

**Meeting Summary**  
**H-GAC REGIONAL FLOOD MANAGEMENT COUNCIL**

**RFMC 1/21/2009**

**MEMBERS PRESENT:**

Penny Goode (Brazoria County); Ron Chastain (Colorado County); Mark Vogler (Fort Bend County); Michael D. Talbott (Harris County); Lisa Krobot (Matagorda County); Scott Elmer (City of Missouri City); Dale Rudick (City of Sugar Land); Cathy Dominguez (Brazos River Authority)

**MEMBERS ABSENT:**

Mark Jordan (Lower Colorado River Authority) represented by Roy Sedwick; Sarah Metzger (City of Pasadena) represented by Daya Dayanada; Sandra Vrablec (Austin County); Sidney Lewis (Chambers County); Mike Fitzgerald (Galveston County); Louis Bergman (Liberty County); Mark J. Mooney (Montgomery County); Andrew Isbell (Walker County); Monica Martin (Wharton County); Kevin Byal (City of Baytown); Mike Marcotte (City of Houston); Reed Eichelberger (San Jacinto River Authority); Troy Toland (City of Conroe)

**VACANCIES:**

Waller County; City of Galveston; Trinity River Authority; Lower Neches Valley Authority; three "At Large"

**H-GAC STAFF PRESENT:**

Carl Masterson; Rachel Powers; Erin Anderson

**OTHERS PRESENT:**

Steve Fitzgerald (HCFCD); John Ivey (Matagorda County/Half Associates); John Grounds (TFMA); Burton Johnston (BJE); Kelly Hamby (Brazoria County); Yancy Scott (Waller County); Jing Chen (City of Missouri City)

**WELCOME & INTRODUCTIONS**

The meeting was called to order at approximately 1:39 PM. Dale Rudick welcomed the Council, followed by self-introductions.

**MEMBERSHIP**

Carl explained there are three vacancies in at-large appointments. H-GAC board members who represent small cities will be asked to nominate representatives and the board will act on those nominations in May, which is the usual time for appointing representatives to board committees.

## **PRESENTATION ON THE REGIONAL FLOOD ALERT SYSTEM**

Steve Fitzgerald introduced himself. He has been working with the Flood ALERT program since 1993 when it began, although he knows more about it now because of investigations in the past year and a half.

He began by describing the Flood Watch system.

He first described the flood watch purpose, which is to monitor flood data, make operational decisions, and reduce risk of flooding. Steve described Flood Watch activation modes: normal, standby, monitor, flood, post-flood, and documentation. Operational decisions include decisions about mechanical and electrical facilities such as the Clear Creek Second Outlet Gates at Clear Lake. Rainfall events are also an opportunity to test the flood system and see how it works.

Steve showed an illustration of the 22 watersheds and the network of 2500 miles of channels in Harris County. Steve compared watersheds to family members: each has a different personality and reacts to situations in a variety of ways. The only major river in the county is the San Jacinto River, although this is not the primary focus of HCFCD because risk has already been reduced in that watershed by structural elevation requirements and buyouts.

Steve showed an illustration of stormwater gages. Harris County, in cooperation with partners, has an extensive gage network, one of the most dense in the country. HCFCD is developing information sheets for each of the gages, in conjunction with the National Weather Service, which communicates flood risk. The information defines minor, moderate, and major flood stages, among other things. The gages are also useful for developing hydrographs, which are used to an extent as predictive tools, although hydrographs are also useful for engineering. HCFCD gets visual confirmations of many gage readings. HCFCD also conducts high water reconnaissance, such as those done for Ike, when it learned about the differences between riverine and surge high water marks.

Steve then discussed the Flood ALERT System. (ALERT is a nationally used acronym for Automated Local Evaluation in Real Time). The local ALERT system was started by HCFCD in the early eighties. The first activation was Hurricane Alicia in 1983. There were 12 or 13 gages at that time. The Harris County Office of Emergency Management now manages the system.

The goal of the Flood ALERT system is to provide accurate and consistent data in a real-time basis...to reduce the risk of property damage, injuries, and loss of life.

A few years ago, system users realized that they were getting no data or erroneous data from a significant number of gages, such that critical decision-making was hampered. A study was conducted in order to restore confidence in the data from the system, to develop and implement methods to share information, and to identify strategies to accomplish short-term improvements and long-term performance. The final report was submitted to Harris County Commissioners Court in December 2008 after a one-year study. The team established criteria for evaluation, documented and evaluated the current system, and evaluated similar systems. The team conducted a survey of all the alert systems in the US, and this may have been the first such survey.

