Radio Use Protocol in a Critical Incident

During a critical incident, inbound signaling to the E-911 radio system significantly increases and can saturate the system control channel, impacting effectiveness of first responder communications. The "throttling" situation that results is a protective measure that keeps the radio system from failing during a system overload.

The following are some helpful tips on radio use in a critical incident and best practices:

- Respond to a critical incident according to your standard operating procedures.
- If you are **off-duty** and **not responding** to the incident, ***do not turn on your radio.***
- If you are **on-duty** and **not responding** to the incident, ***do not change channel position*** on your radio unless necessary for your immediate responsibilities.
- If you are actively using your radio for response elsewhere in the County, ***limit radio activity to critical traffic only.***
- If you **wish to monitor radio traffic** but are not involved in the incident response, ***consider using a radio scanner application.*** Popular models include Scanner Radio Deluxe, 5-0 Radio Police Scanner, Police Scanner, Police Scanner Radio Chat Live or Police Radio.
- **Perform preventive maintenance on your radio** according to standards. Use the correct antenna and make sure your batteries have a proper charge. Ensure that your antenna and batteries are properly secured, and do not use zip ties or cable ties on remote speaker microphone cables.

LISTEN TO YOUR RADIO

If you attempt to access your radio and you receive one of these alerts or messages, take recommended actions:

"NO COMMS" on screen and/or alert "bonk" tone

Means: Unable to communicate to the system
Action: Avoid any unnecessary radio use (i.e. turning radio off/on or switching talkgroups) until "NO COMMS" clears.

"OUT OF RANGE" on screen and/or alert "bonk" tone

Means: Low or no signal strength. Signal strength can be affected by many factors (e.g. bad antennas or dense building construction.)
Action: Be mindful of your surroundings. Move to a location with better signal strength.

"BUSY" noted by 3 short tones.

Means: System has run out of available talkpaths. The initial Push to Talk (PTT) has placed the user in a busy queue - the system will automatically assign a channel to the user when one becomes available.
Action: Release PTT and wait for the system to assign channel. *Additional PTT will move user to the bottom of the queue.*

"LOW BATTERY" noted by 2 short tones

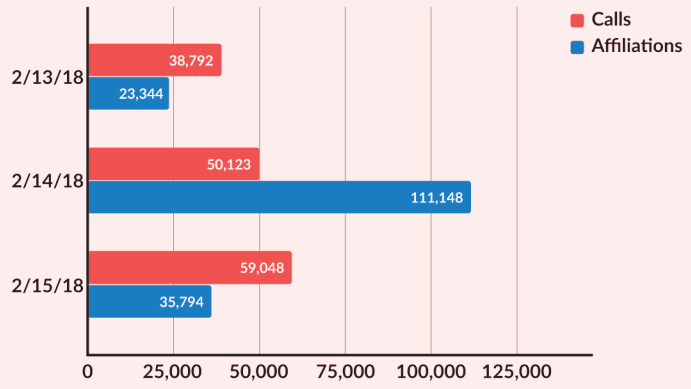
Means: Battery requires charging
Action: Charge battery or replace with one that is fully charged.

Actions That Generate an Inbound Signal to the Radio System Controller

- Turning the radio on
- Turning the radio off
- Switching talkgroups
- Initiating push-to-talk

This graphic demonstrates the impact of radio user behavior during a critical incident. An extraordinarily high number of non-call related radio affiliations received during the critical hours of the Parkland shooting on February 14, 2018 contributed to control channel saturation.

Calls vs Affiliations Received 1PM-6PM



NEW P25 RADIO SYSTEM UPDATE

Coming Q4 2019

There are no technology changes that can be made to Broward County's current radio system that will improve its ability to process inbound signaling during a critical incident. The planned new P25 radio system will result in profound performance improvements. In the interim, stop gap measures have been identified. Some will continue even after the new system has been implemented.

IMPROVED RADIO PERFORMANCE **NOW**

- Implementation of Radio Use in a Critical Incident
- Notification to all radio users when a major response requires implementation of the Radio Use Protocol in a Critical Incident, announced via:
  - All-call on radio system
  - Paging system
  - Fire Station Alerting
  - Hiplink
  - Alert Broward
- Removal of approximately 4,500 non-public safety users (approximately 30 percent of primary system users), including 2,000 local government radio users in Q1 2019, and an additional 2,500 school district users who will not migrate to the new P25 system in Q4 2019
- Ongoing capital investments in Regional Consolidated 911 System – now over $82 million – including Next Generation CAD, Fire Station Alerting System, Viper 911 Phone System Upgrade, Text to 911 (coming December 2018) and Regional Automatic Call Distribution; annual recurring operations costs now over $58 million.

BROWARD COUNTY'S **NEW** RADIO SYSTEM

- Dedicated Public Safety Radio System (no non-public safety users, except for School Board Police Department)
- Optimized system controller with an estimated 300% improvement in processing of incoming affiliations
- Increased number of talkpaths, from 27 to 36
- Each agency has a designated main channel; outside support agencies will use countywide mutual aid channels
- Seven additional towers to enhance radio reception
- Increased security to prevent duplicate radio IDs and unauthorized users
- Required and ongoing radio user training and exercises – starting Summer 2018
- Enhanced portable and mobile radio maintenance
- Adoption of a Regional Standard Fleetmap and SOPs – created with input from Police and Fire Chiefs Associations

Radio Use + Stop Gap Measures + User Training = **Improved System Performance**

The Police Foundation is conducting an independent After Action Report of the February 14, 2018 active shooter incident at Marjory Stoneman Douglas High School in Parkland, and any issues with the radio system revealed in the report will be assessed and addressed.