

## **PUBLIC SAFETY RADIO COVERAGE**

### **Is Our Safety at Risk?**

#### **SUMMARY**

In accordance with *California Penal Code §919(b)*, the 2016-17 Santa Barbara County Grand Jury (Jury) conducted an inspection of detention facilities within Santa Barbara County (County). While accomplishing this task, the Jury had occasion to speak to several members of the Santa Barbara County Sheriff's Office (Sheriff), who expressed concern regarding areas within the County where they could not communicate using their assigned radios. This was a concern to the Jury as it relates to law enforcement officer safety as well as public safety. To eliminate "dead spots" in radio coverage, the Jury recommends that additional radio towers be placed to provide adequate coverage and made operational as soon as possible.

The Jury also became aware of the new 700 MHz radio band that is currently being used in the Santa Maria Police Department for public safety. This 700 MHz band had been set aside for public safety by the Federal Communications Commission (FCC) and was meant to promote communications between all public safety agencies working in a mutual aid situation. In 2010, the State of California published a strategic plan for the implementation of the 700 MHz band for public safety agencies. Other law enforcement departments in Santa Barbara County should consider how to network with the 700 MHz system now available in Santa Maria.

#### **BACKGROUND**

After the September 11, 2001 terrorist attack, it became apparent to the federal government that radio communication for first responders during a large disaster was a big problem. The different agencies reporting to the disaster had no means of communication between the different units. This became more apparent after the 2005 Hurricane Katrina in New Orleans, as again the primary responders had no means to communicate with each other. Locally, emergency responders could not communicate with one another during major fires, such as the 2008 Gap Fire and Tea Fire.

The Jury was told that the federal government issued an order that all public safety radio communications would be on the new 700 MHz band by 2019. Accordingly, the Federal Communications Commission set aside a portion of the 700 MHz band for public safety needs. In 2012, the United States Congress allocated up to \$7 billion to First Net to construct this nationwide public safety broadband network. Due to the numerous requests not to implement this order, the deadline for 2019 was removed. In 2010, the State of California published a ten-year plan for the implementation of the 700 MHz band for public safety agencies.

A 700 MHz band is an important swathe of the radio spectrum for public safety communications. The band consists of 108 MHz of radio spectrum running from 698 to 806 MHz. The location of the 700

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MHz band – just above TV broadcast channels – gives it excellent propagation characteristics (transmission of radio waves in a particular direction or through a medium). This allows the 700 MHz signal to penetrate buildings and walls easily and to cover larger geographic areas with less infrastructure (relative to frequencies in higher bands). Santa Maria made the decision to change from the existing 400 MHz radio system to the new 700 MHz public band radio system. Motorola was contracted to implement this new radio system. Currently the 700 MHz band is being utilized in both the San Francisco and Los Angeles areas. Santa Maria is centrally located and can serve as a dispatch center for the Central Coast (San Luis Obispo County and Santa Barbara County).

### **METHODOLOGY**

The Jury traveled to all the Sheriff's Substations and interviewed several deputies assigned to each station. At each one of the substations, the deputies interviewed stated there were certain areas where they were unable to use their assigned radios. The Jury also interviewed the Santa Barbara County Sheriff, the Santa Barbara County Communications Dispatch Manager, the Santa Maria Chief of Police, the Lompoc Chief of Police, the Guadalupe Chief of Police and law enforcement officers throughout the County. The Jury studied various communications planning, development, and utilization documents. At the invitation of the Chief of Police of Santa Maria, Jurors attended a presentation by a representative of Motorola, who is installing the 700 MHz radio system.

### **OBSERVATIONS**

#### **Areas of Poor Reception**

There are three areas with poor radio reception within Santa Barbara County. The problematic areas affect both the northern and southern areas of the County:

- Southern Santa Barbara County
- Northern Santa Barbara County
- Cuyama Valley

#### **Southern Santa Barbara County**

Radio communication can be unreliable in the canyon areas of southern Santa Barbara County. Deputies in Carpinteria told the Jury that in certain areas their radios had a weak signal. In coordination with the Department of Homeland Security, a new tower is under construction on Santa Cruz Island. When this is complete, the new site on the island will eliminate problems of radio communication in canyons south of the Gaviota Pass that slope toward the ocean by enabling the signal to penetrate the canyons on the mainland. This will assist all public safety agencies in the south County.

