

**MINUTES OF
SOUTHEAST LOUISIANA FLOOD PROTECTION AUTHORITY-EAST
COASTAL ADVISORY COMMITTEE MEETING
HELD ON NOVEMBER 21, 2014**

PRESENT: G. Paul Kemp, Chair
Rick Luettich, Committee Member
John Lopez, Committee Member
Albert Gaude, Committee Member
Mark Schexnayder, Committee Member

The Coastal Advisory Committee (CAC) of the Southeast Louisiana Flood Protection Authority-East (SLFPA-E or Authority) met on Friday, November 21, 2014, in Meeting Room 201, Orleans Levee District Franklin Administrative Complex, 6920 Franklin Avenue, New Orleans, Louisiana. Mr. Kemp called the meeting to order at 9:30 a.m.

Opening Comments: Mr. Kemp explained that the Committee would be discussing residual risk (the estimated amount of surge and wave risk that persists after the certified 100-year system), understanding how the 100-year statistics were developed, and the measures that can be taken to go beyond the 100-year level. The SLFPA-E retained the services of Bob Jacobsen, PE, to review the background for the 100-year design and to investigate potential specific measures to improve the level of protection and deal with residual risks (e.g., compartmentalization).

Adoption of Agenda: The agenda was adopted as presented.

Approval of Minutes: The minutes of the March 21, 2014 Coastal Advisory Committee meeting were approved.

Public Comments: None. Mr. Kemp encouraged the public to provide comment during the meeting.

Old Business:

A. Follow-up on previous recommendations for improving flow sensor and gage performance in the vicinity of the IHNC and Surge Barrier.

Robert Turner, SLFPA-E Regional Director, reported that the SLFPA-E contracted the services of the U.S. Geological Survey (USGS) to maintain the current velocity meter at the Seabrook Control Structure. The data is available on the USGS hydrological website for Louisiana and alerts are being received. The U.S. Army Corps of Engineers (USACE) installed multiple sensing units for stream flow at the IHNC Surge Barrier; however, the instruments are no longer working. Stevan Spencer, SLFPA-E Regional Chief Engineer, added that the USACE operates and maintains three current meters at the IHNC Surge Barrier Sector Gate. One of the meters was struck and the other two meters had electrical problems. The meter that was struck has been repaired and the USACE is working to repair the other two meters. The USACE is waiting until all three

meters are operational before putting the meters back in place. Mr. Turner explained that the USACE views the meters at the IHNC Surge Barrier Sector Gate as a requirement for navigation; therefore, funding for the meters is being taken from the Gulf Intracoastal Waterway Fund. The SLFPA-E is operating and maintaining water level gages at the IHNC Surge Barrier. The data is transmitted via satellite to the USACE and published on the Rivergages.com website. The SLFPA-E approached the USGS several times concerning the possibility of contracting the USGS to maintain the site and publish the data. The USACE assisted with the repair of several other gages. Several gages located in Lake Pontchartrain (e.g., Rigolets and Chef Passes) will be turned over by the USACE to the SLFPA-E for operation and maintenance.

New Business:

A. Briefing on October 23, 2014 letter to Col. Hansen regarding request for detailed explanation on the choice of 1% (100-yr) Surge Still Water Level sigma values used in the Monte Carlo Analysis for computing HSDRRS Q90 values and status of talks with U.S. Army Corps of Engineers regarding Surge Hazard since joint workshop

Mr. Turner explained that a workshop for surge analysis was conducted in August, 2013. An attempt was made to answer several points brought up by Mr. Jacobsen in one of his reports. A final report was received after the workshop that included sections written by various participants. A letter was formulated to the USACE concerning the most significant remaining issue. The way the USACE conducted the surge analysis, in particular the overtopping analysis, was a departure from the way the analysis would have been done prior to Hurricane Katrina. The most significant departure was the emphasis placed on dealing with uncertainties. The USACE developed a procedure after Katrina to account for uncertainties in the overtopping analysis. The opinion expressed by Mr. Jacobsen was that the USACE should have included the uncertainties not just to develop the mean elevation for still water, but also in the Monte Carlo Analysis to determine the 90 degree confidence level. An initial conference call was held with the USACE to clarify various points in the letter. Another conference call was held to discuss the USACE's path forward and to provide some information. The USACE intends to formally respond in writing to the SLFPA-E's letter. The USACE disagrees with the idea that uncertainty must be included in two different places. The Monte Carlo process was thoroughly discussed by a number of individuals, including Dr. Resio, Dr. Van Leden and individuals from the private sector, and was vetted through the American Society of Civil Engineers (ASCE). The USACE went through a step-by-step process in setting the parameters for going forward with the process to develop the 90 percent overtopping rate (Q90) for a particular levee or floodwall.

B. Presentation of Draft Compartmentalization Study

Mr. Kemp advised that the presentation by Bob Jacobson will be on the first three parts of a four part analysis. Compartmentalization is one of the options recommended for dealing with overtopping and potential breaches.

Mr. Jacobsen explained that two public meetings have been held through the course of the Community Development Block Grant (CDBG) funded project. The perspective of the report is the management of residual risk. He explained that risks dictate

methodologies. The National Flood Insurance Program (NFIP) allows for methods that are satisfactory for its purposes that may or may not be adequate for the management of risk or for other purposes. He pointed out that the information discussed today is draft. The first three parts of the report will be discussed dealing with 1) Review of Surge Inundation Hazard, 2) Alternatives to Manage Residual Risks and 3) Analysis of Inundation Hazard. He invited feedback prior to the finalization of the report.

