



**San Diego County – Imperial County  
Regional Communications System**

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<http://www.rcs800mhz.org>

**NEXTGEN RCS BOARD OF DIRECTORS MEETING  
MINUTES OF THE MEETING**

SAN DIEGO COUNTY – IMPERIAL COUNTY  
BOARD OF DIRECTORS

**Wednesday, February 10, 2021 1:00 p.m.**

COUNTY OPERATIONS CENTER  
5500 OVERLAND AVENUE, ROOM 120  
SAN DIEGO, CALIFORNIA 92123

Virtual teleconference held via Microsoft Teams due to COVID-19 public health emergency restrictions.

Meeting was called to order at 1:02 p.m.

PRESENT: Directors Jim Lydon, Chair; Stephen Rea; Theresa Adams-Hydar; Jose Tellez; Ernie Fermin; Graham Mitchell; Dan Barron; Mike Calderwood; Alfredo Estrada, Jr.; Brian Johnson

**AGENDA ITEMS**

1. Roll Call and Determination of Quorum - The following Directors were in attendance and a quorum was established:

Chief Jim Lydon, San Diego County Fire Chiefs' Association

Mr. Graham Mitchell, City of El Cajon/County Manager's Association

Commander Theresa Adams-Hydar, San Diego County Sheriff's Department

Chief Jose Tellez, San Diego Police Chiefs' and Sheriff's Association

Mr. Jeff Toney, OES, County of San Diego

Mr. Ernesto Fermin, Caltrans

Chief Dan Barron, San Diego Fire Chiefs' Association

Chief Alfredo Estrada Jr., Imperial Valley Emergency Communications Authority (IVECA)

Chief Brian Johnson (Primary), Imperial Valley Emergency Communications Authority (IVECA) , joined meeting at 1:07 pm

Chief Michael Calderwood (Primary), San Diego Fire Chiefs' Association, joined meeting at 1:20 p.m.

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*NextGen RCS Board of Directors*

*SAN DIEGO COUNTY - IMPERIAL COUNTY*

*Chief Jim Lydon, Coronado Fire Department (Chair) – Graham Mitchell, City Manager, City of El Cajon (Vice Chair)*

*Commander Theresa Adams-Hydar, San Diego County Sheriff's Department – Jeff Toney, OES, County of San Diego*

*Chief Jose Tellez, National City Police Department – Chief Michael Calderwood, Carlsbad Fire Department – Ernesto Fermin, Caltrans*

*Chief Alfredo Estrada Jr., Imperial County Fire Dept. Chief, O.E.S Coordinator, IVECA – Chief Brian Johnson, El Centro Police Department Chief, IVECA*

2. Welcome and Introduction - Chief Lydon welcomed the group.
3. Purpose of the meeting is to conduct the business of the NextGen RCS Board of Directors.
4. Approval of the NextGen RCS Board of Directors' Minutes for the Meeting of October 14, 2021.

ACTION:

ON MOTION of Commander Adams-Hydar, seconded by Chief Estrada Jr., the Board of Directors approved the Minutes for the Meeting of October 14, 2020.

AYES: Directors Jim Lydon, Chair; Theresa Adams-Hydar; Alfredo Estrada, Jr.; Jose Tellez; Ernie Fermin; Jeff Toney; Graham Mitchell; Dan Barron; Brian Johnson

5. Public Comments - There were no public comments.
6. Revenue/ Billing Update (October 2020 - January 2021)

6.1 Network Operating Cost (NOC) Billing and Revenue - See attachment

6.2 Trust Fund Balance - See attachment

7. Network Operations Update

7.1 Monthly Reports (October 2020 – January 2021) –Mr. Brooks reported the following updates:

October 2020: 3.8 million call setups with 49 busies. No incidents to report. Busies included are 34 busies at Hendrix Astro Site Repeater (ASR) serving Imperial County and 15 busies at the Calexico also serving Imperial County.

November 2020: 3.5 million call setups with 34 busies. No incidents to report. Busies included 24 at Hendrix, 5 at Calexico and 4 busies at Black Mountain serving Imperial County.

December 2020: 3.7 million call setups with 39 busies. No incidents to report. Of the 39 busies, 37 busies occurred in Imperial County with two busies in the South Simulcast cell.

January 2021: 3.8 million call setups with 48 busies. No incidents to report. Of the 48 busies, 43 busies at Hendrix, 4 busies at Calexico and 1 busy at Black Mountain serving Imperial County.

