

**Citizens Emergency Response and Preparedness
Program
for the**

Woodside Fire Protection District

Disaster Communications

DRAFT

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In the 20 plus years since CERPP was formed, there have been many changes in the way we communicate on a daily basis. In its early days, CERPP designed and implemented a system of voice radios for use in a disaster. Two distinct radios networks with separate types of equipment were put into place. CERPP entered into a memorandum of understanding (MOU) with the Red Cross to use their FCC licenses for these networks. CERPP is in the process of renewing this MOU.

CERPP's Division Radios work well for communications between CERPP divisions and their respective town EOCs. We need to finish the move from fixed location operations to mobile operations with a car top antenna and utilizing the car for power.

Many divisions are not served well by CERPP's Neighborhood Radio system. These low power line-of-sight radios do not provide good coverage in large divisions or divisions with hilly terrain. CERPP should continue to support these radios for divisions where they work well. We should seek other solutions, which may not be radio based, for other divisions.

CERPP has poorly managed the assignment, inventory control, and maintenance, of its radio systems. Radios get lost, transferred from one neighbor to another without CERPP's knowledge, stored improperly and damaged by corroding batteries and moisture. Problems are not identified with radios that do not participate in regular exercises. We need to reset the expectations and responsibilities of the individuals and divisions with CERPP radio equipment. Divisions are not entitled to have radios without bearing substantial responsibility for their use, storage and upkeep. We need to develop procedures for radios assignment/reassignment, testing, usage, maintenance, and eventual replacement. These procedures must assign this

responsibility across many individuals, both to avoid overburdening a single individual, and to provide for continuity as individuals end their CERPP involvement.

Too many individuals within CERPP seem to have developed the attitude that a CERPP radio is essential. They assume that to be able to immediately report a problem, is to have someone else bear the responsibility for resolving it. This couldn't be further from the truth.

As an organization CERPP has had our head in the sand as communication technology has evolved around us. It's no longer sufficient to assume that all that high tech stuff won't work in a disaster anyway, thus we can just ignore it. When disaster strikes we need to be ready to use modern communications technology to the extent that it is available. Before disaster strikes we need to utilize modern communications technology to engage our community. If we continue to rely on printed newsletters, fliers, emails, and our stale poorly organized web site, we will become increasingly irrelevant.

CERPP Division Radios

VHF-Low Band radios, with the ability to operate on three channels, were installed at the Town Emergency Operations Centers, the Fire District's Operation Center, and in each of the 25 CERPP divisions. CERPP calls this radio system the "Division Radio System" The initial deployment of these radios was to fixed locations with permanently mounted antennas. In locations without backup generators, the radios were powered using "jumpstart" battery packs. Many exercises and radios checks were performed using these radios over the years and the system has worked well. In the divisions, as people in leadership positions moved on, the permanently mounted radio antennas needed to come down and be moved to a new location. Many of these moves never had the antenna reinstalled. Additionally the "jumpstart" battery packs have mostly failed. There is currently a plan to move the divisions away from a fixed location operations model, to a mobile model. Antennas with a magnetic base were purchased that could be placed on the roof of a vehicle. The radios were already equipped with a "cigarette lighter" style power plug, common to most vehicles. This transition to the mobile model has not been completed, new training and usage instructions still need to be developed, and divisions need practice setting up and using the radios.

CERPP Neighborhood Radios

UHF hand held radios, with the ability to operate on six channels were issued to individuals in organized divisions. Up to 10 radios per division were issued. Channels were assigned to divisions to minimize interference from nearby divisions. The Neighborhood Radios have been much less successful than the Division Radios. Even early on few divisions practiced using their Neighborhood Radios more than one or twice. Larger divisions and divisions with hilly terrain found that the low power line of sight nature of these radios would not cover their entire division, without using relays and placing some radios at high spots in the division. Several divisions abandoned the Neighborhood Radio network and put alternate systems into effect. These radios are small. CERPP has now lost track of some of these radios. Many are not with the person to whom they were initially assigned, having been informally handed off to someone else

within the division. Quite a few of these radios were improperly stored with the batteries in the battery holder, requiring battery holder replacement. In the cases where the battery holder was attached to the radio, the radio was damaged, some beyond repair. Despite this grim assessment, there are a few divisions where the Neighborhood radios are working well.

