RECEIVED

JAN - 9 1995

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

DOCKET FILE COPY ORIGINAL

In the Matter of	)	
	)	
Revision of the Commission's Rules	)	CC Docket No. 94-102
to Ensure Compatibility with	)	RM-8143
Enhanced 911 Emergency Calling Systems	)	

U S WEST COMMENTS

Jeffrey S. Bork
1020 19th Street, N.W., Suite 700
Washington, D.C. 20036
303-672-2700

Laurie J. Bennett, Of Counsel

January 9, 1995

No. of Copies rec'd 0+4
List ABCDE

Table of Contents

I. Introduction and Summary 2

II. The Proposed Enhanced Wireless 911 Rules Are Based Upon A Material Factual Assumption That Is Unfounded 5

III. The Three-Step Wireless ALI Proposal Is Fundamentally Flawed 10

A. The Proposals Are Overbroad In Scope In That They Ignore Market Demand 12

B. The Current Proposal Is Not Realistic Given the Current State of Technology 14

IV. A Recommended Alternative Approach, One Based on Market Need and Market Reality 20

A. Any Enhanced Wireless 911 Obligation Would Be Triggered By A Bona Fide Request 21

B. Local Industry Negotiations 22

C. Deployment Obligations of Carriers 23

V. Conclusion 26

RECEIVED

JAN - 9 1995

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Revision of the Commission's Rules	)	CC Docket No. 94-102
to Ensure Compatibility with	)	RM-8143
Enhanced 911 Emergency Calling Systems	)	

U S WEST COMMENTS

U S WEST, Inc., on behalf of its subsidiaries providing communications services, below addresses one of the subjects discussed in the Notice of Proposed Rulemaking: the availability of enhanced 911 capabilities in radio-based exchange networks and, in particular, the provision of automatic location identification ("wireless ALI").[1]

---

[1] Regarding the "basic" 911 proposals, U S WEST agrees that wireless customers should be able to make 911 calls and that, to the extent feasible, 911 calls should be given priority over ordinary wireless calls. However, the proposal to make these "basic" 911 capabilities universally available within one year is not realistic.

Most wireless networks (including U S WEST's) today allow most customers to dial 911 calls from their mobile units, but requiring this capability on roaming calls without user validation will take more than one year to implement. Certain complexities in roaming agreements or protocols may cause congestion tones to occur when a cellular user places an initial call in a subscribed-to roamed service area. Likewise, most embedded wireless infrastructures are not currently capable of supporting 911 call priority. Wireless carriers will need time to investigate the most economical way to support call priority and then to install, test and implement these changes. Moreover, extreme care must be exercised in implementing 911 call priority in wireless systems because simultaneous reporting of an emergency situation (*e.g.*, a highway accident) could overwhelm the call taking capabilities of PSAPs.

I. Introduction and Summary

The availability of enhanced wireless 911 capabilities, including wireless ALI, is an enormously complex subject. No one — be it a wireless carrier, a wireline carrier, or a public safety organization — is today capable of handling such enhanced 911 features as wireless ALI. Moreover, there is no equipment on the market that these three affected interests can now purchase, at least no equipment capable of supporting an integrated, cost-effective and reliable solution. When such equipment does become available, public safety organizations and carriers (both wireless and wireline) must coordinate closely to ensure they all deploy compatible equipment in similar time frames.

Nevertheless, solutions appear promising. U S WEST and many other firms are actively engaged in research and development of emerging technologies. U S WEST companies alone have already obtained one wireless ALI patent and have submitted applications for six additional location identification patents. These promising new technologies are still immature, though, and much testing must yet be undertaken.

A major step forward was taken last year when, largely through the leadership of the telecommunications industry, the industry and the public safety community began to document the community's near- and long-term needs. Now that those needs have been identified and prioritized, industry

standards bodies can commence their work to develop interface and performance standards. By the time this standards work is completed, firms like U S WEST that are engaged in research should have completed much of their field testing and verification. Vendors will thereafter be able to build equipment consistent with industry standards, using the best technology then available. This development, in turn, will enable carriers and public safety organizations to begin evaluating the solutions that best meet the needs of the public, which will eventually pay for all improvements. Simply put, the development of solutions is exactly where it should be, given the complexities involved, the number of impacted parties involved, and the state of the nascent technology involved.

