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# 9-1-1 Caller

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## Cellular 9-1-1 Calls: A Guide for Negotiations

By Ric Atkins, Southwestern Bell Telephone Company

The technical methodology and selective routing scheme for delivery of 9-1-1 emergency telephone calls from cellular mobile telephones must be negotiated between all affected stakeholders.

The following outline and descriptive materials are aimed at identifying the stakeholders, their motivations and concerns, the known pitfalls, and the "life after cutover" issues. It is hoped that this information will be beneficial in preparing to initiate the negotiation of a service arrangement which will successfully serve your community.

### I. Identify and Know the Stakeholders

#### A. There are Two Cellular Carriers per Market Area

Cellular telephone companies have a strong desire to reach an agreement which will allow them to connect their subscribers to a public safety agency when the subscriber dials 9-1-1 from a cellular mobile phone. They operate in a highly competitive posture with the "other" carrier in each market, which justifies the need for certain "proprietary" information about their customers. There may be differences in technology used by competing carriers, and sometimes even differences from one market area to the next within one parent

company's operations. Interconnection of cellular telephone companies' calls to the local telephone exchange is covered by "access tariffs," under which they are charged for "minutes of use" for all calls--no matter whether or not they bill their subscriber for the calls to 9-1-1.

#### B. "Host" Telephone Companies

The telephone company which provides the local 9-1-1 network will need to participate in evaluating the feasibility of alternative ways of completing calls. In arrangements where some form of special routing is used, they typically provide some of the switching function(s).

#### C. Administrative 9-1-1 Agency if Applicable

When an administrative 9-1-1 agency's (i.e., Emergency Communications District or Council of Governments) staff is involved, most of the coordination and documentation is handled by them. Their extensive knowledge of the individual public safety agencies within a cellular service area greatly enhances the process of developing a workable recommendation for a plan covering multiple jurisdictions.

#### D. Probable PSAP Agencies

Every agency has to balance their limited resources with their desire to provide fast, professional assistance to every caller needing emergency

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In Texas, When Seconds Count . . .



# 9-1-1 Hang-up Calls

By Helen Sommers, ACSEC Staff



As 9-1-1 systems continue to go live, many PSAPs are experiencing the enhancements of ANI or ANI/ALI systems as modern technology introduces the advantages of many of its unique features.

Before telephone numbers or address locations were displayed on a computer screen in a communications center, hang-up calls would be lost. Operators would not have a clue as to the location or nature of the emergency, possibly resulting in a death.

With the technology of automatic number identification (ANI) and automatic location identification (ALI), these features facilitate in placing a callback to verify if an emergency does exist or to dispatch emergency units if there is no response when a callback is placed to the originating party.

I contacted several PSAP sites and asked how 9-1-1 hang-up calls are handled in their cities or counties. The overall process is unanimously identical. The only factor which may vary

from PSAP to PSAP is staffing for peak hours and patrol units available. If call volume is high and staffing is at a minimum with both call takers and patrol units, a hang-up call may not receive immediate attention.

Callbacks are placed for all hang-up calls to verify if an emergency does exist. A general consensus agree that a large percent of hang-up calls are placed by children. One PSAP center stated, "If a parent or adult is not available at the time the hang-up call was placed and a child was involved, notification to the parent is made by phone at a later time or a visit is made by an officer to the residence."

For callbacks with no response, an emergency unit (police or sheriff) will be dispatched. "If an open line exists with no voice communication, all emergency units are dispatched: medical, fire and law enforcement," stated one PSAP location regarding this unique situation.

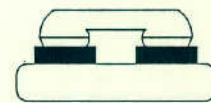
Isolated cases exist for PSAPs with ANI only. One policy described was in the case when a phone number was not displayed and there was no answer on the ringback feature; then, the call party hold trace feature was used to have the telephone company identify the address. This process took between five to seven minutes before an address was established following an emergency unit being dispatched. Most telephone company responses are under five minutes to retrieve address locations when requested by the PSAP for dispatching. Many of these features mentioned for ANI systems are only available with direct trunking.

In summary, the process in which 9-1-1 hang-up calls are handled is the same throughout Texas. If only one hang-up call out of a hundred is truly an emergency, all efforts to save that life or property is certainly worth placing a callback or dispatching an emergency unit.

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# TDD Program Update

By Toni Dunne, ACSEC Staff



To date, the Advisory Commission on State Emergency Communications has successfully coordinated placement of 348 TDD units into primary public safety answering points. Units are provided upon request from a council of governments, district or other 9-1-1 system. New requests for TDD placement continue to come in daily. Nine-one-one systems installing Plant's MAARS equipment will be provided MAARS TDD keyboards in lieu of the TDD unit.

