



BERTHA W. HENRY, County Administrator

115 S. Andrews Avenue, Room 409 • Fort Lauderdale, Florida 33301 • 954-357-7362 • FAX 954-357-7360

July 23, 2018

To: Members of the Governor's MSDHS Public Safety Commission

c/o Jennifer Miller
Senior Management Analyst Supervisor
Florida Department of Law Enforcement
2331 Phillips Road
Tallahassee, Florida 32308

JenniferMiller2@fdle.state.fl.us

Esteemed Board,

Please allow me to say thank you again for the opportunity to present information and answer questions regarding the Broward County Regional Public Safety Communications Program on July 11 & 12, 2018.

I would like to begin by reiterating that, though non-participants, the cities of Coral Springs and Plantation have been active participants in the development of policies and procedures guiding the regional system, including lending their voices to the technological solutions the system currently deploys. I had always understood that they would seriously consider their participation in the future as the system matured. Unfortunately, the meeting of July 12, 2018, was the first I became aware there were issues preventing Coral Springs' participation in the regional system.

In response to the specific request by the Public Safety Commission to provide a written list of known issues with the City of Coral Springs, presumably those negatively affecting their decision to become a participant in the Regional Computer Aided Dispatch (CAD) System, our position is that we have none. Each City signs the Regional Interlocal Agreement and they have a seat on the Governance Committee, which is the body that makes or recommends decisions affecting the regional system. The committee was designed to hear and vet ideas for system improvement.

During the recess of your meeting on July 12, we attempted to get clarification regarding the City's issues and, unable to do so, later agreed to meet on July 19, 2018. In advance of the meeting, the County provided the City with information which could assist them with becoming a participant while maintaining its independence as a Public Safety Answering Point (PSAP). Essentially, a City participates in the regional CAD to avoid call transfers and retain their own call takers and dispatchers. (See Exhibit 1 for information provided to the City by the County).

On Friday, July 20, 2018, City Manager Michael Goodrum and I discussed preparing a joint response. Unfortunately, we were made aware that City staff had already responded to the Public Safety Commission. We will be responding to the points raised in that letter dated July 19, 2018, to the Commission.


In the meantime, please allow the following to respond to some of the commentary made by City staff at the Public Safety Commission meeting.

Concerns by the City of Coral Springs	Regional 911 System
Concerns over County's radio coverage, capacity and replacement plan	The County's consultant has designed and engineered a system for maximum countywide coverage; thus, the reason for the 300ft height. The system has been built to accommodate every city in the County along with growth.
County system could not support our local government	The County extended an offer to cities to use the County's local government radio system – the same system being offered to the School Board as it is designed to be scalable. There are municipalities that maintain their own independent radio system and may be opting to use such system for its local government use.
Concerns over organizational structure	Not sure what is meant by the comment, but the Regional 911 system can accommodate a non-regional dispatch center. This allows municipalities to operate an independent PSAP, manage and pay for their personnel; however, they participate on the same regional CAD system thus, eliminating call transfers. The demarcation points and responsibilities of Regional vs Non-Regional Dispatch Centers are outlined in Broward County's Regional Interlocal Agreement (RILA).
Loss of control of technology and programming	Certain elements of CAD can be independently determined by municipalities, such as personnel, units, run cards, and incident responses. Any global configurations and programming that impact all users on the system is the responsibility of the County. In addition, there is a CAD Governance Board that provides for all voices and concerns to be shared and where consensus on global reconfigurations is reached.
Loss of home town feel	See Comments regarding organizational structure.
Not using Time=Life dispatching, resulting in diminished services to our residents	County's 911 system incorporated a quick in, quick out dispatch method that is similar to Coral Springs' Time=Life dispatching.
City's consultant did not recommend migration to regional system	This is an independent decision of the City.

Additionally, we have also attached some clarifying information concerning the Coral Springs "911-line trunking system" (Exhibit 2), and a memo referencing the April 27, 2018, 911 phone outage in the Regional PSAPs, (Exhibit 3).

In conclusion, we welcome participation by our municipalities in the regional system and look forward to the day the system is determined to meet the needs of Coral Springs and Plantation. My team and I will continue to reach out to City Manager Goodrum and a representative of Plantation to see if there is an opportunity for their participation in the future.