U S WEST is therefore surprised by the Commission's "concern" that the telecommunications industry will not deploy voluntarily enhanced 911 features such as wireless ALI, a concern that apparently led it to propose its stringent implementation rules.[2] U S WEST demonstrates in Section II that

---

[2] The approach taken in the Notice is perplexing because it represents such a stark contrast to the approach the Commission generally follows when considering new regulatory obligations. In other proceedings, this Commission has taken a more pragmatic approach to regulation by, among other things, examining the public need and market incentives to ensure that any new regulatory obligations proposed are carefully crafted to meet the public need in the most effective and minimally intrusive way. After the Commission has identified a set of proposals which meets this criteria, it generally undertakes a cost/benefit analysis of the proposals, recognizing that it makes little sense to impose regulatory burdens when the compliance costs exceed the public benefit the proposed regulations are designed to achieve.

This approach and thoughtful analysis are notably absent in the Notice. Not only is no economic analysis undertaken, but the Commission proposes new obligations in time frames

Continued on Next Page

this concern is unfounded and is contrary to all available evidence, including the Commission's own recognition that "the industry is working with the public safety community to address many of the same issues" and "support[s] . . . incorporating enhanced 911 technology in mobile telephone networks."[3]

U S WEST demonstrates in Section III that the implementation proposals in the Notice are actually counterproductive and could undermine the public interest. The proposals are overbroad in their application and would impose needless costs on carriers (which would, in turn, be passed on to consumers in the form of higher service prices). Moreover, the implementation time frames proposed could result in carriers deploying a less efficient and less-effective set of technologies than will eventually be available.

In Section IV U S WEST proposes an alternative, more customer-driven approach to the availability of enhanced wireless 911 capabilities. This alternate approach focuses on the particular needs of each public safety organization, takes into account embedded equipment and the state of potential 911 wireless technologies, and gives both public safety organizations

---

that wireless carriers cannot likely meet regardless of cost (because, among other things, there is no equipment in the market which carriers can purchase to provide the specific capabilities in the time frames the Commission has proposed). What is more, the Commission proposes to require all wireless carriers to provide a full set of enhanced 911 features regardless of the needs and capabilities of the intended recipients of these features: public safety organizations.

[3] Notice at 18 ¶ 36 and 23 ¶ 48.

and the telecommunications industry the flexibility to devise solutions that meet the particular needs of each organization.

II. The Proposed Enhanced Wireless 911 Rules Are Based Upon A Material Factual Assumption That Is Unfounded

The Commission proposes to require all wireless carriers providing real-time voice communications to begin providing location identification within one year — even though

- there is no product on the market which carriers can use to universally provide this integrated capability; and

- none of the users (public safety organizations) of this feature are capable of taking advantage of them because their current equipment cannot receive and process such information and because there are no products available on the market which they can purchase.

The Commission, moreover, proposes to require carriers to deploy a wireless ALI feature even in geographic areas where public safety organizations have chosen not to provide an enhanced 911 service.

The Commission apparently proposes to take this action because of its belief that the telecommunications industry will not deploy voluntarily an enhanced wireless 911 capability:

> Based on our experience with cellular and other mobile radio services, it appears doubtful that enhanced 911 interface capability will be implemented voluntarily.[4]

In making this assertion, however, the Commission does not identify the "experiences" that led it to predict that the wireless industry will not voluntarily deploy enhanced 911 capabilities, including location identification. Indeed, elsewhere in the Notice the Commission acknowledges that the record "indicates support for incorporating enhanced 911 technology in mobile telephone networks."[5]

The Commission's undocumented concern cannot be squared with all available facts. As the Commission itself recognizes,[6] over 18 firms are now actively engaged in research of a wide variety of technologies that could be used to support a wireless ALI capability. U S WEST is among these firms, and it has committed substantial resources to this endeavor. U S WEST would not undertake this work (and commit employee time and research

---

[4] Notice at 15 n.38.

[5] Id. at 18 ¶ 36. U S WEST also believes that it is a mistake to base regulations on the goal of having wireless customers provide the "same level" of 911 capabilities that are available to wireline customers. In some areas such as location identification, wireless technologies have the potential to provide a superior form of access. On the other hand, since all wireless location methods will render a location estimate only as opposed to a precise location, a location error estimate must be included. The point is that wireline and wireless networks have very different capabilities and potentials, and any regulations should acknowledge and take account of these differences.

[6] *See* Notice at 23 ¶ 47.

dollars) if it believed that wireless carriers were not interested in acquiring an ALI capability.

It is reasonable to conclude that the other firms doing similar ALI research share the same view. And, given the large number of firms engaged in this research, it is reasonable to conclude that the market potential is substantial.[7]

Not only is research underway, but the telecommunications industry has taken the lead in ensuring that wireless ALI and other enhanced wireless 911 capabilities become a reality.[8] The first step is to define the needs of the market — specifically, the public safety community. This important step was begun when the telecommunications industry and public safety community jointly developed last year the Emergency Access Position Paper (promptly submitted to the Commission and appended to the Notice as Appendix D).