No major incidents to report this past quarter. All generators worked accordingly during the wind and snowstorms during this quarter when multiple sites lost power. No site outages were reported.

*Discussion: Mr. Mitchell requested RCS staff to provide a 5- year comparison and rate of increase regarding total call volume on the RCS. Mr. Brooks agreed to have a report prepared with this information and mentioned that the information could be a bit skewed in some areas over the last few years during the NextGen transition.*

## 8. Administrative Update

8.1 Grants Update – Mr. Brooks reported the following updates:

Currently RCS has no pending grant funding requested or active grants being received. Wireless Services Division staff are working with local fire agencies on FY2021 UASI grant funding that will implement GPS functionality into the NextGen system.

8.2 Training Update –Ms. Dorame reported the following training updates:

Three training classes were cancelled. There have been coverage issues on some scheduled webinars for both trainers and participants due to COVID-19 mandate challenges and outbreaks. The full course webinar is expected to be piloted in March. The Field Radio Operator Guide (FROG) is in the printing phase. The website and phone app are being developed and in the early proposal stages. The data team is working for possible updates with Granicus, a company that recently updated the Sheriff's Department website. Research is being done for the purchase of Harris and Kenwood radios, and training design to support agencies making this switch.

## 9. Major Projects Update

9.1 RCS Site Projects Status - Mr. Brooks reported the following updates for the 2020/2021 projects:

Generator Replacement Project: The generator replacements project is ongoing. Currently three generators that were delivered in December budgeted under FY 2019/2020 funds were at the Volcan North, Emory and Lyons communications facilities. The Volcan North generator was shipped back to the vendor due to damages when the generator was being delivered. The Emory and Lyons generators are scheduled for install this fiscal year. The Department of General Services (DGS) is working with the vendor for this installation. Spending plans for DGS is pending for three generators budgeted for FY 2020/2021. Total of six generators in the pipeline for replacement. There are no current issues with the generators that are over 15 years old, but all are scheduled to be replaced.

In conjunction with generator replacement, heating, ventilation, and air conditioning (HVAC) units are being replaced systematically. This fiscal year's replacements are at the Palomar and Sierra Rojo RCS sites and will be completed upon the solicitation of bids process sent to Department of Purchasing for release on BuyNet.

Lock Replacement – Wireless Services Division (WSD) is replacing the combination locks at all RCS sites with key locks due to security purposes following the completion of the NextGen site work. All authorized agencies for these sites will receive keys for site access.

48 Volt Battery Replacement Project: The replacement of the emergency backup of the 48V DC battery strings that provide power for the RCS microwave equipment, in the event of a power failure where power is interrupted and the site generator fails, is ongoing. The selected vendor has completed the first of the three rounds of battery replacements and the second-round sites replacement has begun with completion this fiscal year. The third and final round which include 12 remaining sites will continue in the next fiscal year.

Site Relocation Project – Site relocation has been completed at Red Mountain. The ATC site has been vacated and staff are working with San Diego County's Real Estate to terminate this lease. All equipment has been moved to the more spacious CalFire facility. A reduction in RCS lease costs will be seen in the coming years due to this site relocation.

*Discussion – Mr. Toney inquired about the generator run time and who re-fuels the generators. Mr. Brooks mentioned these can vary depending on time of year and radio usage in the building. The minimum run time is 7 days. DGS provides fuel for diesel powered generators but the majority are powered by propane. Ferrellgas is the contracted vendor for the propane powered generators under normal or emergency fill needs.*

9.2 NextGen RCS Project Status – Mr. Santiesteban reported the following updates:

The new San Onofre communications site at Camp Pendleton is now online and fully operational. The Lake Morena microwave link to the Mountain Empire radio site is also now fully operational.

Multiprotocol Label Switching (MPLS) Optimization: MPLS bandwidth expansion and core reconfiguration has been completed which allows for improved core efficiency and increased capacity to bring in additional talk groups and dispatch consoles as needed. Also looking to add dispatch centers from Southwest College and Brawley to the system.

The Black Mountain radio site improvement proposal has been received and approved. This project will be able to start moving along.

The Pala and San Ysidro tower and shelter foundations have been poured. The tower work for these new sites has begun and is currently underway.

The subscriber reprogramming change order continues to move forward. This is the removal of the legacy analog smartzone talk group and configuration from all subscriber radios.

The Red Mountain radio site generator installation is pending admission approval from the Air Pollution Control District (APCD).

The San Ysidro shelter is delivered and scheduled for installation by the end of February.