Recently there has been a lot of talk about CERPP's radio system. Most of it has been focused inventorying the Neighborhood Radios, repairing or replacing broken Neighborhood Radios, and issuing new Neighborhood Radios to divisions that are requesting them. Given the poor performance of the Neighborhood Radios system, I think it is a mistake to continue to issue our current Neighborhood Radios. There is likely not a single solution that will work for every division. CERPP needs to support divisions in finding workable communications. The solutions under consideration should not necessarily be limited to voice radio communications.

Furthermore I believe that many individuals within CERPP have succumb to the idea that having a "radio" is necessary, and that with the ability to report their problems by radio, their problems will get resolved. I believe this false hope, prevents more realistic planning for neighborhood level disaster response.

In a disaster situation, it's often better to work on solving a problem, than to work on reporting it to someone else, hoping that they will solve it for you.

During the process of evaluating CERPP's communications needs, I think it is useful to look at disaster communications from a much broader perspective than just voice radio systems. We should take into account the many other methods of communications in use today, as well as some of the very low or no tech methods.

Special Communication Needs During a Disaster

The immediate impact of a disaster and its aftermath will result in many emergency situations that need to be dealt with. Situations involving injuries, fires, trapped people, collapsed structures, and damaged infrastructure will all be vying for the attention of both traditional emergency responders and citizen responders. Emergency officials will struggle to get a complete situation status for their communities. Officials may also have the need to broadcast information about evacuations, and other special instructions to large numbers of people.

At the same time most individuals will be attempting to check the status of their family and friends and to determine if there has been damage to their homes and or businesses.

The logistics of day to day life are likely to be disrupted for many days or weeks following the disaster. Information about what's broken, what's open and what's closed, where to get this and that, where to go for sheltering people and animals, where to get medical aid, etc. will be flowing at the very local level all the way to the regional level. Some of it will need to be broadcast to the public at large, some of it will flow within a single organization or business, some of it will just get passed around in a neighborhood.

Prioritization of Messages

During the first few hours of a disaster, many communications networks can expect to be overwhelmed with traffic. Many organizations that receive disaster related messages will also be overwhelmed in their ability to process and respond to those messages.

Broadcast networks will give priority to news coverage of the disaster over their regular programming.

Telephone networks, both landline and wireless, may limit incoming calls from outside the disaster area. They may also have the capability to offer prioritized services to pre-identified users with governmental and emergency response rolls. The landline system may have lengthy delays before a dial tone is available, thus prioritizing service to those who are willing to wait for it.

In communication networks where humans are involved in the message delivery process, they can decide to limit messages to those at or above a certain priority level.

CERPP has standardized on a priority system used by a state of California incident reporting system. The four priority levels are Flash, High, Medium, and Low. To be considered Flash priority a message will need to relate to a situation that will result in the death of one or more people within the next couple of hours. CERPP's Division Radio network is managed by a net control operator, most likely located at the Town's EOCs. The net control operator can restrict radio traffic to specific priority levels to keep from being overwhelmed. While the towns can't know the priority of a phone call before they answer, you can bet that the messages that are taken will be dealt with in a prioritized manner. Callers with lower priority messages may even get told to call back later.

Communications Systems Disasters

The type and severity of the disaster will determine which of our routinely used communication systems still work. There are four broad categories that will keep a communications system from functioning. They are damage to the actual infrastructure, lack of electrical power to power the communications equipment, overload by the demand for services, and user failure.

Much of CERPP's disaster planning has been done with the two most likely disaster scenarios in mind; a large regional earthquake, and a localized wildland fire in a portion of the fire district. The expected functionality of regular communication systems is quite different in the two scenarios.

Wildland Fire

In a wildland fire incident, most of the communication infrastructure outside of the actual burn area should remain functional. The voice part of the cellular telephone network will likely be overwhelmed by calls in the immediate vicinity of the fire.

Earthquake

Following a major earthquake, communications systems will be much more likely to fail. Call and message traffic will be high throughout the region. Utility supplied electricity will be unavailable in many locations. Many parts of the cellular phone system and the infrastructure that enables “last mile” delivery of cable television and internet services are backed up by battery power, but the batteries are not expected to last for more than 24 hours. In areas where the physical infrastructure is damaged by the shaking, time to repair is likely to be measured in weeks. This scenario represents the most challenging communications that our community is likely to face, and is the one that requires the most preplanning, training, and practice to overcome.