The Department of Justice has recognized telecommunicator training as

an important factor in ensuring compliance with the ADA. This has been a major program focus. In recognition of the importance of training, a manual has been jointly developed with TDI (Telecommunications for the Deaf, Inc.). Training sessions through the coordination of councils of governments and districts are currently being scheduled.

With the national recognition that this program has gained, there has been an increase of calls and requests from other states. Networking and involvement with various organizations and

committees such as panel participation at the USTA Emergency Access Conference in Washington, D.C., have been extremely important. However, some of the most beneficial (and enjoyable) contacts made have been with the emergency service providers. It is very satisfying to see the interest and enthusiasm for learning about this issue of accessibility. Thank you and keep up the good work!



# Urgent Notice from APCO

## Expired Radio Licenses to be Purged from List!

The establishment of the FCC's finder's preference program makes expired frequencies fair game to users short on spectrum and willing to devote time and resources to locate useable frequencies. Those agencies which have allowed their licenses to expire could become targets for aggressive spectrum detectives lying in wait to snatch up available frequencies.

If your agency is operating with an expired license, you are in violation of a federal statute and subject to heavy penalties. Worse yet, once "your" frequency is licensed to someone else, there is not likely to be another available for your agency.

APCO is in the process of purging all licenses from its system which have been expired for one year or more.

Most of the expired records contained in APCO's files are not due to willful misconduct. Rather, most are the result of an oversight or system licensing of several licenses under one common call sign. Although APCO is devoting time and energy to notifying agencies of the need to reinstate expired licenses, there still exists the possibility that some agencies will not get contacted. This is a tremendous undertaking with many thousands of applicants to notify.

Whether due to change of address, absence of the contact person, change of personnel or any other instance, agencies need to be aware that once APCO purges an expired license, there will be no more protection afforded to that communication system.

*APCO Issues Warning About Expired Radio Licenses*

*Public Safety and Local Governments are not Exempt*

If you need additional information or assistance, contact Texas APCO Frequency Advisor Ken Yoder at (512) 465-2104.

## Britain's 9-9-9 Celebrates 50 Years

The United Kingdom's three-digit equivalent to 9-1-1 is entering its sixth decade of operation.

9-9-9 was first established just prior to World War II in London and expanded throughout the U.K. after the war. The service is actually handled by the phone company, British Tele-Com, a division of the Royal Post Office.

Emergency 9-9-9 calls are handled by standard telephone operators who answer incoming calls with, "Emergency! Which service do you require?"

*Continued on page 6*

## Identify Your Incoming TDD Call

By Toni Dunne, ACSEC Staff

There are four ways telecommunicators should be ready to recognize an emergency call from a TDD user:

The first three are calls being placed directly from the TDD user. The correct procedure would be to attempt communication by connecting the 9-1-1 telephone to your TDD unit.

The fourth type of call is handled differently. DO NOT HOOK UP TO YOUR TDD WITH A RELAY TEXAS ANNOUNCE-

### *Recognize TDD Caller:*

- 1. Silence*
- 2. Electronic Tones*
- 3. Synthesized Voice Announcement*
- 4. Relay Texas Agent Announcement*

MENT! If this occurs, the Relay Agent must disconnect and redial the call, wasting valuable seconds. Their equipment prevents processing calls that are TDD to TDD. The Agent will announce, "This is an emergency. I am calling for a deaf person through Relay Texas. They are calling from (city or county). Their name is (caller's name). Their phone number is (caller's phone number). They have asked for (police, fire or ambulance)." At this point, the agent will wait for the telecommunicator's response in order to begin the relay. (See the 9-1-1 Caller May/June 1991 issue for more details.)



# Crime Pays for Safety Center

## Confiscated Cash to fund Victoria Emergency Facility



Criminals have done a good deed for the residents of Victoria by putting up \$80,000 needed to turn a former automotive garage into a state-of-the-art communications center for emergency services.

Bob Smith, the city's director of general services, pointed out the donation was not a voluntary one. He explained that the money was confiscated from criminals and awarded to the city through the courts. "That's one thing that makes it more enjoyable," Smith said. "The Justice Department is really paying off."

The renovation will cost a total of \$83,000, with the city providing only \$3,000 in cash and the labor.

It will house the dispatching operation for the police, fire and emergency medical services departments. The new enhanced 9-1-1 emergency telephone service and the computer-assisted dispatch system will also be installed there.

