

Ron Lane  
Director, County of San Diego Office of Emergency Services

TESTIMONY  
Before the

Joint Legislative Committee on Emergency Services and Homeland Security

ON

The County of San Diego's Experiences with Emergency Notification and Alert Systems

August 12, 2011

**Introduction**

Thank you Chairwoman Lowenthal, and distinguished members of the Committee, for inviting me here today to provide you with information about San Diego's extensive experience with mass notification and alerting systems. I am Ron Lane, Director of the County of San Diego Office of Emergency Services.

My comments will be focused on two aspects of alert and warning. The first will be the County's experience during the 2007 firestorm. Second, I will discuss the pilot project we conducted 10 months ago with CalEMA and Sprint to test the new cell phone alert system.

**2007 Wildfires in San Diego County**

At the height of the firestorm in late October 2007, there were seven separate fires burning in San Diego County. Our community was, quite literally, burning in every direction. In total, the flames consumed nearly 369,000 acres or about 13% of the total land mass of the County of San Diego. The ability to utilize sophisticated alert and warning systems was critical to our ability to protect our residents from these fast-moving fires.

From the moment the first fire began at 9:35 a.m. on Sunday, October 21, 2007, communication with the public became one of our primary responsibilities. As the fires expanded, and we were engaged in battling 5 out-of-control fires, our ability to alert and notify residents of fire danger became a life-and-death race against time.

In the end, we evacuated approximately 515,000 people, and although not without some problems, these evacuations were conducted in an efficient and effective manner. Undoubtedly, the outstanding work of the Sheriff's department and other law enforcement agencies to get residents out of the way of these fast moving fires, saved countless lives.

Our alert process began at the incident command (we actually had five separate incident commands due to the five separate fires). The incident command teams identified communities that were at risk and needed to be evacuated. This information was relayed

to our Emergency Operations Center (EOC) and the Sheriff Department's Operations Center.

The Sheriff then conducted a mass notification to homes in the evacuation area, through one of our two mass notification systems, Reverse 911 or AlertSanDiego. In addition, Sheriff and law enforcement officers in the community were notified, so that they could go door to door, or use loudspeakers, as necessary, to make sure the community was notified of the evacuation order.

Meanwhile, in the County's EOC, the evacuation information was entered into our emergency management software, WebEOC, so that all agencies knew of the evacuation. Our Joint Information Center (JIC), located at our EOC, was immediately notified and the JIC put the evacuation notice out immediately to the media via press release. (We sent out over 200 press releases during the fire and posted real time information on the County's emergency website.)

Two-way communication with our residents during an emergency is equally important. After the 2003 Cedar Fire, the County established a partnership with 2-1-1, a private non-profit organization that, on a day-to-day basis, provides health and human service information to callers. Thanks to our partnership with the organization, San Diego County residents can now dial this simple toll-free number for current information during a disaster. 2-1-1 operators answered nearly 109,000 calls during the first week of the 2007 fires, from residents seeking information about evacuations, shelters and other fire concerns. These non-emergency calls may have otherwise clogged our emergency 911 call centers. 2-1-1 also had a liaison in our Joint Information Center, so the information was immediately relayed to the 2-1-1 operators as well.

During the 2007 fires, we conducted over 70 separate evacuation alerts through the process I just described. We made over 377,000 calls using the Reverse 911 system, and 172,000 calls using the AlertSanDiego system.

Our largest evacuations were for the communities of Fallbrook and Ramona (both communities have over 30,000 residents), where we also issued an Emergency Alert System (EAS) messages for those communities.

Both of these systems worked as designed, and to our knowledge, this was the largest use of mass notification systems ever in this country.

Clearly, the ability to call residents and tell them when and how to evacuate, individually, allowed for a more timely and efficient evacuation. We take pride in the fact that, unlike in the 2003 fires, no evacuees were trapped or killed by fire while evacuating. Additionally, since the 2007 fires, we have added the ability for residents to register their cell phones to receive AlertSanDiego messages. Currently, we have over 300,000 cell phones registered.

As a result of our extensive use of mass notification systems in 2007 and in subsequent emergencies, we have identified some observations and recommendations:

1. Mass notification systems are an invaluable tool for communities to communicate with the public during emergencies. However, it is also important to note that no agency should rely strictly on mass notification systems as their only means of communication during an emergency. It must always be used in conjunction with the other communication means, including the media and door-to-door.
2. The data in the mass notification system is only as good as the data provided by the phone companies, as part of the 911 database. Problems with the database, such as misspelled street names, will cause problems when the database is geo-coded onto the map system that is used to send the alerts. It is important to scrub the 911 database to fix as many of these complications as possible.
3. Landline phones are quickly becoming replaced by cell phones and Voice-Over-IP phone systems. Some residents do not have landline phones, only cell phones, thus are not in the 911 database. This issue should be resolved with national implementation of the Commercial Mobile Alert System (CMAS).
4. If communities lose power prior to the notice, the average home's cordless phone system is inoperative. We encourage all residents to have at least one phone that does not use electricity in their homes, so they can receive emergency calls even when they have no power.