Steve showed an illustration to describe the system. Elements include the 249 gage stations (636 sensors, transmitters), repeaters (shared radio towers), and two servers (at Transtar and a backup), and end users. All told, there are 804 transmitting sources, all using a limited number of radio frequencies.

Partners include TxDOT; METRO; TRA; SJRA; Fort Bend and Brazoria Counties; Cities of Houston, Pearland, Sugar Land Texas City; and USGS. Primary users are HCFCD, National Weather Service (NWS), and Harris County Office of Emergency Management.

Steve proceeded to describe findings and deficiencies in the system.

- System is overloaded during heavy rainfall events (common throughout US). The system can transmit about 2000 units of information per hour, but the system is receiving eight to twelve thousand in an hour. An expert has been hired to investigate, and estimates that 50%-80% of data is being lost because of overloading.
- Equipment and systems are aging.
- Expansion has been unchecked.
- Potentially insufficient dedicated and experienced staff.
- High O&M costs compared to other systems.

Near term recommendations:

- Transfer Flood ALERT to HCFCD (in-line with standard practices)
- Document and analyze existing performance in a more in-depth manner
- Increase system capacity
- Regulate expansion
- Overhaul maintenance schedule and procedures
- Create a regional ALERT working committee
- Establish mutual aid agreements with other ALERT operators

Long term recommendations:

- Develop phased approach to overall system modernization
- Evaluate funding plan
- Develop user-friendly and enhanced software and computer interfaces

More information can be found at [www.hcfcd.or](http://www.hcfcd.or) and [www.hcoem.org](http://www.hcoem.org) (click on flood data).

The presentation was then opened for questions.

Mike Talbott clarified that the data loss is not always critical. For example, if the first and third transmissions are received and indicate levels of 33 and 35, we can often--but not always--derive a reading of 34 for the second transmission.

LCRA's recently ended program was mentioned, along with CoCoRaHS. Would CoCoRaHS be a resource for confirming data? HCFCD is working with NWS on CoCoRaHS.

Inundation mapping for gages is part of NWS's All Hazard Alert Broadcasting program, and was suggested as a potential new technology program to explore. HCFCFCD is looking into it.

There was a question about levees: how has Harris County survived the levee certification program? In Harris County, there are only two small levees. Both are certified, and were certified in time to incorporate them into remapping efforts. Fort Bend County lost one for sure that will not be recertifiable until 2009 or 2010, and there are a couple of others that are borderline.

Hurricane levees present a different challenge than those in riverine systems, and there was some discussion of measuring various surge situations.

Data is available on the OEM website for a certain term. Older data can be obtained from HCFCFCD.

Steve mentioned that, during Ike, residential flooding was less than anticipated based on rainfall levels. Post-storm house counting was difficult because of questions about whether damage was from rising waters, surge, or from wind damage followed by rainfall, etc.

Are there plans to develop a master plan for the region for the ALERT system? Yes. For example, the San Jacinto River Authority uses our system to transmit data to partners, but they have their own base station. They could probably transmit data to partners using the internet instead of using radio transmission.

Is there anything this council could do to help support this effort? Probably--but we aren't there yet.

TxDOT has a network of over 100 gages. Are any of those located on roadways that are prone to inundation? Most of them probably are. Are there other gages at flood-prone intersections? Many of the City and METRO gages are transportation-related. Do those gages provide enough information to close roadways in anticipation of flooding? Almost.

Could H-GAC consider working with the regional group to secure funding? Yes.

### **REPORT OF AD HOC COMMITTEE RE: BEST MANAGEMENT PRACTICES**

Rachel explained that the handbook was not ready yet. Jeff Taebel wants to make some changes, and staff is awaiting his comments. Carl anticipates that the handbook will be presented to the board in February. Rachel requested information about possible award programs that might be appropriate for the handbook.

Sample drafts were provided for review. Comments are still being accepted.

### **APPROVAL OF JULY & OCTOBER MEETING REPORTS**

As a quorum was not present, Dale asked that H-GAC pursue approval of past meeting notes by e-mail. All in attendance approved the January meeting summary.

### **ROUNDTABLE DISCUSSION BY MEMBERS**

Before the group moved on to the roundtable discussion, Carl pointed out that Penny Goode was going to be retiring on February 13, 2009, after 36 years with the County. Carl extended his thanks to her for her help with the Council. Penny then began the roundtable by asking if anyone had money to help replace the 5.8 miles of County Road 257 that are totally gone. Brazoria County is having financial pressure to

recover from Ike, and they are working through it with the GLO and residents. The mouth of the San Bernard is scheduled to begin January 22, 2009, and to finish on March 15, 2009. Sand will be received for erosion control along CR 257.

