson noted that statements had been made that the S&WB cannot pump water in the outfall canal above elevation +8-ft. He commented that his mind would be put at ease if the USACE showed in a public forum that the water in the outfall canals could not possibly rise above elevation +8-ft. under any circumstances. However, if there is a possibility that the water could rise above elevation +8-ft., this issue needs to be addressed. Mr. Turner pointed out that the conditions in the canals will not remain static. Erosion, sedimentation and other situations could ultimately impact the cross-section of the canal and the factors of safety for stability and seepage.

Mr. Estopinal agreed with Mr. Jackson's recommendation that Halcrow should perform spot checks and calculations for the factors of safety at elevations above the SWE (e.g., at elevations +10-ft. and +12-ft.) for both the remediated and non-remediated areas on all three outfall canals. He offered a motion, which was adopted by the Committee, to approve the addition of this work in the task order with Halcrow, Inc.

3. To discuss the hiring of a modeler to review the U.S. Army Corps of Engineers' (USACE) models, assumptions and boundary conditions and to perform the appropriate statistical analysis.

Mr. Turner advised that the Board at its meeting last month discussed looking at the communication of residual risks as opposed to getting into the weeds and attempting to recreate the 152 storm sweep used in the USACE model. The SLFPA-E currently has an ID-IQ contract with Taylor Engineering, Inc. (Taylor); therefore, a task order could be issued for this work. He stated that Robert Jacobsen asked to bring to the Committee's attention information on work that he and Taylor performed in the past and Taylor's current relationship with the USACE relative to the issue of independent peer review.

Robert Jacobsen with Taylor discussed the firm's relationship with the USACE New Orleans District (NOD). Taylor was hired as a FEMA contractor to produce maps for several parishes; however, it did not produce surge maps for the New Orleans area. Taylor is continuing to work with FEMA on other ADCIRC modeling efforts along the

Atlantic coasts. Chris Bender with Taylor was retained by the surge team to provide independent review and support on the ST WAVE portion of the modeling and is still retained by the USACE NOD on ST WAVE related work. Mr. Jacobsen also related information concerning his personal professional relationship with the USACE while he was employed by URS and served as a project manager and a part of the joint surge study team developing the project that produced the model used for the IPET study, Katrina, FEMA, LaCPR and the design. He advised that he served as a project manager and consulted on some of the specific aspects of the model for which concerns were expressed.

Mr. Jacobsen explained the circumstances under which he could not provide an independent opinion on work performed by Taylor. He added that he could identify the assumptions, limitations and the work that had been done and that the Board could decide whether it would like independent advice on the particular methodologies.

Mr. Estopinal commented that his understanding was that Mr. Goins was concerned that there was an opportunity for the modeling to be selective. He asked Mr. Jacobsen could he perform an analysis and provide a fair rendering as to whether the modeling had been selective. Mr. Jacobsen responded that he could provide a fair opinion as to the nature of the modeling and the residual risks. He noted that a key responsibility of the Board is the understanding and communication of residual risks. He stated that in his reading of the USACE's reports, the USACE is not intending to distort the residual risk, nor has it done any work that would be interpreted as distorting the residual risk. He added that techniques and methodologies continue to evolve. He advised that the Board may wish to use another expert for an independent position should a significant question be raised about whether due diligence was used when going through the process of identifying the assumptions and limitations.

Mr. Turner suggested that Taylor or another firm document what has been done, the assumptions and how they relate to the state of the art at that time. The first phase of the project would involve data collection. In going through this process, the Board may decide to look more closely at particular issues.

Mr. Estopinal stated that the Board needs to know the residual risks and recommended that the SLFPA-E contract for a residual risk study. Mr. Jacobsen explained that the existing risks must be looked at in order to identify the residual risks. The only method that has been applied to characterize the existing risks is the models summarized in the reports. He stated that he could present what was done to characterize the one percent risk, some of the significant limitations and issues with some of the assumptions. He stated that the USACE has been fairly straight forward in some of its documentation; however, he did not know whether the SLFPA-E had been made aware of the limitations identified by the USACE. He discussed situations for which the SLFPA-E may decide to use another expert for opinions. He advised that he could lay out what has been discussed and what is common knowledge in the practice concerning limitations, such as the age of the topographic and bathymetric data used in the models. The USACE has laid out some of the issues concerning validation of the ADCIRC model in its documentation. Mr. Jacobsen explained that once he lays out the issues relative to the model, what has been established within the professional community

about the model and the results of the model, if there are issues in terms of due diligence that would affect the Board's decisions, a separate expert may be needed.

Mr. Estopinal offered a motion that Mr. Turner proceed with the negotiation of a task order. The motion was adopted by the Committee.

4. Discussion of request for the USACE to provide a canal template for future canal excavations in the London Avenue, Orleans Avenue and 17th Street Outfall Canals.

Mr. Turner reported that the USACE is looking at the request; however, an official response has not been received. Mr. Jackson stressed the importance of the development of a canal template. Mr. Turner was requested to report on the status of this item at the next Committee meeting.

5. Discussion of request to investigate the concept of lowering the height of the outfall canal floodwalls to some level determined appropriate above the safe water elevation of 8-ft.

Mr. Jackson advised that a meeting will be held this afternoon with the Sewerage and Water Board.

6. Status report on an 8-inch gravity line for the Lakefront Airport.

Gerry Gillen, Orleans Levee District (O.L.D.) Executive Director, advised that bids were received for jacking and boring a line adjacent to the existing line. The bids were significantly higher than the project estimate; therefore, the bidders were informed that the O.L.D. would not be proceeding with this option. Boh Bros. Construction Company (Boh) was able to insert a video line through the existing line and was confident that a 3-inch line could be inserted inside the existing line for use as a force main. A proposal was received from Boh last week. The O.L.D. will authorize Boh to temporarily turn the system into a force main, allow the injection grouting process by the USACE to take place, and if there is no evidence of a blow out, the 3-inch line will be removed leaving the current gravity system. This information was provided to the Non-Flood Asset Board, which was satisfied with the described procedures. He advised that the O.L.D. will proceed with this course of action at an estimated cost of about \$50,000.

7. Status report on Statements of Qualifications received for the refurbishment of the Franklin Avenue Complex.

Mr. Gillen advised that eleven Statements of Qualifications were received and are being reviewed. A recommendation will be made at the January meeting.

There was no further business; therefore, the meeting was adjourned at 11:25 a.m.