Sincerely,



Bertha Henry
County Administrator

Attachments

cc: Michael Goodrum, City Manager, Coral Springs
Alphonso Jefferson, Assistant County Administrator
Tracy Jackson, Director, Regional Emergency Services & Communications

Non-Regional 911 Communications Center Checklist**City of Coral Springs****AGREEMENTS**

- Execution of Regional ILA
 - Definition of Non-Regional 911 communications Center and demarcation points already outlined in the RILA
 - City will be responsible for the supervision and funding of all recurring costs associated with personnel (call-taking, teletype, dispatching) to include audio evidence and records request staffing.
 - County maintains responsibility for system administration and global configuration for optimal Regional Public Safety infrastructure.
 - Upon execution of RILA, Coral Springs becomes voting member of CAD Governance Board which enables them to recommend global system changes to the Board for consideration.
 - In addition to CAD, it is recommended that Coral Springs consider transitioning to the Regional LRMS and FRMS.

TECHNOLOGY

- 911 Calls - Wireline and wireless 911 calls originating from the municipality need to be configured on the service providers' networks to be routed to the appropriate PSAP (to the extent possible).
- Reporting requirements (MIS, ePrinter, etc.)
 - Performance reporting for Regional and Non-Regional PSAPs must be developed to ensure clear delineation points.
- Transfer of 911 calls
 - Must keep regional goal of eliminating the need to transfer 911 calls.
 - Establish SOP requirements relative to special case calls and decide when/if transfer of 911 calls will be completed.
 - Configure one-button transfer buttons for 911 calls that are received by Coral Springs that need to be transferred to the North Regional Consolidated PSAP, respectively (Coral Springs must transfer to the appropriate PSAP).
- Transfer non-emergency calls
 - Recommend the CAD entry of non-emergency calls by the receiving PSAP with a lower priority.
 - Establish SOP requirements relative to when/if transfer of non-emergency calls will be completed.
 - Coral Springs should have its own non-emergency number
 - Coral Springs should have its own alarm reporting number
- Office computers, MLTS office phones, etc. are city responsibility

HIRING AND TRAINING

- City must provide for all hiring
- City must provide for all necessary training
 - State of Florida certified training curriculum

Non-Regional 911 Communications Center Checklist

City of Coral Springs

ACCREDITATIONS AND CERTIFICATIONS

- City must provide for all necessary accreditations and certifications required
 - To follow State of Florida Telecommunicator certification
 - County recommends the adoption of NAEMD standards to include EMD, EFD, and EPD. The NAEMD standard is a recommendation, but not a requirement.

OPERATIONAL

- Maintain consolidation objectives (e.g. eliminating transfers, performance targets)
 - Non-Regional 911 Communications Centers must enter calls for service and interrogate callers for incidents that come into Non-regional 911 Communication Center that may not be in their area of municipal dispatch responsibility.
 - It is strongly recommended that Non-Regional 911 Communications Centers adopt a quick-in, quick-out approach, and perform EMD, EFD, and EPD based on standardized countywide protocols.
 - Non-Regional 911 Communications Centers must maintain regionally standardized CAD configurations (i.e. incident types, unit identifiers, etc.).
 - It is strongly recommended that Non-Regional 911 Communications Centers obtain and maintain necessary accreditations to provide for EMD, EFD, and EPD.
 - Non-Regional 911 Communications Centers must provide for teletype functions.
 - Maintain commitment to Countywide 911 Communication Center Performance Measurements
 - Ensure standardized reporting method monthly and with continued transparency.
 - County will review Quality Assurance (QA/EMDQ, etc) relative to process compliance for calls transferred between Regional and Non-Regional PSAPs.
 - Need to identify policies and procedures to be implemented when CAD is offline for planned or unplanned activities (for calls that are received in a PSAP that are required to be dispatched from a different PSAP and for situations where CAD is unavailable).
 - Must continue commitment to Closest Unit Response reflected in RILA.
 - Costs of Technology (MDTs, CAD Consoles in the PSAP, Radio Consoles in the PSAP, FRMS, LRMS)

FACILITY

- Review flee to site requirements and spare workstations since Coral Springs will be on the same CAD.

PROJECT MANAGEMENT

- County to develop Project Plan/Charter after requirements are specified
- Complete transition at mutually agreeable milestone dates
- County to develop a Communications plan in accordance with project dates

911 PHONE SYSTEM CLARIFICATION

During the MSD incident, were the calls queued? Were the calltakers overwhelmed?