In the first few hours after a large earthquake, even if the communications networks survived intact, most incidents involving seriously injured or trapped people will rely on citizen responders if they are to be resolved in a timely manner. Emergency response agencies throughout the region will be overwhelmed during these first hours.

Regional Broadcast Media

The Bay Area’s radio and television broadcasters are likely to be a good source of regional information. Their reporting will likely focus on the obvious worst hit locations. They will also have good information on the status of the region’s airports, freeways, and bridges. The downside is that the more localized the information the less likely it is to be covered by the regional media.

Television and radio broadcasters are typically well equipped with backup power system so they can stay on the air for an extended period of time without utility provided electric power.

It is easy to listen to broadcast radio stations during a disaster. Almost every car still has an AM/FM radio installed and the car battery will power the radio for many days. If you want to be able to listen from somewhere other than your car, battery or hand crank and solar powered radios are readily available.

Television has gotten more complicated. Over the air broadcast television is likely to still be on the air after a major earthquake. But not many people still rely on over the air broadcasts. And those that do may not have backup power sources to run their television, antenna, and converter box.

Satellite based systems, like DirectTV, will likely still be broadcasting, but people will need backup power for all of the pieces of the system in their home.

Our community's cable television system relies on many local pole mounted distribution devices. Most of these have backup batteries that will run them for hours, but not days without utility provided electricity.

If you have "cut the cord" and stream your video over the internet there is a great deal that can go wrong during a disaster. See the section on the internet for more detail.

Local Broadcast Media

We also have many sources of locally broadcast information. Here I'm going to use the term "broadcast" to mean one way messages sent from a single point to many receivers.

Portola Valley AM Radio is an AM broadcast radio system that has been installed at Town Center as a means of communicating with residents during emergencies. It broadcasts at the frequency 1680 kHz. It is also available via the internet at <http://bit.ly/AM1680PortolaValley>. The signal reaches into some, but not all, parts of Woodside.

SMC Alert System, San Mateo County's Community Alert System. You need to enroll (<http://smcalert.info>) to be notified via text message to your email and/or cell phones during urgent or emergency situations. SMC Alert also has a "Reverse 911" feature to call your landline phone using white page phone numbers. You will need to self-register to receive calls to your unlisted landline, or cell phone.

CERPP's Telephone Recording 866-442-3777

CERPP pays a service provider to maintain an announcement only voicemail box. The system is hosted outside of the bay area, and is capable of delivering the outgoing message to many callers simultaneously. In the days of SMCAAlert and reverse 911 calls, it seems unlikely that anyone from the towns or fire district would put info on this announcement. I suspect you would be hard pressed to find very many folks that can even find the instructions to update the message. Add to that there can only be one message, making it very hard for both towns and the fire district to use the system at the same time. I think CERPP should discontinue this service.

Town, District, CERPP, and Other Web Sites

These local broadcast sources have the potential to be excellent timely sources of very localized information. But they face a number of hurdles:

- Need for community awareness:
 - Some require advance registration.
 - Some require individuals to tune in or call to receive the information.
- How information gets loaded into the systems:
 - Emergency officials will need to remember to enter timely and useful information.
 - In an ongoing situation regular updates should be scheduled, and the message should include the time of the next scheduled update.
 - SMC Alert suffers from a lack of timeliness. Road closures and reopening announcements tend to lag the actual event by as much as an hour.
- Systems that are rarely used tend to be more prone to failure.
 - Officials forget to use them or forget how to use them.
 - The technology fails, batteries die, equipment fails, bills are not paid, etc.

- The community forgets to use them
- Some of these systems are reliant on other infrastructure to function.

Old School “Social Media”

A big sheet of paper taped up on the side of a building can become an information sharing site for a neighborhood or division. People and pets can be reunited and resources can be offered and requested. Division operations centers should stock a large roll of paper and a box of markers. Some preplanning for central locations for message boards that offer both access and shelter from rain and wind will be useful.

During a disaster, operations centers at both the town and division level should consider holding public briefings/meetings to provide updates on the current situation and the plans for the next operational period. If possible the date/time of the next briefing should be announced during the current briefing. Holding to a schedule of a morning and afternoon briefing may make sense for many days following a major disaster.

Operations centers that have backup power, computers and printers should consider producing printed flyers with information about resource availability and post disaster logistics. Flyers for things like water treatment, hygiene, and food storage and preparation could be prepared in advance.