While Victoria already has 9-1-1 service, the enhanced version will replace the old service with features conventional 9-1-1 doesn't have. Those features include devices that display the caller's telephone number and address on a computer screen. The system also routes calls to the proper emergency agency.

The computer-assisted dispatch system helps dispatchers keep track of calls to the emergency services and provides information to fire, police or EMS personnel on what they can expect when they get to a call. For instance, it can warn fire personnel if a burning building contains hazardous materials. Police can be warned of previous criminal activity at a particular address, or para-

medics could find out about a patient's history before arriving on the scene.

Also housed in the 3000-square-foot building will be the county director of emergency operations, offices for two training officers and a training room that will double as an emergency operations center during a disaster.

The building also has 1-1/4-inch-thick storm-proof glass on the north side, a reinforced concrete roof and a backup power system. "There's not going to be another dispatch center like it in South Texas," Smith said.

*Excerpts Reprinted with Permission from the Victoria Advocate, September 1991*

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# South East Texas 9-1-1 Makes History

By Kathy Denton, South East Texas Regional Planning Commission

The South East Texas Regional Planning Commission 9-1-1 Emergency Network made history as it turned 171,000 phone lines into life lines at 9:11 a.m. on December 12.

Mary Boyd, Executive Director of the ACSEC, was the guest speaker at the cutover ceremony. She said, "This is the first time we're flashing on an entire region at one time. In other areas, 9-1-1 has been implemented county by county or staggered."

"It takes a dedicated staff, dedicated technicians and support from the community to implement the regional system," said Boyd.

The 9-1-1 system services Hardin, Jefferson and Orange counties. Before the cutover, Southeast Texas was the largest concentration of people without 9-1-1.

Bob Dickinson, SETRPC 9-1-1 Director, said, "It is a great compli-

ment to our elected officials and emergency service providers that they were able to coordinate their efforts in making 9-1-1 a reality for the tri-county region."

Closing the ceremony, William Shatner, star of "Rescue 9-1-1" and "Star Trek" television series, proclaimed the arrival of 9-1-1 in a customized public service announcement. Shatner said, "It's here Southeast Texas. The 9-1-1 Emergency Network . . ."

Since December 12, 9-1-1 has successfully saved lives in Southeast Texas. Already, a distraught man was convinced not to commit suicide, a suffocating infant's life was saved, and a husband's choking wife was given quick medical attention.

The SETRPC 9-1-1 Network is proud and pleased to be a part of Texas that is providing such a life-saving emergency service to its citizens.



# All Systems Go--5 Counties of the Permian Basin Region Cut Over

By Gail Knight, Permian Basin Regional Planning Commission

After the passage of resolutions for 9-1-1 in all the cities and counties of the Permian Basin in 1989, work began for the implementation of 12 PSAPs within the region--the first five counties (Andrews, Dawson, Gaines, Glasscock and Ward) scheduled for cutover in the Fall of 1991.

At the outset, the task looked enormous for the coordinators who at the time had to wonder, "Just who are these ANI and ALI people?" and "What is this thing the Advisory Commission keeps referring to as a PSAP?"

Adding to the confusion, up popped

1974. With the PSAP locations decided, the next hurdle was the selection of PSAP equipment. Many months flew by as we gathered information on equipment: cost analysis, user friendliness and various features of the systems. And then, of course, still looming ahead are the trials and tribulations of purchasing recording equipment.

Once PSAP equipment was decided upon, the implementation process began. Many miles were traveled within the vast 24,000 square miles of the Permian Basin as site visits were made to

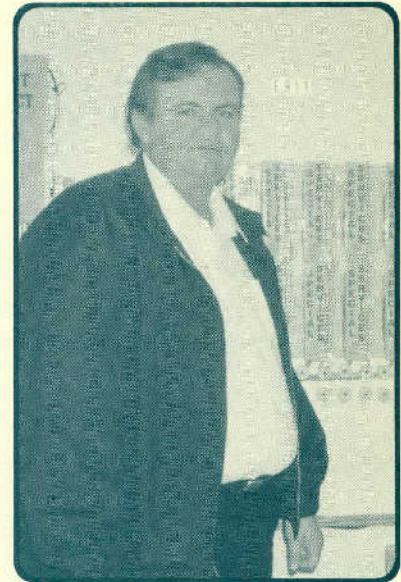
each PSAP. Locations of the equipment rooms were decided; electrical specifications were given to the local contractors; and a myriad of questions were answered about 9-1-1 and the equipment purchased for each individual PSAP.