In summary, the San Diego Association of Governments (SANDAG) calculated that 515,000 county residents received a voluntary or mandatory evacuation notice during the fires, making it the largest fire evacuation in the nation's history. The success of the overall evacuation effort is directly related to the use of our Reverse 911 and AlertSanDiego mass notification systems. There is incredible value in the ability to quickly reach large numbers of people at home, any time of day or night, to communicate risk and provide instructions.

### **Test Pilot of the Commercial Mobile Alert System (CMAS)**

While mass notification systems targeting home landline phones is currently the most effective means to alert and warn communities, the future is clearly aligned with cell phone technology. However, unlike landline phones, cell phones cannot be geo-coded and privacy laws and other factors make notification to cell phones a challenge. FEMA has been working on a national effort to develop a new cell phone alert system. The County of San Diego and Sprint with assistance from the California Emergency Management Agency partnered to test Sprint's capability to provide emergency notifications based on cell tower locations. The key aspect of this new system is that this new Personal Localized Alert Network (PLAN) does not use voice or text messages. Alerts will not have to be opened like SMS text messages, but will "pop up" on the device's screen. PLAN alerts are transmitted using a new technology that is separate and different from voice calls and SMS text messages. This new technology ensures that emergency alerts will not get stuck in highly congested user areas, which can happen with standard mobile voice and texting services. PLAN is a new public safety system that allows customers who own an enabled mobile device to receive geographically-targeted, text-like messages alerting them of imminent threats to safety in their area. PLAN enables government officials to target emergency

alerts to specific geographic areas through cell towers which pushes the information to dedicated receivers in PLAN-enabled mobile devices.

Nearly one year ago the County of San Diego's Office of Emergency Services was involved in the first major trial of this new PLAN system. We were honored to have a role in the testing of this important system and it was encouraging that we, among others, were able to contribute to the ongoing development of this technology.

For the trial, over 50 alerts were generated to 120 PLAN equipped mobile phones. We simulated large and small scale emergencies ranging from earthquake and tsunamis to hazardous materials spills and quarantines. Our trial was conducted during the fall of 2010.

There were two key focus areas of our test pilot. The first was to determine if the 90 character limit of PLAN would inhibit our ability to communicate our message. The second key focus area was to understand the effects of the overlapping cell phone tower system configuration, and how that would affect our ability to target specific locations.

#### 90 Character Limit

On the 90 character text field to communicate an alert, we anticipated correctly that fitting a well scripted alert message that included the type of disaster, the area affected, a call to action, and advice to monitor the media, into such a small space would be a challenge. We were both surprised and encouraged by the fact that many of our messages fit within the limitation.

Some examples of the messages we crafted were "Wild Fire in the Julian and Santa Ysabel area. Evacuate now. Monitor media for more info" and "Toxic air quality near Mission Bay. Remain indoors. Turn off AC. Monitor local news." It took some creativity to make a sensible message fit into the 90 character space, but it was possible.

During our trial, we realized that fitting AMBER alerts into the 90 character limit was very difficult. AMBER Alert calls which could include such things as victim description, suspect description, vehicle and license plate number proved to be a greater challenge.

Our tests concluded that the 90 character limitation for PLAN broadcasts was viable and work well as an initial alert platform and could be used to encourage people to seek more information; but did not work if PLAN was to be the only source for detailed emergency notifications. As PLAN continues to be developed, working to increase the 90 character limit should be an early objective.

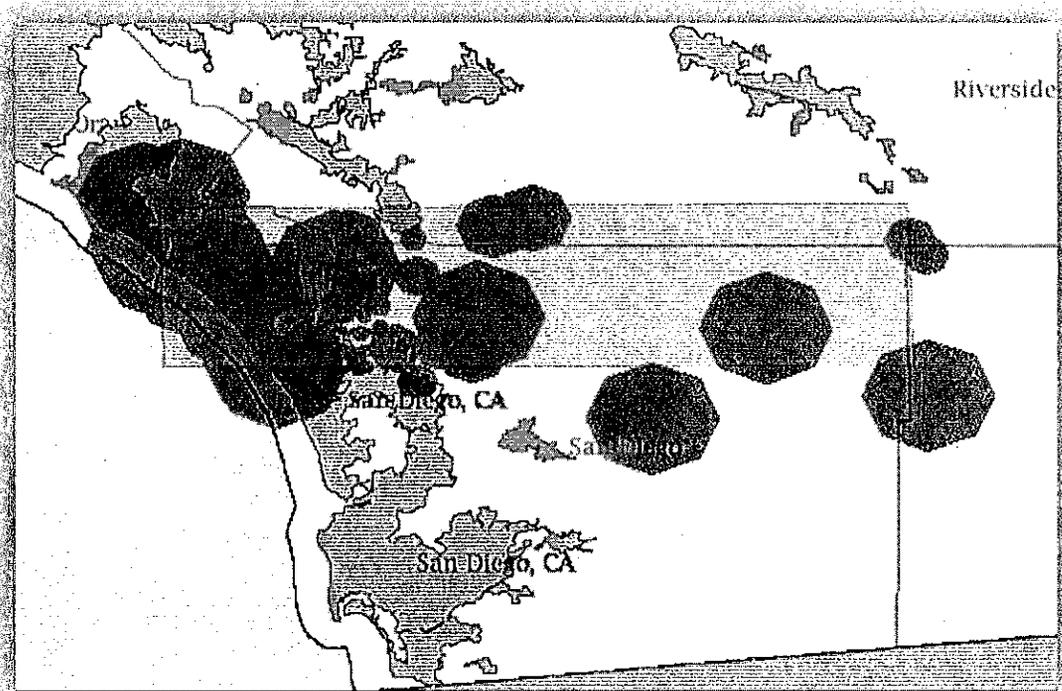
#### Targeting specific locations using PLAN