Internet, Email and Social Media

In recent years, the internet has played a big roll in providing information during and after wildland fire incidents. This includes web sites of official organizations like local governments and fire departments. It also takes place in spontaneous Twitter hash tags, Facebook pages and other forms of social media. CERPP has readymade home pages for our web site that are designed to be used during earthquake and wildland fire incidents. We also have Twitter and Facebook accounts, however very few folks within CERPP know how to update the web pages, or use the social media accounts. Like many things, to be good at this we need preplanning, training, and practice. Do the towns and fire district have enough staff trained to update their websites and use their social media accounts to get timely disaster related information posted?

The Telephone Network

The telephone is the way most of us reach out for emergency help. We call 911, our call is answered by a highly trained professional, the right questions get asked, knowledgeable suggestions are given, and at the same time a team of professional responders is dispatched and arrive a few minutes later. A fabulous system most of the time. But in a widespread regional disaster such as a big earthquake, there will never be enough 911 operators to answer all of the calls, nor will there be enough first responders to be at every callers doorstep in a matter of minutes.

The telephone is not a simple device attached to the wall by a cord anymore, and that has implications for what happens to telephone systems in a disaster.

Wire based “landlines” have core infrastructure that is well equipped with backup batteries and generators. Lots of cold war era thought was put into the survivability of the telephone system. There are procedures in place to do things like restrict inbound calls to a disaster area so the

system can continue to service outbound calls. Currently most of the home landline phones are no longer powered by the “central office,” and little thought has been given to their ability to function in a disaster. They are cordless things, often with old rechargeable batteries, just barely able to stay on for a long call with your mother; not the sort of device that will serve you well in a disaster. Many preparedness folks suggest that you should keep an “old fashioned”, plug the cord into the phone jack, phone just for emergencies.

If you have gone the bundled route with your internet provider, your “internet phone” probably has several devices around your home that need to be powered for it to operate. Additionally, it will require some of the street level infrastructure that delivers the “last mile” of internet service to be functional as well. Most of this equipment, belonging to either your phone company, or your cable company, has a limited backup battery. It will run for a few hours without utility supplied power but no more. Even if you have backup power for your devices, you’ll be without phone service when the batteries in the street level equipment are dead.

Most of us now have a “cell phone.” Many of us have dropped our old landline service. Even a moderate earthquake, will trigger enough “did you feel it and are you ok” calls to overwhelm the voice side of the cellular telephone infrastructure. Text messaging, which does not require a continuous connection between the two users, requires few resources, and has been shown to work better than voice calls when the system is heavily loaded.

If you don't know how to send and receive text messages, find a teenager to teach you how.

Most of us find that we need to charge our cell phones daily, just with ordinary use. We have now witnessed many disasters across the nation, where the ability to charge your phone was made more difficult by the lack of utility supplied power. News photos of groups of folks huddled around a working outlet charging their phones are common during hurricanes and flooding events. Keeping a charging kit in your car, that can both charge your phone from the car, and from a wall outlet, makes sense. If you take the extra step to have a power jack installed in your car that works when the ignition is off, you will have no problems keeping your smart phone charged up. You’ll be a neighborhood hero, if your set up can charge several phones at once.

I would expect that the telephone systems will serve us well during a wildland fire type incident. There will likely be problems with electrical in the area impacted directly by the fire, and voice cell service may be overloaded in the immediate vicinity of the fire. In a big regional event like a major earthquake, the telephone systems are likely to be much less useful.

Satellite Phones

Another telephone like technology is the Satellite Phone. They communicate directly with a network of orbiting satellites, and thus can bypass a terrestrial phone system that is not functioning due to a disaster. It common for large companies to issue Satellite Phones to their executive team, so that they can be in communications with each other, from anywhere in the world, when the local landline phone system has failed or is non-existent. The phones themselves are expensive, air time is expensive, and they tend to be somewhat finicky to use.

Voice Radio

Radios have a long history providing communications for professional emergency responders. Yet in almost every after action review of a major incident, especially those involving multiple agencies, radio communications gets flagged as a problem.

Radio spectrum is a fixed quantity resource. As such its allocation is highly regulated. In the United States radio spectrum is regulated by the Federal Communications Commission. The regulations divide the spectrum into various services. Each service has its own set of allocation, licensing, technical, and operating regulations. Add to the regulations the many technical details involved in using radios, and you have systems that are much more complicated to design, implement, and use.