9.3 IVECA Projects- Mr. Schmidt reported that generator issues were noted at the Imperial County Sheriff's Office and Palo Verde communications site. Communications at both sites remained unremarkable and repairs were completed. At the October 22, 2020 IVECA Board meeting the board voted to contract with Consultant Mission Critical Partners for the development of a public safety answering point. The IVECA Board voted on January 28, 2021 to contract with AAA Network Solutions Inc. for the replacement of uninterruptable power supplies for the Black Mountain, Imperial, Palo Verde, Salton City and Sidewinder CHP Winterhaven Communications sites with replacements beginning in the near future.

9.4 FirstNet – Mr. Brooks reported that Wireless Services Division (WSD) and Data Services Division (DSD) held a meeting with AT&T/First Net on January 29<sup>th</sup>, 2021. AT&T/First Net has received approval from their leadership team to provide demo equipment for WSD/DSD to test the interface of the Vocality LTE LMR to the RCS. Although no trial start date was set, pilot testing of the First Net interface is expected to begin in the near future.

## 10. Consent Agenda

10.1 Request the RCS Board approve a five-year extension to RCS Customer Agreement for Lifewest Ambulance.

10.2 Request the RCS Board approve a new RCS Customer Agreement for Medevac Ambulance.

10.3 Request the RCS Board approve a new Mutual Aid Agreement with U.S. Navy Region Southwest for 45 radios.

ON MOTION of Mr. Mitchell, seconded by Chief Tellez, the Board of Directors approved the Consent Agenda items.

AYES: Directors Jim Lydon, Chair; Theresa Adams-Hydar; Alfredo Estrada, Jr.; Jose Tellez; Ernie Fermin; Jeff Toney; Graham Mitchell; Dan Barron; Mike Calderwood; Brian Johnson

## 11. Main Agenda

11.1 RCS report regarding VHF radios was presented by Mr. Brooks (See attachment).

*Discussion: Chief Calderwood inquired on who maintains the VHF radios on the RCS in East Zone (Fire Authority) and the detention centers. In addition, Chief Calderwood also inquired about the relationship between the RCS and County of San Diego Wireless Services Division (WSD). Mr. Brooks explained that the VHF radios are maintained by WSD radio shop. The RCS and WSD are two separate organizations. WSD manages the RCS. The RCS is governed by the RCS Board of Directors, but the County of San Diego assumes the fiscal responsibility for the RCS.*

*Chief Calderwood interested to know if it will be beneficial to law enforcement partners and other fire agencies who respond to fire events or major incidents to switch over to the VHF system from the 800mhz system due to capacity issues. Mr. Brooks explained that there is no capacity issue under the use of the 800mhz system. However, if there is an operational need to switch over to the VHF system during major incidents such as a fire, this will not be an issue to switch to the VHF system.*

*Chief Lydon provided some background based on his experience and agrees in the functionality of having another resource available, like the VHF system, to allow the managing of migration of resources off the trunked system to allow the available resource to any agencies the use of a familiar system during a major event.*

*Chief Barron clarified the need to allow the use of the VHF system for emergency disaster operations interoperability between all agencies. Mr. Brooks is supportive of the use of the VHF system as an operational need for all agencies. Chief Calderwood agrees that the interoperable reasons are a key component for the use of the VHF system.*

11.2 Request the RCS Board approve access on the RCS microwave system for VHF system.

ON MOTION of Commander Adams-Hydar, seconded by Chief Calderwood, the Board of Directors approved access on the RCS microwave system for the VHF system.

AYES: Directors Jim Lydon, Chair; Theresa Adams-Hydar; Alfredo Estrada, Jr.; Jose Tellez; Ernie Fermin; Jeff Toney; Graham Mitchell; Dan Barron; Mike Calderwood; Brian Johnson

11.3 DOJ Encryption Mandate Discussion

*Chief Johnson led the discussion regarding concerns of cost for coming into compliance with the recent DOJ Encryption Mandate. Chief Johnson mentions IVECA is exploring what possible options there are with various vendors such as Kenwood and Harris due to the higher cost associated if IVECA completes the software updated with Motorola. Chief*

*Johnson asked for feedback if any knowledge of possible grants offered to which Commander Adams-Hydar responded that she could find some information through other law enforcement agencies within San Diego County. Mr. Schmidt requests any informational assistance be shared with IVECA for funding sources in order to complete being in compliance with the encryption mandate. Chief Lydon commented there be an operational/situational awareness with the allied agencies who are not law enforcement and the ability for these allied agencies to have access to pertinent information when responding to any joint incidents.*

11.4 FY2021-2022 Proposed Budget Presentation was presented by Ms. Pia. (See attachment)

11.5 Request the RCS Board approve the FY2021-2022 RCS Budget.

ON MOTION of Chief Johnson, seconded by Mr. Mitchell, the Board of Directors approved the FY2021-2022 RCS Budget and the NOC will remain at \$28.50 per radio per month.