We have come a long way in the past two years (we know what ANI and ALI stand for), and we are proud to be a part of the

Enhanced 9-1-1 Systems now available in the

Counties of Andrews, Glasscock, Gaines, Dawson and Ward.

Three more counties (Pecos, Reeves and Terrell) are scheduled to go on-line January 1992, followed in March by Upton, Crane and Martin Counties. Winkler County, delayed until December of 1992, to allow for central office



Monahans Police Chief David Mills displays Maars equipment cabinet installed for E9-1-1 service in Ward County.

modifications to be completed, will be the final cutover and a real cause for celebration as the Permian Basin Region will be covered entirely by Enhanced 9-1-1. Many thanks go to the local authorities for their help and support in getting this accomplished. We know we can rely on them for the same kind of help in the next two years with the addressing projects.

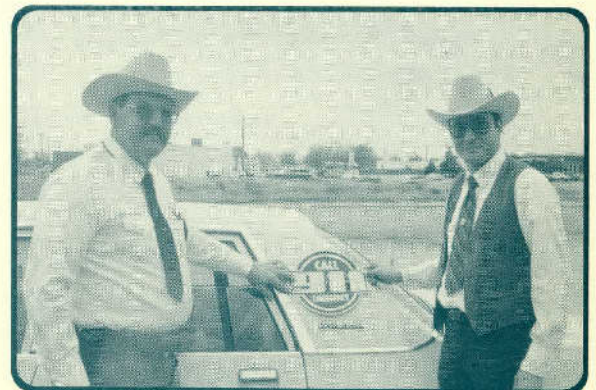


Members of Emergency Services--Andrews County

Enhanced 9-1-1 Systems now available in the Counties of Andrews, Glasscock, Gaines, Dawson and Ward. Three more counties (Pecos, Reeves and Terrell) are scheduled to go on-line January 1992, followed in March by Upton, Crane and Martin Counties. Winkler County, delayed until December of 1992, to allow for central office

six phone companies with no sense of political boundaries that threw mismatches all over the region. Luckily, the spirit of cooperation between the 17 counties, including three 9-1-1 Districts, the help of our local phone companies, and technical assistance from the ACSEC made the seemingly endless number of boundary mismatches fall into place with little effort.

Site selection for the 12 PSAPs was easily accomplished due to the EMS systems that had already been established by the Planning Commission in



Deputy Stansell & Sheriff Jon Key display 9-1-1 decal prior to the Gaines County cutover ceremony.



# Power Problems: What are They?

Power quality has become a critical issue. In today's economy, we depend on our computers, phones and other electronic systems more than ever. Yet, at the same time, this technology is more threatened than ever by increasing power problems.

Your sensitive electronic equipment is facing a host of power aberrations every time you plug it in:

**Spikes** are high-magnitude, split-second events that can disrupt computer operations and even damage equipment.

Spikes can be caused by many things. The most important cause is lightning which can strike on or near a power line—or even miles away—and cause huge jumps in voltage. Other causes of spikes include switching large electrical loads on or off, utility switching and static discharges. The most disastrous effect of spikes can be actual hardware damage. High-voltage impulses can actually blow holes in delicate microchip traces. Sometimes this damage is immediately apparent, but other times it is latent, not appearing until days or weeks after the event. Less catastrophic effects include corrupted data, printer or terminal errors, and data processing errors.

**Surges** are overvoltages that last longer than one cycle (1/60 second). Surges can be caused when some device on the line that has been drawing a large amount of power suddenly stops or is shut off. Surges can also be caused when utilities switch large loads off the line.

Surges are more dangerous because of their duration, rather than their magnitude. Long or frequent surges can damage computer hardware.

**Sags.** You think of sags as being the opposite of surges. They are multicycle undervoltage conditions. Ground faults, undersized power systems, and sudden startups of large electrical loads are all typical causes of voltage sags. Surprisingly, lightning is also a major cause of sags.

Sags can be a serious threat to computers. If the voltage supply to the

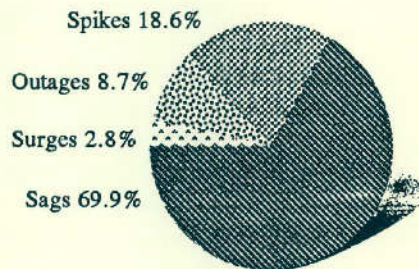
computer is inadequate, it can cause the computer to lock up. Sags can also slow the speed of disk drives, causing read errors or disk crashes.

**Noise** is a collective term for various kinds of high-frequency impulses that ride on the normal sine-wave. It can range from a few millivolts to several volts in amplitude.

