

WASHOE COUNTY REGIONAL COMMUNICATION SYSTEM

800 MHz Joint Operating Committee

Tracy Moore, Chair
Charles Moore, Vice-chair
David Todd Curtis, Secretary

****Draft Meeting Minutes****

**Thursday, December 8, 2022
2:00 p.m.**

**Washoe County Administration Complex
1001 East Ninth Street, Reno, Nevada, 89512
Building A, Second Floor Caucus Room**

This meeting was held at a physical location with a teleconference option.

Committee website: http://www.washoecounty.gov/technology/board_committees/800mhz_joc

Committee Members

Dave Cochran, City of Reno	Charles Moore, Truckee Meadows Fire Protection District
Craig Franden, City of Reno	Chris Ketring, Truckee Meadows Fire Protection District
Jim Kindness, City of Sparks	Ian Dasmann, Truckee Meadows Water Authority
Chris Crawforth, City of Sparks	Chuck Atkinson, Truckee Meadows Water Authority
David Todd Curtis, Nevada Air National Guard	Ed Atwell, UNR/NSHE
Matthew Lund, Nevada Air National Guard	Jeremy Irwin, UNR/NSHE
Darin Tedford, Nevada Dept. of Transportation	Vacant, FBI
Seth Daniels, Nevada Dept. of Transportation	Vacant, US DEA
Ryan Sommers, North Lake Tahoe Fire Protection District	Bryan Boren, US Dept. of Veterans Affairs
Russ Barnum, North Lake Tahoe Fire Protection District	Ray Leal, US Dept. of Veterans Affairs
Don Pelt, Pyramid Lake Paiute Tribe	Jenn Felter, Washoe County
David Paulon, Pyramid Lake Paiute Tribe	Darrin Rice, Washoe County
Vacant, Reno-Sparks Indian Colony	Mark Mathers, Washoe County School District
Tracy Moore, Reno-Tahoe Airport Authority	Jon Kelly, Washoe County School District
Ben Carpenter, Reno-Tahoe Airport Authority	

Agenda

1. CALL TO ORDER/ROLL CALL [Non-action item]

The meeting was called to order at 2:02 p.m.

Present

- | | |
|-----------------------------|--------------|
| • City of Reno | Dave Cochran |
| • City of Sparks | Jim Kindness |
| • Nevada Air National Guard | Matthew Lund |



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| • Reno-Tahoe Airport Authority | Tracy Moore |
| • Truckee Meadows Fire Protection District | Chris Ketring |
| • Truckee Meadows Water Authority | Ian Dasmann |
| • UNR | Ed Atwell |
| • US Dept. of Veterans Affairs | Bryan Boren |
| • Washoe County | Jenn Felter |
| • Washoe County School District | Jon Kelly |

Absent

- Nevada Dept. of Transportation
- North Lake Tahoe Fire Protection District
- Pyramid Lake Paiute Tribe
- Reno-Sparks Indian Colony (vacant)
- US DEA (vacant)
- US FBI (vacant)

Washoe County Deputy District Attorney Trenton Ross was also present.

2. **PUBLIC COMMENTS** [Non-action item] – Comment heard under this item will be limited to three (3) minutes per person and may pertain to matters both on and off the 800 MHz Joint Operating Committee agenda. The 800 MHz Joint Operating Committee will also hear public comment during individual action items, with comment limited to three (3) minutes per person. Comments are to be made to the 800 MHz Joint Operating Committee as a whole.

There was no response to the call for public comment; no public comment was received prior to the meeting.

3. **RADIO SYSTEM INTERFERENCE UPDATE** [For Possible Action] – An update and discussion on recent issues with radio interference and poor end-user audio quality in the Washoe County Regional Communication System (WCRCS) service area; and possible action to direct regional communications staff to hire a radio frequency engineering service to investigate sources of interference for a cost not to exceed [\$75,000]. *Quinn Korbolic & Melissa Lawney, Washoe County Technology Services*

Quinn Korbolic and Melissa Lawney, Washoe County Technology Services, reviewed the [presentation](#) (Slides 10-14) for this item focusing on Interference Introduction, FCC Field Visit, Interference efforts, Mitigation and containment efforts, threats and opportunities, and the communication plan surrounding addressing the issues of interference. He acknowledged the severity of the issue and are working with urgency resulting in today's retroactive request.



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Washoe County has hired a third-party vendor, to help identify the source of the newly present interference. Ms. Lawney shared there are two types of interference, one being the normal noise floor that tends to be general and constant and the new one that presents with intermittent bursts in certain parts of the service area and impacting not only the radio system but also other communications agencies.



Interference Introduction

- Washoe County Regional Communication System (WCRC) is experiencing Interference on the Washoe County Simulcast System (WC Metro: Red Peak and Peavine Peak)
 - General and constant "noise" or static in certain parts of the service area
 - This interference degrades the quality of communications. This noise can be heard in 10-20% of all communications.
 - Intermittent bursts of interference in certain parts of the service area
 - This interference impacts a broad spectrum of Radio Frequency users including AM & FM Radio bands, 500MHz, 700MHz, 800MHz, and 900MHz Equipment.
 - This interference is not always present but when it occurs, it completely blocks communication.
 - This primarily occurs in the area of downtown Reno, north to Parr Blvd.
- The Interference is not just affecting public safety but the RF community as a whole. Affecting the Community as a whole from 88.1MHz- 900MHz



