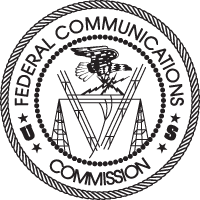
**Federal Communications Commission**



**PUBLIC FORUM**

**ON THE**

**COEXISTENCE OF**

**WIRELESS CARRIERS**

**AND**

**PUBLIC SAFETY ENTITIES**

**IN THE 800 MHz BAND**

**Monday, November 6, 2017**

**PUBLIC FORUM ON THE COEXISTENCE OF WIRELESS CARRIERS**

**AND PUBLIC SAFETY ENTITIES IN THE 800 MHz BAND**

**AGENDA**

**9:00 AM-9:15 AM Welcome Remarks and Introduction**

Cecilia Sulhoff Press & Outreach Coordinator, Wireless Telecommunications Bureau

Lisa Fowlkes Chief, Public Safety & Homeland Security Bureau

**9:15 AM-9:45 AM Overview of 800 MHz Band Rebanding**

Michael Wilhelm Chief, Policy & Licensing Division, PSHSB

Brian Marenco Electronics Engineer, Policy & Licensing Division, PSHSB

**Case Study on Public Safety Interference: Oakland, CA**

Alan Tilles Shulman, Rogers, Gandal, Pordy & Ecker, P.A.

**Public Safety Interference: How to Mitigate**

Jay Jacobsmeyer Pericle Communications Company

**9:45 AM-10:00 AM BREAK**

**10:00 AM-11: 00 AM Cellular & ESMR LTE Deployment Plans and Testing**

**Welcome Remarks**

Donald Stockdale Chief, Wireless Telecommunications Bureau

***MODERATORS***:

Thomas Derenge Deputy Chief, Mobility Division, WTB

Michael Ha Deputy Chief, Policy & Rules Division, OET

***PANEL***:

David Fritz Rural Wireless Association

James Goldstein Sprint

John Kay US Cellular

Keith Mathers Sprint

David Pollard AT&T

Scott Townley Verizon

**11:00 AM-11:15 AM BREAK**

**11:15 AM-12:15 PM Status of Public Safety Receivers**

***MODERATORS***:

Robert Pavlak Sr. Electronics Engineer, Office of Technology & Engineering

Michael Wilhelm Chief, Policy & Licensing Division, PSHSB

Brian Marenco Electronics Engineer, Policy & Licensing Division, PSHSB

***PANEL***:

Don Bradshaw U.S. Commerce Department, National Institute of Standards & Technology

David Buchanan APCO/NPSTC

Brad Hiben Motorola Solutions, Inc.

Jay Jacobsmeyer Pericle Communications Company

Dr. Dennis Martinez Harris Corporation

Paul Nodar Sepura, PLC

Joseph Yurman New York City Transit Authority

**12:15 PM-1:30 PM LUNCH BREAK**

**1:30 PM-3:30 PM Solutions Roundtable: How to Coexist in a Changing Radiofrequency Environment**

***MODERATORS:***

Thomas Derenge Deputy Chief, Mobility Division, WTB

Walter Johnston Chief, Electromagnetic Compatibility Division, OET

Michael Wilhelm Chief, Policy & Licensing Division, PSHSB

***PANEL:***

Don Bradshaw U.S. Commerce Department, National Institute of Standards & Technology

David Buchanan APCO/NPSTC

David Fritz Rural Wireless Association

James Goldstein Sprint

Brad Hiben Motorola Solutions, Inc

Jay Jacobsmeyer Pericle Communications Company

John Kay US Cellular

Dr. Dennis Martinez Harris Corp.

Keith Mathers Sprint

Sgt. Jason Matthews Lake County, FL, Sheriff’s Office/NPSTC

Paul Nodar Sepura, PLC

David Pollard AT&T

Alan Tilles Shulman Rogers Gandal Pordy & Ecker

Scott Townley Verizon

Joseph Yurman New York City Transit Authority

**3:30 PM Wrap Up Discussion and Next Steps**

David Furth Deputy Chief, Public Safety & Homeland Security Bureau

Julius Knapp Chief, Office of Engineering & Technology

**PUBLIC FORUM ON THE COEXISTENCE OF WIRELESS CARRIERS**

**AND PUBLIC SAFETY ENTITIES IN THE 800 MHz BAND**

**PANELIST/PRESENTERS BIOGRAPHIES**

**CASE STUDY ON PUBLIC SAFETY INTERFERENCE: Oakland, CA**

**Alan Tilles, Shulman, Rogers, Gandal, Pordy & Ecker, P.A.**

With over 30 years of wireless experience, Alan Tilles is viewed as one of the “go-to” attorneys in the industry regarding spectrum utilization.  From radio manufacturers, to frequency coordinators, radio engineers, public safety agencies, railroads and utilities, Alan is frequently called upon to create innovative answers to complex technological problems.