One especially troublesome problem is Radio Frequency (RF) noise. RF noise consists of high-frequency signals that travel on electrical wires. RF noise can be generated by lightning, radio transmissions and computer power supplies. It can create erratic behavior in any electronic circuit.

## TYPES OF DISTURBANCES

Source: NPL National Power Study



Noise can cause computer processing errors, incorrect data transfer and printer or terminal errors.

**Brownouts** are long-term undervoltages, lasting minutes or even hours. They are often instituted by utilities when peak demand exceeds generating capacity. Brownouts can cause computer malfunctions and hardware damage the same way that sags do: by depriving the logic circuits and disk drives of the voltage they need to operate properly.

**Blackouts** are extended zero-volt conditions, lasting for minutes, hours or even days. They are becoming more frequent as the power distribution grid is increasingly overtaxed.

Blackouts can be caused by ground faults, accidents, lightning strikes or other acts of nature. A system crash is the most obvious effect of outages. Disk drives and other system components also can be damaged when power is suddenly lost.

**Harmonic Distortion.** Harmonics are distortions of the normal sine-wave. Harmonics are transmitted back into the AC line by nonlinear loads (that is, loads that don't draw power in regular sine-waves). Examples of nonlinear loads are computers, copiers, FAX machines and variable-speed motors. These harmonics can disrupt the operation of other devices connected to the AC line. Harmonics can cause communication errors and hardware damage. They can also cause transformers and neutral conductors in three-phase systems to overheat, creating a possible fire hazard.

*Excerpts Reprinted from Best Power Technology*

## Britain, Continued from page 3

The call is then transferred to either fire, police or ambulance dispatch centers by the operator.

Enhancements to the system which show incoming phone numbers and addresses are being added. The video screens showing the information are only with the telephone operators, and the information is not automatically transferred to a screen at the dispatch point as in the United States.

There has been some talk of the U.K. changing its emergency number to either 9-1-1 or 3-1-1, both numbers currently in use on the European continent. However, everyone we spoke with believes the community will demand to stay with custom and tradition and 9-9-9 will remain the number for help.

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# LATAs vs. Area Codes

By Joe Kirk, ACSEC Staff

With the recent addition of the 903 area code in Texas, and with the announcement of another new area code to be added in South Texas, there has been some confusion between the concepts of area codes and local access and transport areas (LATAs). Let's see if we can clear up some of that.

As we all know, local telephone numbers in the U.S. have seven digits. The first three digits define the central office code which in telephone parlance is called the NXX. The N stands for allowed digits 2 through 9, and the X stands for allowed digits 0 through 9. The last four digits of the seven-digit number identify a specific subscriber line, and 10,000 lines can be associated with a given NXX (0000 through 9999).

There are 598 different NXXs that can be used as central office codes, so we can have 5,980,000 telephone numbers before we have to start repeating NXXs. However, with over 8.8 million telephone access lines just in Texas, that means that someone else has exactly the same seven digit telephone number that you do.

If we never needed to call outside our local area, that might not be a problem. But, since we do make calls to distant locations, there has to be some way to differentiate between our seven-digit number and the identical number that exists somewhere else. The solution to that has been to divide North America into many number plan areas (NPAs), and to assign each of those areas a three-digit area code. The



area covered by a unique area code does not have any duplicate NXXs. Texas currently has eight area codes, and within the next year it will have nine.

Now that everyone understands the concept of area codes, let's tackle LATAs. First, let me make it clear that there is really no connection between the two concepts. There are, for instance, two area codes within the Houston LATA, but there are currently four LATAs within the 512 area code.

With the divestiture of the Bell Operating Companies from AT&T in 1983, there was concurrently a separation of all local exchange companies (LECs) from long-distance carriers (IXCs). To make

*Continued on Page 8*

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## Uninterruptible Battery System (UBS™) Keeps 9-1-1 Alert as Power Outage Dims Illinois City for More than an Hour

The dispatchers in the Highland, Illinois, 9-1-1 emergency response room knew there were power problems across the city because of all the calls they were getting. They couldn't tell it from their own operations because an Uninterruptible Power System (UPS) and an Uninterruptible Battery System (UBS™) from Best Power Technology, Inc., kept their computers, communications, radio and telephone systems running without an interruption of even an instant.