Things we had done prior to FCC

- Complete Channel by Channel Radio Assessment
- Complete a Simulcast Re-alignment
- Drive test looking for spurious signals with a spectrum analyzer, unable to locate interference signal
- Hire RF Engineer to conduct a Simulcast RE-alignment
- By-pass receiver multi-coupler
- By-pass Tower Top Amplifier (TTA)
- By-pass Power Amplifier (Inside PA)
- Physically visit the Interference areas to conduct Channel by Channel Assessment
- Created Public Safety Radio Interference Committee with PSAP's to try and solve Interference issues
- Create Interference Map for drive testing and isolation of Interference
- Began investigating rogue BDA's (August - now)



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FCC Field Visit

- Possible suspects that were discussed included:
 - Radar Equipment / GPS Jamming equipment
 - BDA's and amplifiers at Schools and Warehouses
 - Solar Panels, and their auto transfer / power converters
 - Hospital Paging equipment
 - WaterTank Monitoring Equipment

The slide includes three photographs: a control room with operators, a person in a field near a fence, and a person working on a tower or antenna structure.

Ms. Lawney provided a detailed review of the FCC Field visit locations and possibly agencies that may have equipment causing the interference. Six other states are experiencing issues with BDAs; often quick growth has led to locations not being tracked and maintenance not occurring. She reviewed the things that have been done before and since the FCC's visit, and the steps moving forward. The experience and role for each of the vendors contracted was provided. Moving forward, several measures are going to be developed and put in place to better record and map interference and provide for bi-directional amplifier (BDA) registration, and updates to regional processes and policies. There was discussion of the current building permit processes, examples from other areas and steps to improve consistency and proactive location and maintenance monitoring of the devices, and the ability to better hold device owners accountable. While the FCC began requiring registration in 2014, investigation and enforcement has been the result of issues brought to them.

Threats & Opportunities

	Threats	Opportunities
•Officer Safety Concerns	<ul style="list-style-type: none"> •Detention Center Interference concerns •Patrol officers in the field 	<ul style="list-style-type: none"> •In-building system replacement (CIP) •XL series radio roll out •continual system & end user alignment/maintenance
•Timelines	<ul style="list-style-type: none"> •Radio System Build-out (outage length)* •Region 2 Deployment delayed •BLM/County permitting (growth*) •\$4.2 Million Dollar Shortfall for site build out 	<ul style="list-style-type: none"> • Work on creating more redundancy within system •Provide time for JOC to find money for site builds •Provide time for JOC to find money for site builds •Site builds needed to fill Coverage Gaps
•WCRCS has outdated equipment	<ul style="list-style-type: none"> •Need a Real-time Spectrum Analyzer •Need PIM Tester 	
Some Key discussions	<ul style="list-style-type: none"> •Changing Radio System vendors doesn't fix the RF Interference Issue. Same State issued frequencies assigned to the system by the FCC (700MHz & 800MHz). •End User-Radio maintenance will not ELIMINATE Interference, but Maintenance is necessary to a healthy Radio System, and provides more reliability for first responders 	

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Threats and opportunities were reviewed. Ms. Lawney noted that some areas that have come up in discussions have been ones lacking coverage rather than experiencing interference. Washoe County has joined a coalition of other agencies and states that are experiencing similar issues and has reached out to Homeland Security and other relevant agencies to determine options to hold device owners or bad actors accountable.

Chair Moore asked if the P25 infrastructure such as the upgrades to mountain systems this summer and the microwave connectivity could be at fault. Ms. Lawney shared that has been investigate and ruled out and Harris is helping to trouble-shoot issues with alignment and those related to the new system implementation. The Chair spoke strongly in favor of taking the necessary steps to bring in additional resources to resolve these issues urgently, regardless of the expense. As a public safety system, it should be maintained as such.

There was discussion of the abilities and expectations of the current vendors to better identify realistic outcomes and timelines; and, whether it's necessary to further expand the resources needed. It was expressed that some resolution is necessary by the end of March or early April to better prepare for busy months, with timeline benchmarks identified and regular reporting. Most case studies show three to six months were needed to resolve issues. It was suggested that three months be the initial scope of work and expectations and then evaluate the next steps. It was suggested that other agencies that would benefit from resolution of this issue (tv/radio stations) may be willing to contribute. In response to another suggestion, Ms. Lawney confirmed the Air force and Navy have been contacted both for help and confirmation there weren't military actions that may be impacting service in the area.

Ed Atwell, UNR, moved to approve regional communications staff hiring a radio frequency engineering service to investigate sources of interference for a cost not to exceed \$75,000. Jennifer Felter, Washoe County, provided the second. David Cochran, City of Reno, requested the ability to review the specifics of the contract, including the input from this Committee, prior to taking action to approve the expenditures. There was no further response to the call for Committee or public comment. Upon a call for the vote, the motion carried nine in favor, Member Cochran opposed.

- 4. PUBLIC COMMENTS** [Non-action item] – Comment heard under this item will be limited to three (3) minutes per person and may pertain to matters both on and off the 800 MHz Joint Operating Committee agenda. The 800 MHz Joint Operating Committee will also hear public comment during individual action items, with comment limited to three (3) minutes per person. Comments are to be made to the 800 MHz Joint Operating Committee as a whole.

Ed Atwell, UNR, requested a future agenda item to increase the dollar amount requiring Joint Operating Committee (JOC) approval.



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There was note of the need to review staffing and possibly hire consultants to help with updating equipment specifically cradle points.

There was no further response to the call for public comment.

5. ADJOURNMENT [Non-action item]

The meeting adjourned at 3:28 p.m.

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