Alan’s work in wireless goes well beyond simply reviewing contracts and writing FCC comments.  Rather, using his extensive background owning and running radio stations, Alan has been at the forefront of conceiving and proposing rules at the FCC to address problems faced by the wireless industry. Major projects include: authoring rules for land mobile radio narrowbanding; representing hundreds of public safety entities in 800 MHz rebanding; authoring rules defining interference; writing and evaluating Requests for Proposal to implement public safety radio systems; and helping railroads acquire spectrum for Positive Train Control.

**PUBLIC SAFETY INTERFERENCE: How to Mitigate**

**Jay M. Jacobsmeyer, Pericle Communications Company**

Jay Jacobsmeyer is president of Pericle Communications Company, a consulting engineering firm specializing in wireless communications and headquartered in Colorado Springs, Colorado. He holds BS and MS degrees in Electrical Engineering from Virginia Tech and Cornell University, respectively and has over 35 years of experience as a field engineer and researcher. His firm specializes in helping public safety agencies acquire, build and troubleshoot land mobile radio networks. His engineering column appeared regularly in *Urgent Communications* magazine from 2005 through 2013.

**SESSIONS:**

**CELLULAR & ESMR LTE DEPLOYMENT PLANS, TESTING AND DEPLOYMENT BEST PRACTICES**

**David Fritz, Rural Wireless Association**

David Fritz is a Sr. Consulting Engineer with Nokia’s Regional and Major Accounts Sales Team and is an Associate Member of the Rural Wireless Association (RWA).  In this role, Mr. Fritz assists wireless communication providers with the challenges of network proposals, designs, system implementation, equipment optimization and maintenance; along with navigating the vast landscape of local, state, and federal agency technical regulations and policies.  David is an active member of RWA’s Education Committee and serves as a technical advisor to RWA and its members.

**James Goldstein, Sprint**

Mr. Goldstein is Senior Counsel and head of the Government Affairs - Spectrum Group at Sprint Corporation, responsible for all spectrum-related licensing and policy matters, with a focus on 800 MHz, 1.9 GHz and 2.5 GHz bands.  Mr. Goldstein has been employed at Sprint (formerly Nextel Communications) since 1996, and has been directly involved in the 800 MHz public safety – commercial mobile radio service interference issue since it was first discovered in the late 1990s.  Mr. Goldstein is a graduate of Cornell University (B.A. in Government), holds a J.D. from the Boston University School of law, and is a member of the Massachusetts, District of Columbia Bars, and a member of the Federal Communications Bar Association.

**John Kay, US Cellular**

John Kay is a member of the Technology Development Group at U.S. Cellular and is responsible for evaluating and providing guidance on the evolution and deployment of radio access technologies in the USCC network. Previous to joining U.S. Cellular, he spent 5 years with Nokia in systems architecture and small cell development and over 28 years with Motorola in various System Engineering and Standards roles dealing with Cellular RF systems. He is also a co-inventor of several patents related the wireless field. John holds a Bachelor of Science in Electrical and Electronics Engineering from the University of Illinois at Urbana-Champaign. He has been a licensed amateur radio operator since 1978 and holds an Amateur Extra class license.

**Keith Mathers, Sprint**

Mr. Mathers is a RF Engineer with the 4G RF Planning Department at Sprint Corporation.  Responsibilities include interference investigation, testing and mitigation efforts along with spectrum planning for Sprint’s various spectrum bands.  Mr. Mathers has been employed at Sprint (formerly Nextel Communications) since 1993, and has been directly involved in the 800 MHz public safety – commercial mobile radio service interference issue since it was first discovered in the late 1990s.  Prior to that he was in the SMR business working on radio systems for businesses and public safety.  He has a degree from Southern Colorado State College and further engineering course work at both the University of Colorado and Colorado State University.