"The performance of the system was fantastic," said William D. Pierce, Director of Public Safety/Chief of Police. "Power was out for 1 hour and 17

minutes. The batteries in the 7 KVA FERRUPS® kept us running for the first 15 minutes or so. As the batteries neared their depletion point, the UBS™ gas-powered DC generator kicked in automatically, providing the UPS and our equipment with clean power. We can run for an unlimited length of time—as long as there is gas for the UBS™ generator. That was the first time we experienced a lengthy power failure and didn't have to scramble. It was just business as usual, with no interruptions or problems at all."

Highland, Illinois, is a community of 7500 about 35 miles east of St. Louis. Pierce has a public safety staff

of 75, including 14 policemen. His operation is familiar with power problems. Before installing the BEST UBS™/UPS system, his system suffered a two and one-half hour power outage because of relay and switching problems after the local utility had guaranteed no outage would last longer than 30 minutes. The Highland Public Safety Department is only 100 feet from a power generation plant. "The UPS absorbs all the spikes and other problems that plant causes," he said. "Also, we have many thunderstorms here. In the past, I could practically guarantee that after a thunderstorm

*Continued on page 10*



# Emergency 9-1-1 Service in Rural South Texas

By Bob Hussey, Valley Telephone Cooperative, Inc.

The Valley Telephone Cooperative, Inc. (VTCI), was chartered in April 1952, to provide telephone service to rural Willacy County located in extreme South Texas. Since then, VTCI has expanded and now serves 17 exchanges, 17 counties and 6,993 square miles of service area with the one party service. Technology in the telephone industry has advanced rapidly from basic telephone service to computerized digital and lightwave communication in a relatively short period of time.

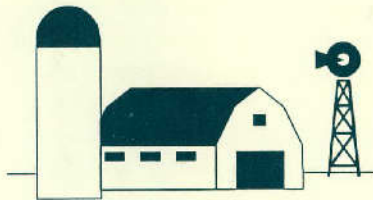
VTCI is presently upgrading all 17 of its electromechanical switching centers to the latest state-of-the-art digital equipment. This will link them together with fiber optic cable to provide their subscribers with all of the latest communication features previously available only to the urban areas.

The larger, more densely populated metropolitan areas have had 9-1-1 emergency service for some time; but, it is just now that the various regional councils and telephone companies in the rural areas are seeing the challenges of 9-1-1 planning and implementation.

Presently, VTCI is involved in planning the 9-1-1 services in Atascosa, Frio, La Salle, McMullen, Jim Wells, Jim Hogg, Brooks, Webb, Starr, Hidalgo, Cameron, and Willacy Counties. Because the various Public Safety Answering Points (PSAPs) in each county must have network trunks by which rural subscribers can access 9-1-1, coordination from each switching center has required many details to be worked out. In addition, VTCI is assisting with the Master Street Address Guide (MSAG) development and has provided the county governments

exchange detail maps to be utilized in locating the addresses.

VTCI has found there are many other details that must be worked out before 9-1-1 systems can be implemented. And with the mandate for statewide 9-1-1 emergency telephone service by 1995, there is little time left.



## LATAs Continued from page 7

this work, there had to be a definition of just what traffic could be carried by LECs and what could only be carried by IXC. Out of this need, the concept of the local access and transport area (LATA) was born. The boundaries of a LATA define the area in which an LEC can carry traffic. If a call is to terminate outside the boundaries of the LATA, the LEC must deliver it to the point of presence (POP) of an IXC. The IXC then carries the call to its POP in a distant LATA. There, the call is picked up by a local exchange carrier in that LATA for delivery to the subscriber.

LATA boundaries were designed to enclose groups of LECs that were connected together with a Bell Telephone Company in the hierarchic toll network that existed at divestiture. The LATA name (Dallas LATA, Austin LATA, etc.) comes from the largest metropolitan area within its bound-

*Britain, Continued from page 6*

Margaret Rickards, a fire department communications supervisor, said the latest changes with England's emergency communications is occurring in Kent. There, police and fire dispatchers are taking French lessons in anticipation of the opening next year of the tunnel under the English Channel linking Britain and France.

*Excerpts Reprinted with Permission from 9-1-1 Magazine, Sep/Oct 91, Author of Article--John Hoffmann.*

*Get someone else to blow your horn and the sound will carry twice as far.--Will Rogers*



assistance. Avoid asking any agency to serve as your answering point for cellular 9-1-1 calls if the predicted volume of calls originating from outside their jurisdiction represents a significant increase in total calls to their operation.

### E. Callers

While the subscribers of the cellular companies likely will not directly participate in your negotiations, their need for access to 9-1-1 in emergency situations should remain at the center of your efforts. If ever there were a case for an easy to remember, easy to dial emergency number, it is for mobile phones. These callers rarely ever have a phone directory with them to look up a 7-digit number, assuming they knew where they were at the time of their emergency. Experience has also shown that the majority of 9-1-1 calls from mobile phones are to summon assistance for someone other than the caller him/herself. Such willingness to "get involved" is a welcome fact.