If the professionals who use their radios on a daily basis, have trouble with them in major incidents, can we expect CERPP volunteers to do better?

Let's look at a few of the technical and regulatory issues:

License Type

The various radio services can be licensed in one of three ways. Some services are unlicensed, so anyone can use these services provided they use equipment that meets the technical requirements for the service, and follow the operational rules for the service. GMRS licenses are granted to a single family and are available for a fee. Amateur (Ham) licenses require passing a test on technical and regulatory aspects and are granted to an individual. Many radio services utilize licenses that are granted to an organization, and can be used by authorized users within the organization. CERPP's division and neighborhood radio are in this category. The license is held by the Red Cross, and they have authorized CERPP to utilize their license through a Memorandum of Understanding (MOU).

Frequency

The slice of the radio spectrum used by a radio is largely described by its operating frequency. Two radios operating on different frequencies, even if they are licensed in the same service, will not communicate with each other. The operating frequency has a lot to do with how far a transmission from a radio will travel, and what will block that transmission.

Low frequencies will bounce off the ionosphere with favorable conditions, and can travel around large portions of the globe. They can also bend over local hills instead of being blocked by them. Somewhat confusingly, these are referred to as High Frequency (HF) transmissions. The AM broadcast band fall in this category. You may recall that at night you can hear AM radio stations from across the country, and that sometimes when more than one station uses the same frequency, they interfere with each other. Amateur (ham) radio operators also have HF frequencies allocated to them. It common that amateur radio operators are the first to make contact with far flung parts of third world countries that have experienced a disaster. The operating frequency also determines many of the physical characteristics of the antenna used with the radio. HF antennas are typically tens to hundreds of feet long, practical only for fixed location operations.

Next up in the spectrum is the part known as Very High Frequency, or VHF. It's been divided into two parts, VHF-Low and VHF-High. The CERPP Divisions radios and the Citizens Band (CB) service operate on different frequencies in the VHF-Low portion of the spectrum. Like HF

transmissions they have the ability to bend their way over and around local terrain. They also will occasionally bounce off the ionosphere and be heard across the country. This cross country bounce will likely be unwanted interference that can sometimes make the radios unusable. Antennas for these radios tend to be 3-6 feet long. Practical for mobile use, but unwieldily for hand held radios. Most radios used by state and local firefighting agencies operate in the VHF-High band. The unlicensed Multi-Use Radio Service (MURS) and parts of the Amateur (Ham) service are also in this band. Their transmissions are blocked by terrain like hills. Antennas can be as short as 4 inches, making portable hand held radios practical. To overcome the limitations imposed by terrain, many VHF-High band radios system use two frequencies and a repeater located on the top of a hill or mountain. The repeater rebroadcasts everything it hears in the “talk” frequency, onto the “listen” frequency. Since the “listen” signal is being sent from a location above most of the other terrain, it can be received over a greater distance.

Next we have the Ultra High Frequency (UHF) band. The CERPP Neighborhood radios operate in this band, as do the Family Radio Service (FRS), and the General Mobile Radio Service (GMRS). This band is completely blocked by hills, and somewhat blocked by buildings and vegetation, thus limiting the distance the signal can travel. UHF systems often are designed with two frequencies and a hill top repeater. The CERPP divisions for Vista Verde and Los Trancos Woods are using GMRS radios with a repeater system for their neighborhood level communications.

Most of the modern equipment we use on a daily basis operates on frequencies above the UHF band. They include cell phones, WiFi, and Bluetooth devices. These devices all operate over short distances and rely on networks of repeater sites to communicate.

Refer to the attached table Two-way Radio Services for use by Community Based Disaster Response Teams for a summary of different radio services and their characteristics.

Hand Carried Messages

A messenger offers a low tech but very disaster resilient communications method. A messenger can utilize many different transportation modes including travel on foot, bike, horseback, dirt bike, car, etc.

Within a division I would advocate the use one or more individuals performing the unofficial Incident Command Position of “gossip.” A gossip’s role is to travel around the division, collecting situation status, and relaying news and information about what is happening in other parts of the division, and where various resources might be available. If the division has a neighborhood level radio system, issuing a radio to the gossip, allows them to relay higher priority information without physically returning to the division’s operation center. The mobile nature of the gossip allows them to move out of any radio dead zones. The gossip mode of operation does not require neighborhood radios to be issued to individuals prior to the disaster. The two (or more, if you need more than one gossip) radios can be stored with the division radio. This should help alleviate problems with lost and improperly stored radios.