Roy Sedwick announced the TFMA conference, which will be April 29 through May 1 in San Marcos. Roy also asked if folks thought Galveston might be an appropriate location for the fall conference, about one year after Ike. He received a positive response.

John Ivey reported that Wharton County has completed its flood mitigation plan, and it has been approved by the Water Development Board and FEMA. The flood mitigation actions were turned over to the coalition to be added into the All Hazards Plan, making Wharton County eligible for FMA funding. John also mentioned TFMA's Freeboard Survey, which H-GAC will be helping to distribute.

Lisa Krobot announced that John Ivey will be working on Matagorda County's flood mitigation plan starting tomorrow (January 22). John offered to provide updates to the RFMC on the Matagorda County plan as well as on remapping efforts. They are working on remapping riverine portions of six counties: Matagorda, Jackson...down to San Patricio. The project has been on hold, awaiting LiDAR acquisition. The Corps is doing still-water analysis and wave height analysis. The new date for the Coastal Surge data is May 2009. Preliminary maps will be sometime after that.

John Ivey also discussed Risk Map, FEMA's new name for MapMod. The contract for management of the national program was awarded to Accenture. Various other contractors, including DHI, Michael Baker, Dewberry, URS, PBS&J, Greenhorne O'Mara, AECOM, and Grounds Anderson, are part of the project. The nation has been divided into three contract areas (which are not geographically intact areas). The fourth contract group, outreach, is also proceeding. In early March, contractors will gather in the three contract areas.

John Ivey also reported on a bill in congress that passed committees in December for the reformatting of the NFIP. If it the bill passes, in addition to current requirements of adopting and ordinance and appointing a floodplain administrator, communities will need to have building permit authority in order to participate in the NFIP. In Texas, state legislation will be needed. The new bill would also require insurance behind levees and dams, called "residual insurance."

John also mentioned that Larry Larson would be testifying regarding the stimulus bill, and how it would benefit communities in the National Flood Insurance Program.

Roy mentioned that a drainage authority for Wharton County might be forming to carry out recommendations of the mitigation plan.

Daya Dayanada reported that Pasadena will be hosting an Earth Day Festival on April 25. He hopes to have invitations at the next meeting.

Mark Vogler reported that Fort Bend County is getting close to finalizing its floodplain maps, hopefully by March 31, 2009. The maps initially were due in 2007. Fort Bend discussed the controversy in Fort Bend County regarding levee certifications in light of the proposed legislation to require residual insurance behind levees.

Jing Chen reported that Missouri City is in the process of updating its ordinance to include higher standards. They are also working on CRS.

Mike Talbott reported that HCFCD is busy chasing the Ike money. They are looking at the HMGP program and applications for about 60 substantially damaged properties. They are also examining HUD and ORCA funding opportunities.

Dale complemented Mark on his efforts for levee certification. Dale also mentioned his concerns regarding the proposed legislation.

Ron Chastain reported that they are waiting for the I-maps; they had purchased maps for 42 miles that had not been mapped yet. He expects that the maps will be out in 2010.

Carl Masterson reported that H-GAC is working with ORCA and other agencies regarding stimulus funding. Meetings will begin next week; Chuck Wemple is the contact at H-GAC.

Mike Talbott mentioned the report of the Climate Effect Foresight Panel of H-GAC, which is now available and which addresses some flooding issues. It discusses infrastructure that might be of risk. Regarding HMGP funding, ..Hays County developed the flood mitigation plan and the all-hazards plan, which included gaging and flood warning, which was funded as a pilot project. Hays chose to spend the \$600,000 grant on flood warning instead of gaging. There is over \$300 million available through HMGP, which is normally spent on buyouts but which can be spent on other projects. A detention basin in Jefferson County was also funded with HMGP funds.

Carl reported the H-GAC's Natural Resources Advisory Committee meets on February 5, and three Regional Water Authorities will be presenting information.

Rachel reported on upcoming training opportunities. First, Craig Eissler with the Texas Geographic Committee will be teaching introductory classes on GIS and HAZUS in January. H-GAC is also hosting a one-day CRS class with Debbie Cahoon of the Water Development Board on February 24.

Carl reported that H-GAC's funding level for the RFMC is unclear at this time.

John Grounds reported that TFMA had approved H-GAC's request to provide 2 continuing education credits for attending the RFMC meeting.

John also reported that the City of Sugar Land just completed an update to their benchmark system that will be consistent with the updated floodplain maps. They now have the highest accuracy benchmark system in Fort Bend County, which could be integrated with Missouri City's benchmarks.

**NEXT MEETING DATE**

The next meeting will be April 15, 2009, at 1:30 PM, in Conference Room A of the H-GAC offices.

**ADJOURN**

The meeting was adjourned at approximately 3:13 PM.