A second focus of our test was to identify how specific we could target messages to specified geographic areas. As San Diego County is roughly the same size as Connecticut, our trial attempted to target a more granular level. Our best accuracy was in the East

County, since cell towers there were spread-out, and we could get an accuracy of about 5 mile around a cell tower.

During our trial we discovered that the broadest targeting occurred on the coast. Due to the large concentration of overlapping cell towers and the wide coverage area of each individual tower, the notification area was large. For example, we attempted to target Petco Park, San Diego's major league baseball stadium. However, the alert resulted in cell towers activating from the border to La Jolla, and deep inland. Ultimately, cell towers in a 25 mile wide circle around the park were activated. Our trials suggested that using PLAN for spot notifications would not work as well as for larger geographic areas. We concluded that, as an emergency notification tool, PLAN targeting lies somewhere between the broad range of our Emergency Alert System and the neighborhood targeting capability of AlertSanDiego, our reverse 911 system, for geographic accuracy.

The map below shows a PLAN polygon set to alert a section of San Diego's North County. The PLAN polygon in this example is light blue and the range of the cell towers that activated are shown in dark blue.



Ultimately, we believe that the PLAN technology is an important part of any future alert and warning strategy. Clearly, cell phones are going to be the best and primary way to communicate with the public for many years to come, and it is critical for the emergency

management community to quickly establish mechanisms to reach cell phones with alert and warnings.

### **Conclusion**

As a result of the 2007 wildfires, and our involvement in the development of the new cell phone alert technology, the County of San Diego has learned much about public alert and warning. I appreciate opportunities, like this one, to share and exchange ideas. Thank you for your interest and support of disaster preparation and response activities. I am happy to answer any questions that you may have.

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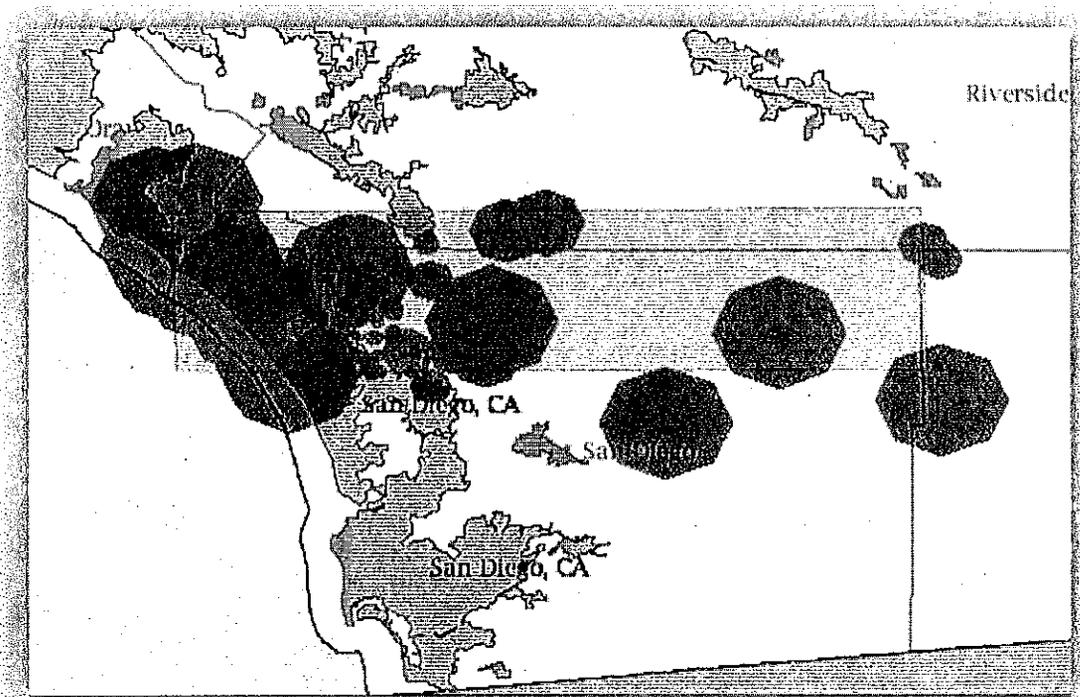
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