AYES: Directors Jim Lydon, Chair; Theresa Adams-Hydar; Alfredo Estrada, Jr.; Jose Tellez; Ernie Fermin; Jeff Toney; Graham Mitchell; Dan Barron; Mike Calderwood; Brian Johnson

## 12. Roundtable

*A question from the public was allowed by the Chair, Chief Lydon to be presented regarding how police and fire agencies will meet the requirements of encryption and still allow local news agencies to gather news. Mr. Brooks commented this will be based on operational requirements by each individual agency. No further information could be provided.*

13. End of Meeting - The meeting ended at 2:36 p.m.

**Next Board of Directors Meeting is on Wednesday, May 12, 2021 at 1:00 p.m.**

County Operations Center  
5500 Overland Avenue, Room 120, San Diego, CA 92123



# San Diego County VHF

VHF AND THE REGIONAL COMMUNICATIONS SYSTEM



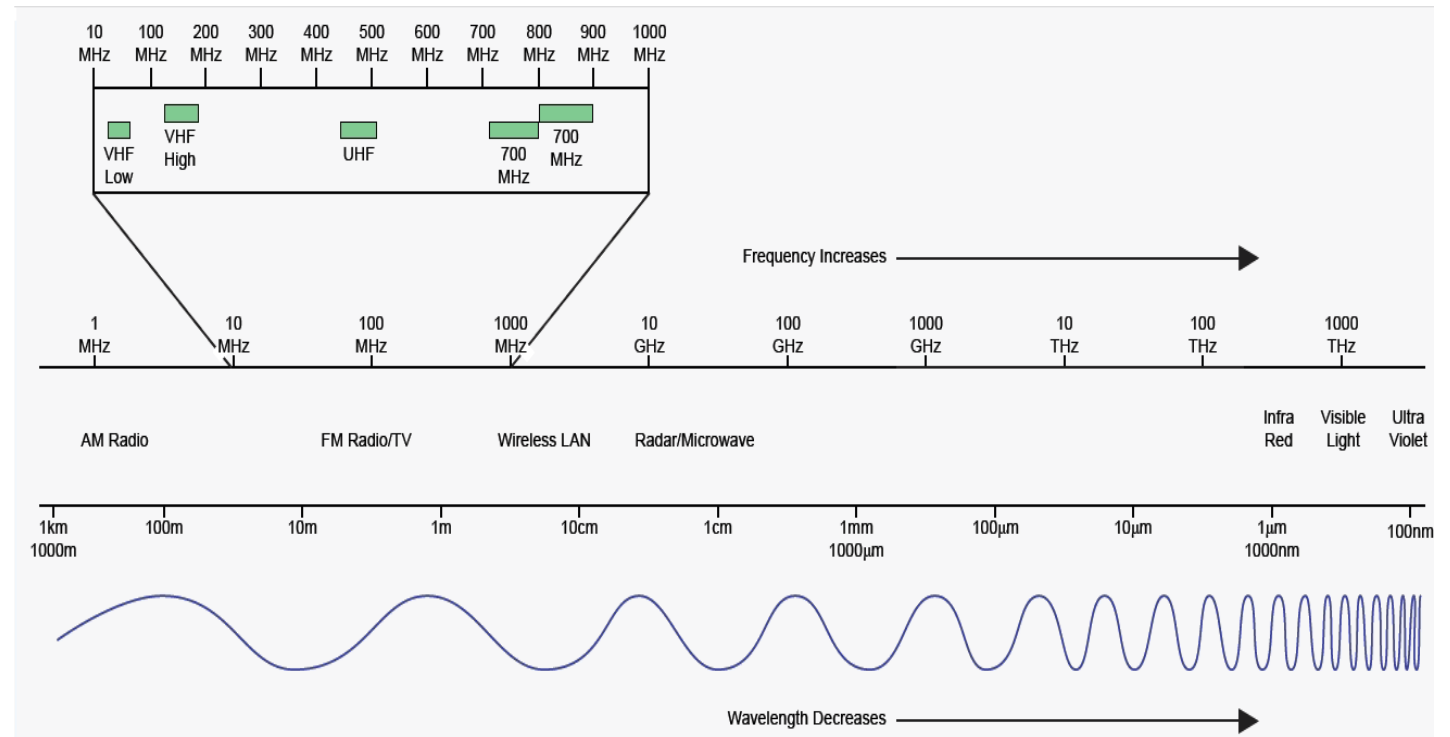
# VHF and RCS

- ▶ What is VHF
- ▶ Technology
- ▶ Why we use VHF and 800MHz
- ▶ RCS contractual conventional
- ▶ RCS 800MHz



