**TO:** James L. App, City Manager

**FROM:** Ken Johnson, ES Chief

**SUBJECT:** **Satellite Phone**

**DATE:** November 1, 2005

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**NEEDS:** To update the City Council on the addition of satellite telephone service to existing Emergency Operations Center (EOC) communication methods.

**FACTS:**

1 Multiple, redundant communication methods are critically important to emergency managers during EOC activations. Satellite telephone service provides redundancy not currently available to emergency managers because it does not rely upon land based infrastructure.

2. Current EOC communication methods include landline telephone, cellular telephone, two-way radio, Response Information Management System (RIMS), Operational Area Satellite Information System (OASIS), and licensed amateur radio systems (ARES/RACES). Attachment A summarizes these existing systems.

3. While all existing systems include built-in redundancy and back-up, all rely upon land based infrastructure that may fail during a disaster.

**ANALYSIS & CONCLUSION:** Existing communication methods are designed with back-up and redundant systems to make them available for use during disasters. However, their dependence on ground based infrastructure makes them susceptible to failure during extreme disaster situations. While no system is considered completely reliable, satellite telephones represent an effective final back-up system.

Satellite telephone communication capability provides communication capability during EOC activations in the event existing communication methods are not operable or overwhelmed. The satellite phone device provides Incident Commanders and/or Policy Group members a method of communicating with those outside the affected disaster area to secure personnel, resources, and/or required declarations.

SLO OES, on behalf of our Operational Area, obtained a grant to purchase ten satellite telephone devices. They have indicated that one will be placed in our EOC if we agree to pay all on-going service fees. This device is a combination cellular/satellite telephone capable of switching from cell service to satellite service when cell service fails.

**POLICY REFERENCE:** City of Paso Robles Emergency Operations Plan (Basic)

**FISCAL IMPACT:** Approximately $700 annually. The hardware costs shall be funded by a grant administered by SLO County Office of Emergency Services. The annual operating costs would be borne by the Department of Emergency Services within existing budget allocations. Those costs include an annual service contract of $600 and $1 per minute for air-time.

**OPTIONS:**

**a.** Receive and file.

**b.** Amend, modify or reject above option.

Attachment A

## ***Summary of Existing EOC Communication Methods/Devices***

*Landline Telephone*

Landline telephone is the preferred method of communication in the EOC during a disaster. However, landlines are not considered reliable for disaster operations as they utilize existing ground based hard lines prone to failure and/or overloading.

*Cellular Telephone*

Cellular telephone systems are utilized by all city departments during EOC activations. Existing services are provided by Nextel and consist of cellular phone and direct connect services. Multiple cell towers exist in the community but are reliant upon electricity and ground based infrastructure. While a majority of our cell towers do have battery back-up, it is expected to only last four to six hours. Additionally, cellular phone towers are susceptible to disaster caused damage. Nextel maintains a portable cellular tower that can be deployed to facilitate cellular phone communications within two hours of request. Direct connect services differ from cellular phone services in that they transmit bits of information similar to an alpha pager making them more reliable then standard cellular phone transmission which require greater bandwidth. Verizon cellular service is our back-up cellular service provider and is only available to a few ES and Police staff. This cellular network is susceptible to the same failures as the Nextel network during disasters. Cellular telephone systems are considered marginally reliable during disaster operations.

*Two-Way Radio*

ES, Police, and Public Works coordinate their respective emergency response functions via two-radio during disaster operations. These systems are triple redundant and feature significant system back-ups including the ability to generate their own electrical power. Additionally, repeated and direct frequencies from surrounding jurisdictions are available to ES and Police during disaster operations. Assuming these triple redundant systems are damaged or destroyed by the disaster, portable radios and repeaters are available from SLO OES. Two-way radio systems are considered very reliable for disaster communications but generally do not provide communication capability beyond the operational area.

*Response Information Management System (RIMS)*

RIMS is a wide area computer network administered by the State Office of Emergency Services. It is used to coordinate and manage the State's response to disasters and emergencies. RIMS may be utilized to request resources and provide preliminary damage assessments. RIMS is primarily used by our operational area EOC in San Luis Obispo to communicate with Region and State EOC. RIMS was utilized during the San Simeon Earthquake EOC activation.

OPSCenter is a local EOC version of RIMS that will connect every EOC in San Luis Obispo County via wide area network technology. This system will be used to share EOC level information such as resource status, situation status, and damage assessment. If present during the San Simeon Earthquake, OPSCenter would have facilitated real-time communications between our EOC and the Operational Area EOC.

*Operational Area Satellite Information System (OASIS)*

OASIS is a satellite based communications system that provides the capability to rapidly transfer large volumes of information between EOC's. Our OASIS satellite link is located outside the Operational Area EOC on Kansas Avenue. OASIS provides disaster resistant communications between operational areas, state OES regions, OES headquarters, and mobile state telecommunications units. In addition to the satellite component, OASIS features a high-frequency radio back-up system. OASIS was last utilized during the Northridge Earthquake and is considered to be a reliable communications method during disaster operations.

*Amateur Radio Emergency Service/Radio Amateur Civil Emergency Service (ARES/RACES)*

ARES/RACES resources currently represent our final back-up communication method should all others fail during disaster operations. These highly skilled and licensed amateur radio professionals are able to communicate when all other ground based systems fail. They are based in our EOC during disaster operations. Their equipment functions on batteries and they have established and maintained a communications network that connects our EOC at a local, regional, and state level. ARES/RACES provide a reliable disaster operations communication network.