**David Pollard, AT&T**

David J. Pollard has served in a variety of technical positions with AT&T for nearly 20 years and currently serves as a Principal RAN Engineer in the company’s Technology and Operations organization.  As such, he provides guidance to network engineering teams though out the corporation on spectrum matters that often include regulatory, compliance and interference issues.  Prior to his current position, Dave was an RF Design Engineer in AT&T’s New England wireless market.  He received his Bachelor of Science in electronics Engineering Technology from the Wentworth Institute of Technology in Boston, Massachusetts.

David has 22 years of experience in the telecommunications industry. Prior to joining Nokia, David has served as a Senior Technical Consultant for Bennet & Bennet, PLLC and as a Consulting Engineer at Kurtis & Associates, P.C., both located in Washington DC.  David earned his bachelors degree in electrical engineering from Grove City College, (PA) and serves as a technical member of the Federal Communications Bar Association.

**Scott Townley, Verizon**

Scott Townley is a Technology Fellow with Verizon Network Technology Strategy and has been with the company since 1994.  Mr. Townley provides guidance to the Verizon network field and planning organizations regarding link budgets, spectrum management, and radio network capacity and coverage planning.  Prior to Verizon, he was employed in the defense sector as an antenna design engineer.

Mr. Townley holds a BSEE from the University of Colorado and an MSEE from Arizona State University, with emphases in antennas and electromagnetics.  He has been awarded 17 patents and holds Radiotelegraph, General Radiotelephone, and Amateur Radio licenses.

**STATUS OF PUBLIC SAFETY RECEIVERS**

**David Buchanan, Association of Public Safety Communications Officials International, Inc. and National Public Safety Telecommunications Council**

David Buchanan’s primary focus is state and local government public safety radio communications, including voice, mobile data, microwave, and paging.  He is well versed in all areas of public safety radio with specific experience in state and local government public safety communications and extensive experience in public safety spectrum issues including 700/800 MHz Regional Planning, spectrum planning, and FCC licensing.  Mr. Buchanan chaired the NPSTC Spectrum Committee from 2001 to 2016, leading the efforts to develop positions on spectrum issues impacting public safety and currently serves as a Spectrum Committee member.  He works to find a consensus position that the member organizations of NPSTC can support and then leads the work in writing that position up to file as comments to the FCC and other organizations.

For the County of San Bernardino, CA, Mr. Buchanan served as Network Services Supervisor, where he led a team that managed and maintained a large multi-agency trunked and conventional radio system with coverage over the 20,000 square miles of the agency.  This system grew from 5,000 to over 15,000 users and over 150 different agencies and districts.  The system supports law, fire, EMS, and local government communications, and allows complete interoperability between users and disciplines.  The system also has supported numerous disaster incidents since implementation.

**Don Bradshaw, Public Safety Communications Research Division, National Institute of Standards and Technology**

Don Bradshaw is the group lead for research, testing and engineering and portfolio lead for mission critical voice (MCV) in the Public Safety Communications Research (PSCR) division at the National Institute of Standards and Technology (NIST). Before joining PSCR in March 2015, Don spent 12 years with the Department of Defense (DoD) as an electronics, RF, and systems engineer. During that time, he performed research and analysis of current and emerging communications technologies for DoD programs. Don received a BS in Electrical Engineering from the University of Alaska Fairbanks and an MS in Electrical and Computer Engineering from Johns Hopkins University.

**Brad Hiben, Motorola Solutions, Inc.**

Brad Hiben is a Fellow of the Technical Staff at Motorola Solutions with over 30 years of telecommunications industry experience. He was involved in the development of Astro, Motorola’s implementation of the APCO Project 25 standard. He worked on the TIA-102.CAAA, TIA-102.CAAB and TIA TSB-88 standards development committees. In 1999 he characterized the interference issues resulting from interleaving land mobile radio (LMR) and cellular systems in the 800 MHz band and developed interference mitigation approaches that are used in Motorola’s product lines. He has B.S. and M.S. degrees in electrical engineering from the University of Illinois at Urbana-Champaign.   He is the inventor or co-inventor of over 60 patents.

**Dr. Dennis Martinez, Harris Public Safety & Professional Communications**

Dr. Martinez is an expert in the development of advanced telecommunication products and systems, serving mission-critical markets including National Defense, Public Safety, Critical Infrastructure Industries and Enterprises that rely on wireless communications. He is an active contributor to the development of spectrum policy at the FCC. Dr. Martinez was appointed by the FCC to serve on the Technical Advisory Board for First Responder Interoperability to establish technical requirements for interoperability in the FirstNet National Public Safety Broadband Network (NPSBN). He was also the Chair for the FCC Emergency Response Interoperability Committee (ERIC) Public Safety Advisory Committee (PSAC), Security and Authentication Work Group.