# What is VHF Frequency bands

- ▶ **HF 3-30MHz**
- ▶ **VHF 30-300MHz**
  - ▶ **VHF Low Band 30-50MHz**
  - ▶ **VHF High Band 150-172MHz**
- ▶ **UHF 300MHz-3GHz**
  - ▶ **UHF 450-470MHz**
  - ▶ **UHF 763-768/793-798MHz**
  - ▶ **UHF 809-815/854-860MHz**
- ▶ **SHF 3-30GHz**

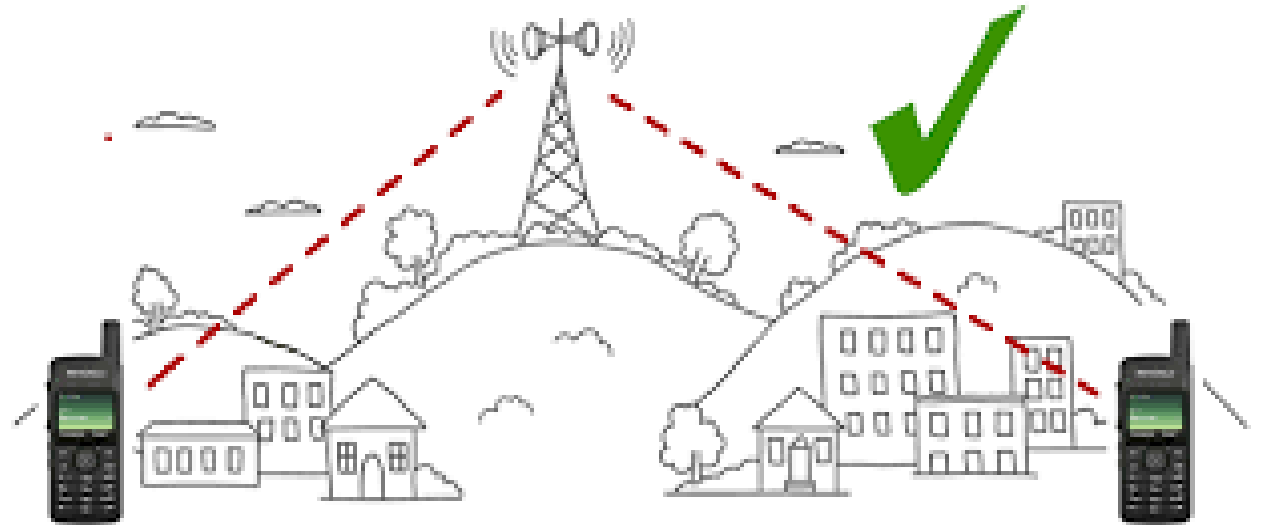


# RF Technology

- ▶ **Direct**
- ▶ **Control Station**
- ▶ **Repeater**
  - ▶ Stand alone
  - ▶ Voted repeater
- ▶ **Trunking**

Actual frequencies are assigned dynamically by the control equipment.

- ▶ **Site**
- ▶ **Simulcast**



# Why use VHF or 800Mhz

## ▶ VHF Repeater

- ▶ Propagation
- ▶ Building penetration
- ▶ Lowest common denominator
  - ▶ interoperability