- there were no reports of any problems with call processing of the 911 VIPER System on 2/14/18.
- The Coral Springs call overflow design (i.e. overflow when lines are busy from 911 lines to administrative lines) was a decision made by **Coral Springs over three years ago.**

How many incoming 911 trunks route to Coral Springs?

- 18 trunks route 911 calls to Coral Springs
- According to ATT, one caller routed to the Coral Springs PSAP received a busy signal during the incident.

What is the percentage of transferred 911 calls?

- FY2017 Non-Regional Transfers to Regional PSAPs 9.5%
(total non-regional 911 calls 126,914)
- FY2017 Regional Transfers to Non-Regional PSAPs .8%
(total regional 911 calls 1,254,788)

What is the industry standard for PSAP downtime?

- Unable to locate any published standards of System Availability or Uptime targets through the National Emergency Number Association.
- Broward County VIPER 911 Phone System
 - 1/14/2016 (Regional) 99.95% Availability (annual)
 - No system failures in 2017
 - 4/27/2018 (Regional) 99.98% Availability (thru June)
- While the metric measures system availability above, we recognize that any critical failure is unacceptable



BERTHA W. HENRY, County Administrator

115 S. Andrews Avenue, Room 409 • Fort Lauderdale, Florida 33301 • 954-357-7362 • FAX 954-357-7360

MEMORANDUM

DATE: May 4, 2018

TO: Mayor and Board of County Commissioners

FROM: Bertha Henry, County Administrator 

SUBJECT: Post Incident Assessment Report on Abnormal Call Processing

As you are aware, at approximately 11:50AM on April 27, 2018, the 911 phone system entered into an unstable state, causing incoming calls to experience abnormal call processing. This issue affected the three Regional Consolidated Dispatch Public Safety Answering Points (PSAPs). County staff and the 911 system services provider, West Safety Services, immediately began working on the issue, and it was revealed that calls received were going into an "abandoned" call state. The system was able to accept 911 calls. However, the system was unable to deliver the calls to 911 call takers for inbound call processing, ultimately leading to 911 callers hanging up. After hanging up, the system registered the incoming 911 calls as abandoned calls, and dispatch personnel made attempts to call back every abandoned call. The system was restored by 12:53PM.

This issue had no impact on the County radio system or the County computer aided dispatch (CAD) system. These systems continued to operate normally.

I, along with County staff, met with the Vice President of Delivery Operations of West Safety Services Corporation on May 2, 2018 regarding the incident. In this meeting, West Safety Services provided a full assessment of the incident which includes root cause analysis, corrective actions, and countermeasures to prevent this incident from occurring again. A Post Incident Review is attached. The corrective actions taken include installation of a corrective software patch that was installed on our system on May 3rd as well as instituting procedures and re-training of local and remote West Safety Services' technical staff to ensure immediate service restoration actions are taken upon detection of such failures. For example, switchover to the redundant system, while root cause analysis is being performed, thereby reducing downtime.

If you require additional information, please contact me or Brett Bayag at 954-357-8565.

Attachment

cc: Alphonso Jefferson, Jr., Assistant County Administrator
 Brett Bayag, Acting Director, Office of Regional Communications
 Broward County Consolidated Communications Committee



SAFETY SERVICES

Post Incident Review – Broward County Regional System

West Safety Services
May 4th, 2018
Company Confidential

Helpdesk Ticket #: 199918
Opened: 4/27/2018 12:01 PM (Eastern)
Location: Broward Regional System
Channel: Direct
Impact: Severity 1 - Inbound Calls Not Presenting
Event Start: 4/27/2018 11:50 AM
Event End: 4/27/2018 12:52 PM

Event Summary:

- At approximately 11:50 AM issues with inbound call presentation begin.
- 11:59 AM - West Safety Services Help Desk was contacted by Broward Central with the trouble description "all lines are down - unable to make or receive Admin or 911 calls"; trouble ticket #199917 was generated as a Severity 1 issue.
- West Safety Services Help Desk immediately begins investigation in real-time as a Severity 1 event.
- 12:01 PM – West Safety Services Help Desk was contacted by Broward North with the trouble description "Coral Springs is attempting to transfer calls to Broward North and the calls are not going through"; trouble ticket #199918 was generated.
- 12:05 PM – The local West Safety Services Supervisor who was contacted directly by Broward County, also generates ticket #199919 with the description "All regional sites are down. North, South and Central regional. All 911 calls going to abandoned calls field".
- During the event, calls would enter the VIPER system but would not present to call answering positions. When the calling party hung up, the inbound call would appear as an abandoned call available for callback as outgoing lines were not impacted.
- The West Safety Services Help Desk worked with the local West On-site Technicians at the Broward North and Central Regional sites. Initial focus from the on-site team was to perform fault isolation diagnostics between the VIPER CPE and the AT&T telephony network.
- At approximately 12:21 PM ticket #199918 is escalated to the West Level 3 support team.
- 12:50 PM – The West Safety Services L3 team performed corrective action on active VIPER VoIP Server Software by remotely failing over a service which was in a "deadlocked" state.
- 12:52 PM – Agents begin logging back into Power 911 ACD queues.
- 12:52:54 PM – VIPER record indicate 911 calls are again being presented and answered by Agents.