Dr. Martinez was an appointed member of two National Security Telecommunications Advisory Committee (NSTAC) Subcommittees established to develop policy recommendations relevant to the NPSBN and to Big Data Analytics for the Office of the President of the United States. Dr. Martinez has led the efforts of relevant corporations in the development of telecommunications standards and is an active contributor. He is currently a Board Member for the Alliance for Telecommunications Industry Solutions (ATIS) and the Telecommunications Industry Association (TIA).

Dr. Martinez authored or co-authored 20 patents covering a diverse range of technologies, including telecom, land mobile radio, cyber security, high definition television, geo-location and radar. Dr. Martinez received BS, MS, EE, and PhD degrees from the Massachusetts Institute of Technology.

**Paul J. Nodar, Sepura, PLC**

Paul J. Nodar serves as Chief Technologist for Sepura plc, as Chief Technologist and head of the Technology Office and the Advanced Technology Group he is responsible of delivering technology strategies, new technologies and technology roadmapping in partnership with the business to fulfil the company vision and mission. Paul joined Sepura plc Cambridge, UK headquarters in 2006 and has more than 27 years of experience in the telecommunications and electronics industry in both R&D and leadership roles always with a strong focus in technology development.

**Joseph L. Yurman, New York City Transit Authority**

Mr. Yurman is a licensed/registered Professional Engineer in the State of New York employed by the New York City Transit Authority, a subsidiary of the Metropolitan Transportation Authority of the State of New York. The New York City Transit Authority is the largest public transportation agency in North America and one of the largest in the world.

Mr. Yurman is the Principal Engineer for Wireless Communications in the Department of Capital Program Management/Engineering Services Division overseeing the design and construction of large scale wireless communications systems used in the entire New York City Transit system as well as being New York City Transit’s spectrum manager. Mr. Yurman holds a Bachelor’s and Master’s Degree in Electrical Engineering from New York University-Polytechnic University School of Engineering. He is a Senior and Life Member of the Association of Public-Safety Communications Officials (APCO). Since 2003, he has been a New York State Local Frequency Advisor for APCO as well as serving on the engineering technical sub-committee of the New York Metropolitan Area 800 MHz and 700 MHz Regional Planning Committee, RPC8. Mr. Yurman actively participated on technical matters on APCO Project 26 to obtain additional radio spectrum for New York City Metropolitan area public safety entities that were experiencing spectrum shortfalls, APCO Project 39 investigating in-band 800 MHz interference matters, the Public Safety Wireless Advisory Committee (PSWAC), the Public Safety National Coordination Committee (NCC), the Federal Communications Commission’s Emergency Response Interoperability Center (ERIC) Technical Advisory Committee, and the National Regional Planning Council (NRPC) Technical Subcommittee.

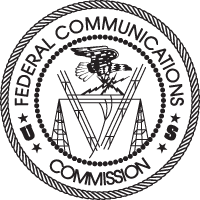
**SOLUTIONS ROUNDTABLE**

The Solutions Roundtable will include the panel members from the sessions earlier in the day and Jason Matthews from the Lake County Sheriff’s Office.

**Jason Matthews, Sergeant 9-1-1 Communications Division, Lake County Sheriff's Office**

Since 1998, Mr. Matthews has served in law enforcement in the Central Florida Region. Mr. Matthews has had multiple assignments ranging from patrol operations, underwater dive rescue/recovery, technical investigative support, EMS, and community relations. He currently supervises telecommunications maintenance and 9-1-1 center training and education for a full-service law enforcement agency.

Jason is the Region Chairman for Florida Region 9, for 700 and 800 MHz, is an active DHS/FEMA Communications Unit Leader/Trainer and also serves within APCO Florida Chapter, as the local frequency advisor.  Jason serves as the Vice Chair of the National Public Safety Telecommunications Council Interoperability Committee.



**PUBLIC FORUM ON THE COEXISTENCE OF**

**WIRELESS CARRIERS AND PUBLIC SAFETY ENTITIES**

**IN THE 800 MHz BAND**

**November 6, 2017**

**NOTES:**

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