This cooperative effort is further evidenced by the two Joint Experts meetings conducted in August and October 1994 (and again sponsored by the telecommunications industry). These meetings defined the needs of the pub-

---

[7] The market is driven not simply by meeting the needs of the public safety community, but also by the use of ALI for other applications (*e.g.*, theft protection and property recovery).

[8] The industry has thus responded fully to the Commission's requests of it. *See* Notice at 17 ¶ 34, and PCS Second Report and Order, 8 FCC Rcd 7700, 7756-57 ¶¶ 139-140 (Oct. 23, 1993).

lic safety community in much greater detail, began to prioritize those needs, evaluated emerging technologies that may be used to meet those needs, and developed an overall framework in which new capabilities can be implemented in an evolutionary fashion consistent with the technical and financial constraints under which both the telecommunications industry and the public safety community operate, all in service of the public need.

The second step necessary to make enhanced wireless 911 capabilities a reality is to develop a set of performance and interface standards (*e.g.*, signaling protocols) so vendors can build equipment which meets the needs of both the telecommunications industry and the public safety community. Standards are important because they can reduce the cost of providing enhanced wireless 911 capabilities by allowing both carriers and PSAPs to have a choice in vendors and to retain the flexibility to mix and match different products by different vendors.[9] In this regard, the telecommunications industry has already committed to submit the requirements of the public safety

[9] In the absence of standards, carriers and PSAPs would be required to use the proprietary product of a single vendor, which would be extremely difficult to implement given the number of carriers (wireline and wireless) and PSAPs which may exist in a given area — all of which may use different equipment, different technologies, and different network configurations. In addition, a lack of standards would further complicate an already complex network of individual city, county, and statewide 911 systems, each currently having varying types of network configurations and equipment vendors.

community to the appropriate standards bodies so this necessary work can begin promptly.[10]

The third and fourth steps are for vendors to build equipment which meets the standards the industry adopts and for carriers and PSAPs to then evaluate the equipment that best meets their respective needs. By the time high-quality standards work is completed, the development of potential ALI technologies should have progressed considerably and, hopefully, one or more technologies will emerge as likely candidates for deployment (as being both cost effective and reliable).[11]

In summary, not only is the development of enhanced wireless 911 capabilities like ALI on track, but the telecommunications industry has been exceptionally responsive in assisting the public safety community to define its needs and to ensure that those needs are met as quickly as practical. In these circumstances, the Commission should be most reluctant to intervene by prematurely adopting a new set of regulations.

---

[10] *See* Emergency Access Position Paper at 1-2. Of course, the public safety community always has the right to submit its own contributions to the standards organizations.

[11] Before "off-the-shelf" equipment can be made commercially available, vendors must build prototype equipment which must be field-tested across the many frequency bands, air interfaces, and system architectures used by wireless carriers.

U S WEST demonstrates in the next section that the Commission's current proposals are unrealistic and, in the end, would not best satisfy what it understands to be needs of the customer, the public safety community.[12] U†S WEST recommends that the better course would be for the Commission to instead play a more market management or oversight role, by monitoring (and, if necessary, encouraging and help coordinating) developments in industry standards and in the development (field testing and validation) of potential enhanced wireless 911 technologies.[13]

III. The Three-Step Wireless ALI Proposal Is Fundamentally Flawed

The Notice proposes that all wireless carriers deploy an ALI capability in three steps over a five-year period:

Step 1: Within one year, wireless carriers would be required to redesign their networks so that the location of the base stations (or cell sites) receiving 911 calls from a mobile unit are relayed to the PSAPs.

---

[12] Of course, the ultimate "customers" are members of the public requiring emergency assistance. However, the public safety community represents and serves this customer base and is, accordingly, a customer as well.

[13] The Commission could, of course, request submission of periodic progress reports, although preparing these reports (especially using the consensus procedures) could divert important time in moving forward on the issues.

Step 2: Within three years (or two years after the completion of Step 1), wireless carriers would be required to re-design their networks so unspecified "approximate" locations of the 911 callers can be forwarded to the PSAPs.

Step 3: Within five years (or two years after the completion of Step 2), wireless carriers would be further required to re-engineer their networks so the locations of 911 callers can be identified (and this information forwarded to the PSAPs) within 125 meters of the callers' locations in a three-dimensional environment.