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### **Northern Santa Barbara County**

Law enforcement officers and Sheriff's Deputies in the Santa Maria Valley have told the Jury that radio communication is also unreliable in outlying areas. Dead spots have prevented a call for backup and have endangered deputies. There are plans to install a new radio repeater on a site southwest of Santa Maria. This site was formerly operated by the television station KSBY. This new site is expected to receive County funding by the end of this year, and it will provide communication in the Casmalia and Tanglewood areas. There is also a plan to place a repeater on Mount Solomon, located just south of Santa Maria, which will improve coverage in the Santa Maria Valley.

### **Cuyama Valley**

Deputies in the Cuyama Valley are operating in a rural area with extremely poor communications (dead spots). The Jury learned that, in one instance, a deputy was unable to call for assistance due to the lack of radio coverage. Another also stated that sometimes he had to use the fire department radio in order to communicate with his office. For the safety of all, it is essential that they are able to be in contact with their communication center at all times.

The nearest backup for the Cuyama deputies is located at the Sheriff's Substation in Orcutt. These backup deputies may have to travel for over an hour to assist the Cuyama deputies. If available, they may also receive backup from Kern County, and/or the California Highway Patrol.

The Santa Barbara County Fire Department, in conjunction with the Ventura County Fire Department, is constructing a new communications tower on a mountain peak in Kern County. This will alleviate fire department coverage problems in the Cuyama area. However, this is a fire department endeavor and the Santa Barbara County Sheriff is not on board with it at this time.

### **Countywide Centers**

#### **The Santa Barbara County Public Safety Dispatch Center**

The Santa Barbara County Public Safety Dispatch Center (Center) is located behind the Santa Barbara County Main Jail. This is the only 24-hour County communication facility with countywide responsibility. It is equipped with a total of 10 consoles for dispatching the Sheriff's units, the County Fire Department units, and medical units, including ambulances. The cities of Santa Barbara, Santa Maria, and Lompoc maintain their own radio communication for police, fire, and medical. The Center's work is divided approximately as follows: law enforcement 70 percent, fire 8 percent, and medical 22 percent.

The Santa Barbara County Sheriff's Office uses the 450 MHz band. The County fire departments use the 150 MHz band. Santa Maria Police and Fire use the 700 MHz band. Emergency Medical Service radio band use will depend upon their location. In addition, the County fire departments use six different frequencies, and the Sheriff's Department uses two frequencies. The Center manager was aware of the problems with radio coverage. However, the Center has the capability of patching the Fire and Sheriff's radio traffic in emergency situations. This would allow communication between the two agencies.

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### **Emergency Communication Centers**

There are four Emergency Communications Centers in Santa Barbara County:

- Santa Barbara County Public Safety Dispatch Center
- Santa Barbara City Combined Communications Center
- Lompoc Police Dispatch Center
- City of Santa Maria Communications Center

These communication centers are charged with handling all 9-1-1 calls as well as dispatching police, fire, and ambulance to any emergencies.

### **Updating Technology**

The public safety radio system in Santa Barbara County is an analog system as opposed to a digital system. According to the Santa Barbara County Communications Manager, the County has not switched to digital, because of the following disadvantages:

- Digital radios, like all new digital technology, can be somewhat more expensive.
- Due to additional features and enhanced functionality, a learning curve exists for first-time users.
- Digital signals are intolerant to radio frequency (RF) noises, and in the presence of too much RF noise, the signal can result in error.

On the other hand, there are a number of advantages to digital systems:

- The voice quality is better .
- It has more resilience and reliability.
- It supports special features such as GPS, text messaging, emergency button, encryption, remote monitoring and caller ID.
- Dedicated talk groups can be created on the same system.

The City of Santa Maria is the first to utilize the 700 MHz band on the central coast. During the Jury's visit, the Santa Maria Police Department was in the process of moving the dispatch center from Cook Street to its new facility on Betteravia Road. The dispatch center receives about 600 calls daily, and when completed, will have nine dispatch consoles. Once the center is fully operational, they expect to have 21 dispatchers to handle the 24/7 operations. The center will be capable of handling neighboring communities.