Mr. Jacobsen reviewed Part 1 of the report. He explained that the design elevation report from 2011 was the most recent version of the hydraulic design information available at the time the report was started. Reference was made to information from the report submitted to the Board in April, 2013, that discussed the surge hazard analysis and how it can be used for purposes of managing residual risks. He pointed out that the values differ from the Design Elevation Report (DER) due to the treatment of some specific issues that for purposes of risk methodology needed to be modified and cited some examples. It was noted that sill water hazards are higher on the sides of the lake than in the center. He emphasized the use of the word “nominal” when referring to 500-year numbers. The report continues with the assumption that some of the uncertainties are normally distributed. Factors can contribute to changes in the future in the surge hazard. The report includes information relative to Hurricanes Katrina, Gustav and Isaac. One of the things pointed out in 2013 was that some of the analysis for the SLFPA-E’s purposes is outdated and needs to be modified. He stated that he recommended in April that the State and CPRA get together as soon as possible and do a new study. The Hurricane and Storm Damage Risk Reduction System (HSDRRS) is designed for FEMA accreditation and to allow wave overtopping. The default criteria for a coastal system is to build the system above the maximum wave run up. The non-default criteria is to build the system to allow for some other estimate of overtopping; however, FEMA must be provided with an analysis that states it is appropriate and the uncertainties must be considered in the analysis. The report calculates some 100-year and 500-year overtopping rates and assumes normal distributions for both Q-50 and Q-90. The report also uses a distribution that assumes that the Q50 is the deterministic value. He discussed some of the tables in Part 1 of the report, potential future environmental changes and the implications, and emphasized that the report is still a draft document. The five proposed classes of overtopping risks included in the report were reviewed and discussed. For purposes of the report Class 4 inundation is a benchmark for looking at reducing risks. He pointed out that the risk increases in a polder or region having multiple exposure points. Three polders are used for the purposes of the report (St. Bernard, New Orleans East and Metro). Some areas within each polder have potentially higher exposures than other areas and regionally some polders have higher exposures than other polders. He reminded everyone that residual risks from flooding does not just include overtopping and breaching from hurricanes. Rainfall is the more routine residual flood risk. It was pointed out that the criteria for drainage systems in many cases is 10-year return period events. In addition, there is Mississippi River flood risk. Surge hazard risk management decisions should be considered in context with other risks.

Mr. Jacobsen reviewed Part 2 of the report. The report lists six ways to potentially reduce risks: 1) Compartmentalization, 2) enhancing the HSRRS, 3) coastal restoration, 4) removing West Bank levees in Lower Plaquemines Parish, 5) improving interior

drainage and 6) reducing inundation consequences. The Metro Polder is comprised of portions of three parishes (St. Charles, East Jefferson and Orleans). Sub-basins are delineated within the polders. Portions of the New Orleans East Polder are outside of the Maxent Levee and portions of the St. Bernard Polder are outside of the Forty Arpent Levee. Features within each of the polders were pointed out. The Legacy Levee in East Jefferson Parish is a principal feature for evaluation and was the only feature specified in the CDBG task order for consideration. Consideration is being given to using the Maxent Levee and Forty Arpent Levee systems as boundaries since the report basically looks at residual risk from Class 4 inundation in the developed portions of the parishes and pumping is being included in the modeling. The report includes a comprehensive list of potential features that could be considered for upgrade or enhancement as part of a compartmentalization project. Modeling will be used as a screening tool to look at the impacts of the features. Part 4 of the report will present the evaluation of the features that should be used. He noted that the number one priority coming out of the study is the reduction of risks from exposure to the IHNC basin. It was pointed out that should improvements be implemented in a polder, consideration must be given to mitigating potential negative impacts that may occur in an adjacent polder. The second priority is the East Jefferson-St. Charles boundary. Part 4 will include a reconnaissance study level analysis of the alternatives. There is a total of 36 potential internal compartmentalization barriers (14 parallel and 22 perpendicular). There was stakeholder involvement in the review of the laundry list of potential projects.

Mr. Jacobsen reviewed Part 3 of the report. He discussed the evaluation of Class 4 surge inundation hazards in the polders and the 34 breach scenarios that were modeled. The report also includes information from models that were developed to mimic the inundation from Hurricane Katrina in the three polders. Several locational breaches were reviewed. The report includes a discussion of some of the observations related to the features. He reiterated that due to the exposure to all three polders, the number one priority is to find ways to reduce residual risks from a failure in the IHNC basin. He noted that the scope of the study was limited to the hurricane protection system and did not include a potential failure along the Mississippi River.

Mr. Turner discussed the Restricted Navigation Area (RNA) imposed by the U.S. Coast Guard in the IHNC basin. The Coast Guard inventories the vessels in the IHNC basin on a monthly basis. The Coast Guard has informed the SLFPA-E that it is confident that it can effect an evacuation; however, there are a significant number of pleasure craft moored at the marinas and vessels that are dry docked over which the Coast Guard has no jurisdiction. The SLFPA-E is working with the Port of New Orleans and marina operators to attempt to reduce the associated risks. Boat owners have been informed that they must have evacuation plans for the hurricane season. He commented on discussions held with the USACE concerning the Water Control Manual for the IHNC and the management of water levels in the basin.

Mr. Luettich commented that Mr. Jacobsen's report is very thorough and informative.

There was no further business; therefore, the meeting was adjourned at 12:00 noon.