



Leaders in Public Safety Communications®

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**EXECUTIVE DIRECTOR
CHIEF EXECUTIVE OFFICER**

Derek K. Poarch
poarchd@apointl.org

HEADQUARTERS

J. Rhett McMillian, Jr. Building
351 North Williamson Boulevard
Daytona Beach, FL 32114-1112
386-322-2500

EXECUTIVE OFFICES

Gregory T. Riddle Building
1426 Prince Street
Alexandria, VA 22314
571-312-4400

www.apointl.org

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abatey@gpstc.org

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becky@autauga911.com

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stephen.martini@nashville.gov

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jkern@seecom911.org

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Re: Notice of *Ex Parte*, ET Docket No. 18-295; GN Docket No. 17-183, ET Docket No. 21-352; EB-FIELDSCR-22-00033669

On November 18, representatives from Miami-Dade County and APCO International met with personnel from the Enforcement Bureau and Public Safety and Homeland Security Bureau (list below) to discuss harmful interference from part 15 devices to a newly-deployed public safety 6 GHz microwave system. As detailed below, the process for detecting, identifying, and eliminating interference has been underway for two years. Miami-Dade cannot fully utilize its new 6 GHz microwave system for the life-safety communications it was designed for until the interference is resolved. Miami-Dade and APCO sought support from Enforcement Bureau leadership to promptly eliminate the ongoing interference, as well as guidance on a more effective process for detecting, identifying, and eliminating interference in future cases.

Miami-Dade has been attempting to deploy a 6 GHz microwave system to support first responder communications and other public safety services. The system is designed for 99.999% reliability. The following timeline describes the long, resource-intensive process for attempting to detect, identify, and eliminate interference that – despite impacting primary public safety microwave operations – seems to have no end in sight.

- November 2020 – Performance degradation detected
 - During acceptance testing for the new microwave system in 2020, Miami-Dade observed that the system was not performing to specifications. Miami-Dade worked with its vendor, Aviat, to investigate the source of disruption and rule out the microwave system's own equipment as the cause. Because the microwave system is not providing the reliability expected, it was not put into service for the life-safety communications it was designed for.
- December 2021 – Source of interference identified
 - After nearly a year of investigation, Miami-Dade and Aviat finally identified interference coming from a part 15 device

that was part of an enterprise system managed by CitySpan. Interference from the part 15 device was causing a significant increase in noise floor and reduction in receiver threshold for the microwave links impacted. Identifying the source of interference was particularly difficult because the device's frequency hopping made the interference inconsistent.

- December 8, 2021 – Interference reported to the Commission
 - Miami-Dade filed a complaint in the Commission's Radio Frequency Service Interference Complaint Portal. The complaint was preliminarily verified as involving interference to a public safety service and posing a threat to life and safety. Days later, a local Enforcement Bureau agent joined Miami-Dade and Aviat for field site visits and confirmed that the CitySpan part 15 device was operating outside its authorized band and causing interference to the 6 GHz microwave system. The agent communicated with CitySpan, and the device parameters were corrected, although subsequent testing would reveal that the device reverted to illegal operation on the Miami-Dade channels and resumed interference.
- February 2022 – Miami-Dade requests additional investigation
 - Miami-Dade notified the local Enforcement Bureau agent that the microwave system was still experiencing harmful interference.
- April 2022 – Enforcement Bureau agents join additional field testing
 - Over the course of three days, local Enforcement Bureau agents, Aviat, and Miami-Dade conducted additional field testing. This testing demonstrated that devices managed by the original offender (CitySpan) had resumed illegal operating parameters, and two additional entities (Nexogy and Hitron) were identified as causing interference with devices operating outside their authorized channels. An Enforcement Bureau agent made informal notifications to the interfering parties. The device parameters were corrected, but at least one entity seems to have corrected operating parameters for its devices only temporarily. Miami-Dade expected the Enforcement Bureau to promptly issue formal warning letters to the parties responsible for interference.
- September 2022 – Enforcement Bureau issues a formal warning letter issued to one of the entities responsible for interference
 - Nine months after Miami-Dade's initial interference report, and five months after Enforcement Bureau agents identified Nexogy's part 15 device as an illegal source of interference, a Notice of Unlicensed Operation and Notification of Harmful Interference was issued to Nexogy for operation of a part 15 device that was operating outside of its authorized frequencies.¹
- November 2022 – Interference continues
 - As of our November 18 meeting, formal letters had not been issued to CitySpan or Hitron. Miami-Dade's system continues to suffer from harmful interference, which was confirmed on multiple occasions by a local Enforcement Bureau agent. Additionally, November 9-13, interference that is suspected to be from a new, fourth entity caused an outage of link traffic on the public safety microwave system.