Root Cause Summary:

- A component on the VIPER VoIP Server which is specifically responsible for ACD call distribution entered into an unexpected deadlock state. This process deadlock impacted the delivery of ACD calls to the Primary VIPER node.
- The Secondary VIPER Node which was not impacted during the event.

-
- The trigger of this deadlock state was a random software event, not initiated by a hardware issue, configuration, or user action.
 - Although the potential for this ACD process deadlock is present in all versions of VIPER ACD, West has not encountered this condition in any other field production environments or in any prior lab testing.
 - Note: The Broward County Regional VIPER system is utilizing an ACD configuration which is best practice for larger PSAPs in order to assure faster call response times, and optimized efficiency in higher call volume environments. The Broward County Non-Regional VIPER system is however configured for shared line appearance at all PSAPs thus not susceptible to an ACD deadlock condition.
 - Note: The Broward County Regional VIPER system is configured with multiple redundant, fault tolerant, VoIP servers. Currently the VIPER system monitors itself for loss of heartbeat, hardware failure, loss of power, loss of network connectivity, or a failure on any of the core telephony process on the active VoIP server. In addition the VIPER system monitors its own health by constantly simulating calls to the active VoIP server to ensure calls are being accepted. In the event that any of the aforementioned criteria is not met, an auto recovery or failover to the standby VoIP server, or Secondary VIPER node will automatically occur. As the process deadlock state which occurred on 04.27.18 did not affect calls entering into the VIPER system an automatic failover to the standby VoIP server did not occur.

Call Impact Summary:

- Based on the Abandon Call Summary report for Broward Regional sites generated on 4/27/2018 at 1:34:51 PM, the following statistics are based on status at the time the report was generated – reflecting the event between 11:50:00 AM and 12:51:00 PM.
- There were a grand total of 288 calls which entered into the VIPER system between 11:50:00 AM and 12:51:00 on 04.27.18 which eventually entered into an abandoned state.
- Of these 288 abandoned calls, there were 202 unique callers (additional 86 calls consisted of duplicate callers)
- There were 26 instances of call records with No ANI (no call back number available.) West is working with the local Telco (AT&T) in order to isolate the cause of these calls with no ANI – investigation is still in progress.
- Of those 26 instances of calls with no ANI, 13 records were identified potentially unique with the additional 13 appearing to be related to an flapping issue on a single trunk (investigating with local Telco).
- West sees no evidence that these instances of calls with no ANI were in any way related to the 04.27.18 event as we have identified multiple instances of calls entering the system with no ANI before and after the event.

Corrective Actions:

- West Safety Services Help Desk and local on-site Technicians are actively monitoring the Broward County Regional VIPER system 24x7, and reporting system health check statuses to both West Sr Management and Broward County ORCAT team every 30 minutes.

-
- 04.29.18 - West Engineering team identified the source of the issue and has developed an intermediate patch to protect against the potential ACD deadlock condition.
 - 05.03.18 - The Broward County Regional VIPER system was successfully patched as part of coordinated CMR event.
 - The West Help Desk and local on-site Technicians will continue active monitoring on the Broward County Regional VIPER system 24x7, with hourly health check statuses through 05.06.18.
 - The software correction applied to the Broward County Regional system will be made generally available as part of packaged software release at a future date.
 - West's R&D team will also begin development of more robust, enhanced system monitoring process which will identify, detect, alarm, and auto-recover from any type of potential process deadlock states regardless of the trigger.

Operational Postmortem:

- The West Help Desk will create a reference guide for the entire support team to more effectively identify deadlock conditions.
- Both the West Help Desk and on-site Technicians will be trained on use of the reference guide to ensure proper steps are followed to prioritize & accelerate service restoral.