## ▶ 800MHz Trunking

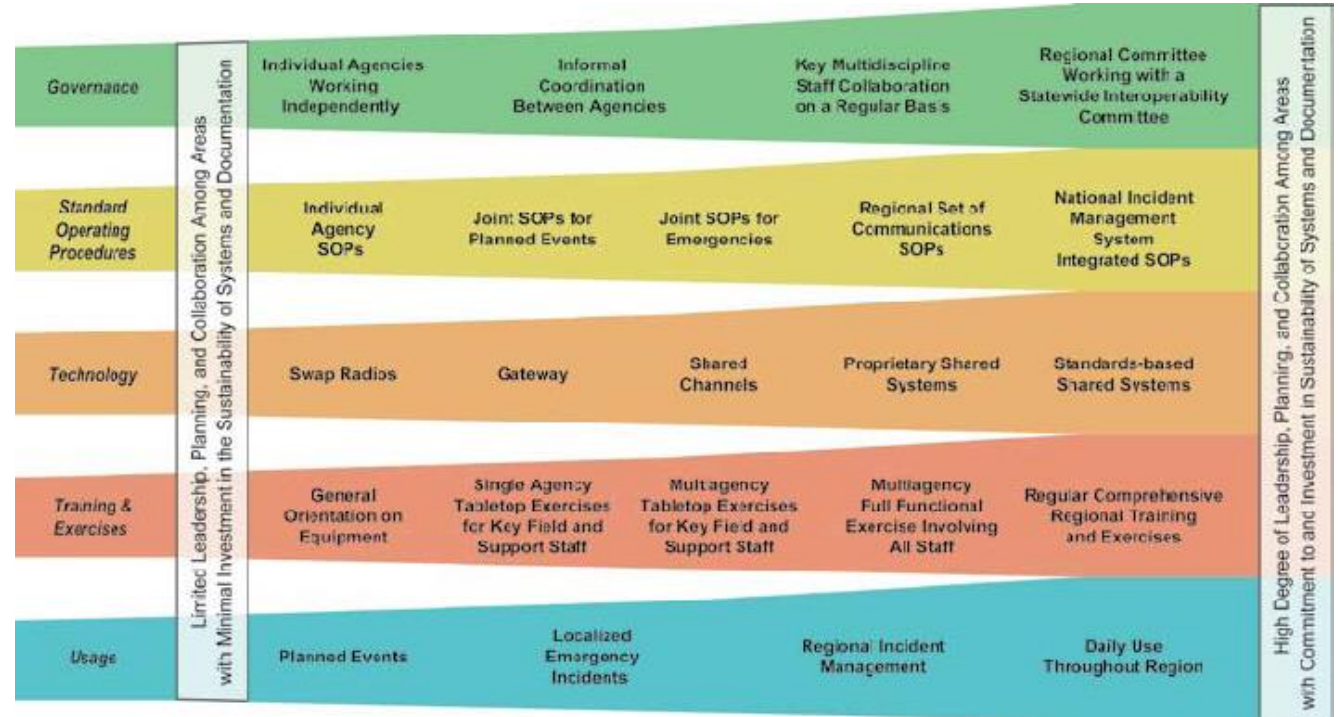
- ▶ Capacity
- ▶ Low interference
- ▶ Frequency efficiency
- ▶ Support multiple agencies

# RCS contractual conventional

- ▶ 2. NEXTGEN RCS OVERVIEW
- ▶ 2.2 NextGen RCS. The NextGen RCS will include the following subsystems: a new trunked voice system, new microwave backhaul network, and a conventional voice system.
- ▶ 2.2.3 Conventional Voice System Description. The Conventional Voice System consists of non-trunked ("conventional") radio base station equipment installed at remote radio sites to support voice radio communications between users of the RCS trunked radio system and non-RCS user agencies as required in day-to-day, mutual aid and disaster operations. The conventional voice system also provides limited backup voice communications capability in the event of a trunked system failure.

# Why RCS Uses 800MHz

- ▶ **Regional Communications System**
  - ▶ **800MHz trunking system**
    - ▶ **Four Simulcast Cells**
    - ▶ **Two Counties**
    - ▶ **52 sites**
    - ▶ **97% coverage San Diego County**
    - ▶ **.1% availability/ grade of service**
    - ▶ **Five 9s reliability available 99.999% of time**
      - ▶ **Less than 5 minutes 15 seconds down time per year**



# RCS Backhaul

- ▶ **Communications backhaul Network (Microwave)**
  - ▶ 3 interconnected loop networks
  - ▶ Link to nearly all dispatch centers
  - ▶ Five 9s reliability per link
- ▶ **Conventional interoperability**
  - ▶ UHF 800

# VHF and RCS

- ▶ **What is VHF: frequency band one of 4 commonly used**
  - ▶ Different bands require different radios
- ▶ **Technology: Direct, control station, repeater and trunking**
  - ▶ Regional VHF repeater based
  - ▶ RCS Trunking system
- ▶ **Why we use VHF and 800MHz: different applications**
- ▶ **RCS contractual conventional: only supports 800MHz**
- ▶ **RCS 800MHz: High availability, capacity and operability**
- ▶ **RCS does not have formal or informal agreements to support VHF**





# Questions

## **David Brooks**

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