Miami-Dade's original interference complaint, filed in December 2021, remains open, despite diligent work by the local Enforcement Bureau agents. During the November 18, 2022, meeting, Miami-Dade sought guidance from the Enforcement Bureau on how to more effectively eliminate interference impacting public safety communications. Enforcement Bureau staff declined at that time to provide information on why a formal warning letter has only been issued to one of the interfering parties, why several months passed before the

¹ Notice of Unlicensed Operation and Notification of Harmful Interference, Case Number: EB-FIELDSCR-22-00033669 (Sep. 30, 2022).

warning letter was issued, what Miami-Dade can do to ensure prompt elimination of extant and future interference, and what actions the Enforcement Bureau will take – and when – to eliminate interference that was confirmed by an Enforcement Bureau agent nearly 12 months ago.

Currently, the only way for Miami-Dade to prove that its system is getting interference is to go to each site with spectrum analyzers. This is an expensive, time-consuming process that should not be borne by primary public safety licensees like Miami-Dade. Miami-Dade noted during the meeting that they were fortunate to have significant assistance from Aviat and local Enforcement Bureau agents, in addition to relatively substantial in-house resources. Smaller agencies are unlikely to have comparable resources for resolving interference. Further, APCO and Miami-Dade expressed concern that, due to the nature of the part 15 devices that are causing interference, eliminating one source of interference may result in another part 15 device sensing that the channel is available and changing its operations into an interfering state. In other words, the interference to Miami-Dade’s microwave system could be unending unless the Commission takes action outside of the standard Enforcement Bureau process. Meanwhile, Miami-Dade is unable to use its multi-million-dollar microwave system for the life-safety communications it was designed for to serve the public and first responders.

During the meeting, APCO noted that Miami-Dade’s case validates several concerns public safety has raised regarding the introduction of hundreds of millions of part 15 devices in the 6 GHz band that will cause interference to public safety communications and will be even more difficult to detect, identify, and eliminate. At the request of Enforcement Bureau staff, these issues were not presented. Given that these concerns are the subject of a petition for rulemaking² and request for stay³ that were filed nearly a year ago, and that field testing has repeatedly demonstrated that unlicensed 6 GHz devices will cause harmful interference,⁴ APCO intends to raise these issues with the Commission in subsequent meetings.

Respectfully submitted,

APCO INTERNATIONAL

By:

Jeffrey S. Cohen
Chief Counsel
(571) 312-4400
cohenj@apcointl.org

² Petition for Rulemaking of APCO International, et al., ET Docket No. 18-295, GN Docket No. 17-183 (filed Dec. 7, 2021).

³ Request for Stay of APCO International, et al., ET Docket No. 18-295, GN Docket No. 17-183 (filed Dec. 7, 2021).

⁴ Letter from Larry Butts, Manager, Telecom Engineering, Southern Company Services, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, ET Docket No. 18-295, GN Docket No. 17-183 at 2 (filed Nov. 14, 2022) (noting that “the record now includes multiple field tests measuring the impact of commercially available, FCC-certified unlicensed low power indoor (“LPI”) devices on actual licensed 6 GHz Fixed Service microwave links under real-world conditions—*and all have shown harmful interference will occur.*” (emphasis in the original)).

CC (via email):

FCC

- Michael Carowitz
- Jeremy Marcus
- Brian Marenco
- Janet Moran
- Dedrick Roybiskie
- Tracy Simmons

Miami-Dade County Information Technology Department – Radio Division

- Cindy Cast
- Ramiro Diaz
- Bernard Blanco

APCO International

- Jeff Cohen
- Mark Reddish
- Alison Venable
- Farokh Latif
- Guy Ball

Miami-Dade 6 GHz Microwave Call Signs

- WPJE410
- WQKB621
- WQKB623
- WQMN369
- WQMN379
- WQMN386
- WQMN388
- WQMN392
- WQMN395
- WQMN396
- WQMN399
- WQMN403
- WQMN405
- WQMN408
- WQMN414
- WQMN417
- WRCY227
- WRCY938
- WRCY939