## II. Identify Existing (Pre-9-1-1) Cellular Environment

- 9-1-1 calls routed to the "0" operator.
- 9-1-1 calls "translated" to one 7-digit number.
- 9-1-1 calls "translated" to many 7-digit numbers for multiple agencies.

## III. Examine the Provisions of the Planned or Existing E9-1-1 Network

- **Jurisdictions Included in System Coverage**
  - Public safety agencies.
  - Telephone exchanges.
- **System Features/Capabilities**
  - ANI or ANI/ALI.
  - Selective routing.
  - PSAP to PSAP transfer.

- Audio logging.

## IV. Survey and Define Your Needs and Goals

- Scope/geography of the negotiated plan.
- List of PSAPs with candidate primary answering agencies identified.
- List of cell sites and their location.

## V. Ask "What is Possible?"

- **Study Solutions Used Elsewhere**
  - California sends all mobile calls to CHP.
  - Harris County in Texas sends all mobile calls to Houston P.D.
  - Some mobile carriers provide a list of emergency numbers to subscribers and have them call direct.
  - Cellular carrier translates 9-1-1 to 7-digit.
  - Tarrant County in Texas coordinates a routing scheme utilizing the E9-1-1 tandem network and routes calls to specified PSAPs based on the location of the cellular tower serving the call.
  - Endless variations.
- **Identify Expected/Desired Outcome**
  - Calls answered by an agency geographically close to caller/incident.
  - Hit the right PSAP 50% to 70% of the time.
  - "Prompt" the telecommunicator that the call is from a mobile phone.
  - Efficient for caller, PSAP, cellular carrier, and telco.

## VI. Suggested Documentation

- **Maps**
  - Maps overlaying the jurisdic-

tional boundaries of the public safety agencies and the cellular carriers' cell sites will provide invaluable assistance during the negotiations as well as provide job aids for PSAPs answering mobile 9-1-1 calls.

- **Agreements with Primary PSAPs**

It may be necessary to obtain written agreement from each agency to which you propose to route mobile 9-1-1 calls. This is due to the fact that they will be agreeing to answer and transfer, or relay information about some calls originating from outside their jurisdiction.

- Standard Operating Procedures and Training for Call-takers
- Cellular "MSAG" Database
- Summary Database
- Methods and Procedures for Updating when Calls and/or PSAPs are Added

Remember, you are custom designing a plan for your area. Do not limit yourself to copying anyone else's solution. Good luck!!

*THE BEST EXECUTIVE is one who has sense enough to pick good men to do what he wants done, and self-restraint enough to keep from meddling with them while they do it.--Theodore Roosevelt*





# Traffic Safety Funds Approved for Addressing



Funds have been approved for a second year's grant between the ACSEC and the Texas Department of Transportation for counties to address and perform EMS call analysis.

As in last year's grant, eligible counties are those with planned ALI systems and a system cutover date prior to April of 1992. These counties have been determined to be in need of assistance to coincide with their E9-1-1 operation start dates. Counties (25) meeting these criteria have been polled for their interest in carrying out the action

plan in addressing and analyzing EMS call response times.

The grant amount will be up to \$3,000 in federal funds per county for addressing personnel, maps, and address verification travel reimbursement. The grant year is scheduled for January through September of 1992.



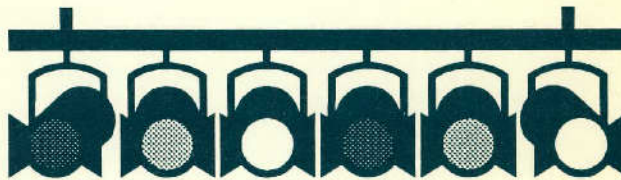
*UBS Continued from Page 7*

we would have some kind of equipment failure. With the BEST UPS, we no longer experience those failures."

*Excerpts Provided by  
Best Power Technology*

## In The Spotlight

Tom Bass



Tom Bass, Chairman of the Board of Managers of the Greater Harris County 9-1-1 Emergency Network, began his involvement with 9-1-1 in the late 1970's. At that time, he was serving as a Harris County Commissioner after serving ten years as a member of the Texas House of Representatives.

