

CAN YOU HEAR ME NOW?

Report on Emergency Communications in Mendocino County

April 5, 2007

Summary

The geography of Mendocino County, and the distance between population centers, requires a reliable emergency communication system. The current communication system is complex, outdated, and in imminent danger of permanent failure. Failure will result in it being unable to meet the existing demands, including dispatching of 911 calls, creating an emergency of its own.

Background

The 2006/2007 Grand Jury elected to study the structural changes in emergency services to determine whether the new system would provide the maximum level of preparedness. The goal of the emergency response system is to prepare for, respond to, and recover from a major disaster.

The Grand Jury was alerted to a change in the management and structure of emergency services by two factors:

- 1.) The dissolution of Mendocino Emergency Services Agency (MESA)
- 2.) The modification of Mendocino County Code Chapter 7.04 (Title 7).

For this purpose, the Grand Jury examined three areas essential to Emergency Preparedness, namely:

- Training;
- Communications;
- Coordination.

This report will be directed toward the second item: Communications

A key element in response to emergencies and disasters is constant and reliable communication within all levels of the response command structure. The Emergency Operations Center (EOC) is the nerve center of disaster response. As such the EOC must be in constant contact with all levels of response operations from personnel in the field to State and Federal agencies assisting the County.

Methods

The Grand Jury interviewed former MESA staff, county managers, elected officials, and special and school district personnel. The Grand Jury studied county and city emergency plans as distributed in the Fall of 2006, audits and budgets, county documents and State and Federal requirements and laws. It

attended public meetings, Board of Supervisors' sessions and workshops, and visited the communication site on Spanish Mountain.

Findings

1. The emergency communications system in the County consists of multiple layers.
 - a. Mobile radios (both handheld and in-vehicle) are used for local communications and access to the repeater system.
 - b. Repeaters relay radio communications past geographic barriers, such as ridgelines.
 - c. Microwave system is a high frequency communications system that relays communications between the various repeaters, and provides control of individual repeaters.
2. The county communication vaults are located at Sanel Mtn., Spanish Mtn., San Hedrin Mtn., Cahto Peak, and the Point Arena Air Force Base. In at least one case, i.e. San Hedrin Mtn., the vault is inaccessible from early winter through late spring.
3. Each communication vault contains both the repeaters and microwave equipment for each installation site. These vaults are wood frame buildings, shipping containers, or concrete block houses.
4. Most of the vaults are old and have significant structural problems resulting in leaks. Some wood frame vaults are in areas which experience large amounts of snow fall and high winds.
5. The microwave equipment is obsolete and in imminent danger of permanent failure. When the system is functioning it introduces "noise" into the entire communications system. Backup equipment is not available. Replacement parts are difficult to acquire. The county's service provider has at times had to resort to purchasing used parts through Ebay, and cannibalizing existing equipment.
6. Inside the city limits of Ukiah and Willits, 911 calls are dispatched by those municipality's dispatch centers. Dispatch for Fort Bragg and Point Arena are handled by contract with the Sheriff's office.
7. Calls to 911 outside the city limits of Ukiah and Willits are routed to the Sheriff's dispatch center in Ukiah.
 - a. Fire and Emergency Medical Service calls are automatically routed to the Howard Forest Station, California Department of Forestry (CDF), a.k.a. CalFire, dispatch center at Ridgewood Summit.
 - b. The CDF radio communications are relayed by telephone land-line to Willits, where they are automatically transferred into the microwave system.
 - c. Dispatch radio communications are then relayed by microwave from Willits to San Hedrin, and from there to Spanish Mtn., a.k.a. Cleland Mtn., where they enter the county fire repeater system.

8. Calls to 911 from cell phones are routed to the California Highway Patrol (CHP) who then transfers them to the appropriate agency.
9. Two independent repeater systems are a **County fire system**, and a **Sheriff's Office system**. Use of the same terminology causes considerable confusion (See Findings 10 and 12 below).
10. The County fire repeater system is comprised of two parallel networks, the "red" and "blue" systems:
 - The "red" system covers most of the county, with the exception of various portions of the southwestern county;
 - The "blue" system provides coverage to most of the southern part of the county.
11. Failure of the "red" County fire system will leave the northern part of the county without direct communications. Mobile radio operators may be able to contact secondary agencies who can relay messages; at such a time these dispatchers may already be overloaded.
12. The Sheriff's office maintains its own separate two part repeater system, also referred to as the "red" and "blue" systems.
 - a. Sheriff's dispatch communications are relayed by microwave from the dispatch center on Low Gap Rd. in Ukiah, to Spanish Mtn.
 - b. The dispatch communications then enter the County microwave system which relays them to the appropriate Sheriff's repeater.
 - c. The "red" system provides coverage to the Coast and north County.
 - d. The "blue" system covers the south and central County.
13. Access to both the County fire and Sheriff's repeater systems require mobile radios which are configured specifically for both systems.
14. Mendocino County General Services Agency is preparing a plan for the acquisition and installation of a replacement microwave system over the next several years.
15. The County holds a total of 39 FCC radio licenses.
16. All of the microwave links currently have up-to-date licenses.
17. Some of the microwave links operate on frequencies which will be unavailable when the licenses expire.
18. Changing the frequency used by the microwave links requires the acquisition of expensive replacement communications equipment.
19. A network of ham radio operators is an unofficial parallel system.
20. Satellite phones are a possible additional communications system. However, satellite systems require a clear southern exposure to function.
21. Communications would be concentrated in the County's Emergency Operations Center (EOC), in the event of a disaster.
22. The EOC has a standby generator to ensure continued functioning of the command structure.

Recommendations

The Grand Jury recommends that:

1. the County actively pursue replacement of the microwave system with the urgency it deserves. (Findings 1c, 3-5, 7b-c, 14-18)
2. new microwave equipment be selected to allow access to frequencies required by future licenses. (Findings 15-18)
3. the defective and deteriorating communication vaults be repaired or replaced. (Findings 2-4)
4. the “blue” County fire system be extended to cover the entire county. (Findings 9-11, 13)
5. plans be developed and implemented to effectively deal with any failure in the existing communications system. (Findings 1-21)
6. the EOC standby generator and wiring be assessed to make sure it can fully meet the needs of the EOC. (Findings 21-22)

Comments

County officials, and the general public, have found it difficult to understand and keep track of how the system is configured and functions. This has led to the system being in imminent risk of permanent failure. For this reason the Grand Jury believes immediate action is required to assure emergency communications reliability.

Response Required

Board of Supervisors (Findings 1c, 4-5, 7-8, 11, 13-18, 21-22; All Recommendations)

Mendocino County Chief Executive Office (All Findings; All Recommendations)

Mendocino County Sheriff’s Office (Findings 1-9, 12-14, 18-22; Recommendations 1-3, 5-6)

Mendocino County Emergency Services Coordinator (All Findings; All Recommendations)

Mendocino County General Services Agency (Findings 1-5, 9-11, 13-18, 20-22; All Recommendations)

Response Requested

All Fire Chiefs (Findings 1-5, 7, 9-11, 13-14, 19-21; Recommendations 1-5)

CalFire – Howard Forest (Findings 1-8, 10-11, 13, 19; Recommendations 1-5)