Gossips and other messengers can utilize smartphones which allows them to take and deliver photos, videos, and other digital content. Division operation centers should have both the ability to transfer digital content from one device to another, and to recharge these devices.

At the town level, messengers could be used to carry information between the town EOCs and CERPP divisions. While not quick enough to be satisfying for flash and high priority messages, a written situation report and damage assessment augmented with photos and videos may be the best way to communicate the status of a division to the town EOCs. The somewhat slower message delivery may not be a problem, when you remember that in the first few hours of the disaster there are likely no resources available to respond to flash and high priority situations. Using a preplanned messenger route, would make it possible for messages to be relayed from one division to another, eventually reaching the town EOC's. This would keep the distances shorter for any single messenger (think of it as a local pony express). The process of transferring the data and relaying the messages should be practiced prior to an actual disaster.

In the not too distant future it may be possible to replace the human messengers with drones programmed to pick up and deliver messages on a preprogrammed route and schedule.

Data Networks Using Radio

The availability of low cost wireless networking devices would allow CERPP to build a solar powered wireless mesh data network that could be used during a disaster. Add to this smart phones, with damage assessment apps, and it becomes possible to perform real time damage assessment with the results flowing directly to the various levels of operation centers. Using a drone with video capability can provide the operation center with real time video feeds of active incidents. This sort of thing will require a group of committed geeks to design and build it. But for the entrepreneurial sorts there may be opportunities that extend beyond CERPP.

Recommended Action Items

- CERPP
 - Renew the Red Cross MOU
 - Finish deploying the VHF Low Band car top antennas to all divisions
 - Refresh the inventory and responsibility for the Division Radios
 - Develop a standard Division Radio Kit
 - Setup and operations instructions
 - All the stuff needed
 - the radio, the antenna, a writing instrument, message forms, etc.
 - a box to put everything in (except the antenna)
 - I envision a brightly colored plastic tool box.
 - Preplan to utilize text messaging and other electronic messaging.
 - Continue to hold regular radio checks.
 - Hold CERPP wide exercises that:
 - utilize the Division Radios
 - utilize hand carried messages from divisions to town EOCs
 - practice augmenting these messages with photos and videos
 - utilize text messaging (or other electronic messaging) between divisions and EOCs
 - Continue to support divisions where the existing Neighborhood Radios work well
- Emergency Response Officials

- Use the Local Broadcast systems enough to:
 - Maintain their physical functionality.
 - Assure that the procedures in place to use them work, and are familiar.
 - Maintain community awareness both to register and tune in.
 - Work on improving the quality and timeliness of messages.
- EOCs should be prepared for walk in messengers.
 - They may bring digital info like photos and videos on smartphones or flash drives
 - Are you able to transfer the data to a local device?
 - Can you access/utilize the timestamp and geotag meta data?
 - How will this digital information be integrated in to your EOCs information flow?
 - You can't print out a video, to fit it into a paper based system.
- EOCs should be able to communicate with CERPP divisions using electronic messages
 - text messages, emails, etc.
- CERPP Divisions
 - Get your Division Radio ready to operate in "mobile mode"
 - Car top antenna, radio box, instructions, message forms, etc.
 - Participate in CERPP wide exercises where the radio gets used.
 - Find a communications system that work's within your division
 - It might be a 2-way radio based system.
 - It might be a hand carried message system.
 - It might be a roaming "gossip".
 - It might be something else.
 - Use it often enough that folks remember how it works.
 - Be prepared to set up a paper message board
 - Have a roll of paper, some tape, and some markers on hand
 - Find a good location, where it is accessible, and can be kept out of the rain.
 - Practice using it
 - Practice collecting situation status information with smart phone photos and video
 - Can you transfer the data from one device to another.
 - Does you division operations center have device charging capability?
 - Preplan to be able to use electronic messaging within your division and to the town EOC
 - Have lists of important cell phone numbers and email addresses
 - Have devices that can send/receive these messages available at you operations center
 - Have individuals that know how to use these forms of messaging
- Individuals
 - Sign up for SMCAAlert
 - Have the means to charge your "smartphone" from your car. Keep it in your car.
 - Think about how your home's communications systems will operate in an extended power outage.