At Mr. Bass' request, the Harris County Commissioners Court appointed him to investigate the feasibility and possibility of implementing 9-1-1 service in Harris County. He and members of his staff headed up a committee whose purpose was to recommend a methodology for funding, implementing and administering a system which would serve the entire county--all incorporated cities as well as the unincorporated area. A key to the success of the committee negotiations was the support and agree-

ment of the City of Houston to be a part of a county-wide system. The political jurisdictions in the Harris County area did agree that a county-wide system was the most feasible plan and that a special-purpose district with the authority to assess a service fee to fund the service should be established.

With the assistance of the county attorney and the City of Houston attorney, enabling legislation was written and submitted to the Texas Legislature in 1983. The legislation passed with no dissenting votes, and the required voter referendum was passed in November 1983.

Mr. Bass was appointed to the new Board of Managers by the Commissioners Court, following the voter referendum. He has served on the Board since that time through implementation in

Harris County and currently, through implementation in Fort Bend and Waller Counties.

Mr. Bass retired from the Harris County Commissioners Court at the end of 1984. He is currently chairman of the Political Science Department at the University of St. Thomas in Houston.

It can surely be said that Tom Bass served as the lightning rod for the establishment of 9-1-1 service in Harris County and on a larger scale, for the State of Texas. The enabling 9-1-1 legislation for Harris County was the first in Texas; the system implemented in Harris County was the first fully enhanced system in Texas and is the largest in the State. He remains committed to providing the finest, most technologically advanced 9-1-1 service to the citizens of Harris, Fort Bend and Waller Counties.



# ANI Counties Realizing Importance of Addressing

Is rural addressing really needed in counties implementing Basic 9-1-1 systems? Evidently, quite a few ANI counties feel that way. Over the past few months, there has been an increased demand for information on how to inaugurate an addressing program. In November, the ACSEC staff attended two county meetings and held two regional addressing workshops in which over 20 ANI counties were represented.

In Liberty County which lies north-east of Houston, the addressing committee met to answer questions such as what method of addressing would be most effective and who in their county needed to be involved in the project. Representatives from the county, appraisal district, emergency management services, and Houston-Galveston Area Council were in attendance. In addition to maps and listings supplied by local electric utility companies, the committee also received an indication that the appraisal district was willing to lend its support to the project.

A more recent meeting was held in Montague County with the county judge and Commissioners Court. While this county isn't as far along as some others, there was an obvious anticipation about the pending project. After reviewing the addressing process, an addressing coordinator was chosen to organize the project. With many questions yet to be answered, this county north of Denton has decided on an action and is pursuing it actively.

Addressing workshops held by the Concho Valley Council of Governments and the NORTEX Regional Planning Commission were very well attended in both areas. Presentations by ACSEC staff, telephone company representatives, and others that have been involved in addressing projects gave the attendees

some insight into the complexities of rural addressing.

If your county is contemplating an addressing project, have you thought about the following considerations?

***Who is going to do the addressing?*** The authority for any addressing project lies within the Commissioners Court. An addressing project can be done by utilizing county resources or by contracting all or part of the work out to a private addressing vendor. In either case, control over the project remains with the commissioners.

***Who needs to be included in the project?*** Project participants should include county and city representatives, the U.S. Postal Service, the appraisal district, telephone companies, electric and gas utility companies, municipal utility districts, and representatives from the county emergency service providers.

***How will the addressing project be funded?*** While counties are responsible for costs incurred during the project, some of these expenditures might be offset through volunteer efforts, grant funding, and donations from local service organizations.

***How long is an addressing project going to take?*** Typically an addressing project will take from 12 to 24 months to complete. The time frame will depend largely upon the resources available to the county.

***Who will maintain the addressing system once the project is complete?*** There is not just one primary entity to target for the maintenance of your addressing system. The county should designate a maintenance contact early on in the project to make a smooth transition from the actual addressing to maintenance. One initial contact to consider for address maintenance might be the appraisal district.

If your county is contemplating rural addressing and you would like more information, contact your local council of governments or the ACSEC at Suite B-100; 1101 Capital of Texas Highway South; Austin, Texas 78746; 512/327-1911.

*Always do right.  
This will gratify  
some people, and as-  
tonish the rest.--  
Mark Twain*

## Is Addressing Everywhere?

A recent survey of 17 states with 9-1-1 service revealed only four have some type of statewide addressing program that is ensuring street addresses have been assigned. Only Texas and California offer some financial assistance to local governments for addressing.

For the remaining 13 states, independent efforts by cities and counties are responsible for addressing. (Survey courtesy of Helen Sommers, ACSEC Staff).

Don't be surprised if an out-of-state caller tracks you down for addressing information: Texans have a lot of information to share.





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