At the time of the Jury's visit, there was one tower at the Santa Maria Police Department to handle any traffic in the Santa Maria and adjacent areas. An additional tower has been constructed in the Los Flores Ranch Park area. This will cover the Northwest area of Santa Barbara County which includes the City of Guadalupe and the county areas of Tanglewood and Casmalia. Moreover, during the interview with the Chief of Police of Santa Maria, he stated that they would cover the Allan Hancock campuses in Santa Maria and Lompoc. The City of Santa Maria is now utilizing the 700 MHz radio system for all public safety communication. Radios used by personnel are capable of receiving the 700 MHz band as well as the 400 MHz band, which is utilized by the Sheriff's Office. The Jury was told that the key word is interoperability where agencies can be patched indefinitely and talk to one another in real time.

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The City of Santa Maria is hoping to provide service to neighboring cities and eventually the County with its new radio system. In order to join this system, North County partners would have to buy the radios and access to the towers, but they wouldn't have to pay for the infrastructure as Santa Maria has already provided this. South County partners would have to purchase and install 700 MHz repeaters and radios. The repeaters could be installed in existing towers, including cell towers. The prior installation of technology and towers in the North allows smaller departments to have the equipment that Santa Maria already has in place, so there would not be high upfront costs. This would eliminate the current situation where emergency responders have to borrow each other's radios to communicate. Further negotiations would include a Memorandum of Understanding (MOU), Standard Operation Procedures (SOPs), joint planning, equipment loans and channel sharing. The Santa Maria Police Department is also willing to train other departments and offer radio and technical support personnel.

### **CONCLUSION**

Reliable radio reception for public safety agencies has been problematic in select areas of Santa Barbara County. The 2016-17 Santa Barbara County Grand Jury spoke with many law enforcement officers who recounted situations in which their work was hampered by poor reception, or no reception. Their safety and the public's safety are at risk. Santa Barbara County is in the process of putting up towers to increase coverage and eliminate dead spots in radio reception. The Jury recommends this be completed as soon as possible.

With its investment in the future of public safety technology, Santa Maria is reaching out to other areas on the Central Coast to join their 700 MHz system. Given the power and efficiency of this system, all Santa Barbara County public safety departments should adopt the 700 MHz system to advance public safety communications for the future.

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### **FINDINGS AND RECOMMENDATIONS**

#### **Finding 1**

The Santa Barbara County Sheriff's Office has radio dead spots in the Casmalia and Tanglewood areas that threaten public safety.

#### **Recommendation 1**

That the Santa Barbara County Sheriff's Office ensure that the radio tower scheduled to service the Casmalia and Tanglewood areas be installed as soon as possible.

#### **Finding 2**

The Santa Barbara County Sheriff's Office has radio dead spots in the Santa Maria Valley that threaten public safety.

#### **Recommendation 2**

That the Santa Barbara County Sheriff's Office complete the radio tower, proposed for Mount Solomon, as soon as possible.

#### **Finding 3**

The Santa Barbara County Sheriff's Deputies in the Cuyama area are operating in a rural area with extremely poor radio communications.

#### **Recommendation 3**

That the Santa Barbara County Sheriff's Office join with the Santa Barbara County and Ventura County Fire Departments in the installation of a radio tower to be located in Kern County that will ensure that all agencies are able to communicate throughout the Cuyama area.

#### **Finding 4**

Most public safety agencies in Santa Barbara County are not using the 700 MHz radio band.

#### **Recommendation 4**

That Santa Barbara County Board of Supervisors upgrade all Santa Barbara County public safety radios to the 700 MHz band as recommended by the Federal Communications Commission and the State of California.

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### **REQUEST FOR RESPONSE**

Pursuant to *California Penal Code Section 933 and 933.05*, the Santa Barbara County Grand Jury requests each entity or individual named below to respond to the enumerated findings and recommendations within the specified statutory time limit:

Responses to Findings shall be either:

- Agree
- Disagree wholly
- Disagree partially with an explanation

Responses to Recommendations shall be one of the following:

- Has been implemented, with brief summary of implementation actions taken
- Will be implemented, with an implementation schedule
- Requires further analysis, with analysis completion date of no more than six months after the issuance of the report
- Will not be implemented, with an explanation of why

**Santa Barbara County Board of Supervisors– 90 days**

Findings 3 and 4

Recommendations 3 and 4

**Santa Barbara County Sheriff– 60 days**

Findings 1, 2, and 3

Recommendations 1, 2, and 3