There are many problems with this three-step proposal, and most of them can be grouped into two categories: (a) the proposals are overbroad in scope, as they require wireless carriers to deploy technology whether or not public safety organizations want or are able to use the new capability; and (b) the proposed time frames are not realistic and, unless adjusted, could impose significant economic waste on the wireless telecommunications industry, which could increase substantially the cost of wireless service to all consumers, including public safety organizations.[14]

[14] There are also significant legal issues pertaining to the Commission's authority to order implementation of its proposals, particularly if they are adopted without a cost/benefit

Continued on Next Page

A. The Proposals Are Overbroad In Scope In That They Ignore Market Demand

One major problem with the proposals in the Notice is that they ignore market demand and use. Enhanced 911 capabilities would, of course, be deployed to meet the needs of the public safety community. However, the Commission proposes to require all wireless carriers to deploy ubiquitously a full set of enhanced 911 features — whether or not public safety organizations can or would use them.

For example, a substantial portion of the population is served by public safety organizations providing basic 911 service only. It makes no sense to require wireless carriers to deploy enhanced 911 capabilities in these areas.

The proposal is also overbroad even in areas where enhanced 911 service is available. The current proposal would require all wireless carriers to deploy a full set of enhanced 911 capabilities whether or not certain E911 organizations have a need for, or interest in, a particular capability. For example, in many areas PSAPs may have no need for a selective routing feature. Similarly, it is doubtful whether the thousands of public safety organizations serving this nation's vast plains would require a three-dimensional location capability (installed to help locate people in high-rise buildings).

---

analysis and without an affirmative determination that wireless (and, as appropriate, wireline) carriers are able to recover all of their compliance costs.

Yet, the current proposal would require wireless carriers in these areas to deploy these unneeded features.

Finally, the current proposal is problematic even with respect to capabilities in which public safety organizations may have an interest. As the Commission acknowledges, many enhanced 911 capabilities will require public safety organizations to upgrade their existing equipment.[15] It makes no sense to require wireless carriers to upgrade their networks to provide any enhanced 911 capability unless the user of that capability has also upgraded its equipment to take advantage of it. Yet the current proposal would require carriers to deploy features perhaps years in advance of the customer need for the features.

Requiring carriers to deploy equipment and capabilities that are not used constitutes economic waste — because it would increase needlessly the cost of service to the public without any corresponding public benefit. Requiring carriers to prematurely deploy technology can also undermine the public interest in a second way, if it prevents carriers from later taking advantage of newer (and, potentially, better, more cost-effective, and/or reliable) equipment.

---

[15] *See* Notice at nn. 48 and 49.

The point is that any proposal concerning the provision of enhanced wireless 911 capabilities must take account of the market demand for the features. U S WEST proposes in Section IV below a plan that focuses on the needs of the enhanced 911 customer: the public safety community.

B. The Current Proposal Is Not Realistic Given the Current State of Technology

As noted, the Commission proposes that enhanced wireless 911 capabilities, including location identification, be made available beginning within one year. There is nothing in the record even suggesting that these proposed time frames can be met by the telecommunications industry (or by the public safety community, for that matter, which must likewise upgrade or replace some of its equipment).

This nation's top experts in wireless location technologies met in October 1994 (days before release of the Notice) to discuss PSAP service requirements and technologies that can be used to support those requirements. Participants included technical members of telecommunications carriers and their associations, the public safety community, and their vendors.[16] In their detailed report, these experts universally agreed that wireless location technologies "are not mature" and "will require additional development and test-

[16] Regrettably, members of this Commission were unable to participate in this meeting because of the Sunshine rules pertaining to the release of this Notice.

ing."[17] These experts further agreed that "[t]he public safety and wireless service provider communities each have a unique set of challenges that includes economic, operation and technological feasibility," and that "mandat[ing] a single solution would be extremely difficult and premature."[18]

Imposition of regulatory requirements pertaining to wireless ALI implementation is inappropriate in these circumstances. Obligations cannot realistically be imposed until it is known what technologies will work best and what those technologies are capable of achieving (and not capable of achieving).

There are, as the Commission has noted, many different methods that are at least theoretically available to provide location data in a wireless environment.[19] Some, but not all, of the approaches are mobile-centric-based solutions — that is, they require additions to the mobile handset for the system to work.

For example, Global Positioning Satellites ("GPS") are the most mature of all location technologies (although this technology, too, is currently

---

[17] Wireless Emergency Services JEM Report, § 7.3.2 (Oct. 14, 1994). A copy of this report is appended to these comments.

[18] Id., Executive Summary, at 2. The experts therefore recommended adoption of a four-step evolutionary path based upon the degree of modification needed to existing systems.

[19] *See* Notice at 22-23 ¶ 46.

incapable of meeting the requirements of the proposed rules).[20] However, for a GPS-based system to work, mobile handsets must be equipped with additional GPS receiver circuitry and modem capability to transmit the location results to the PSAP. This additional circuitry would, at today's prices, add several hundred dollars to the price of each mobile handset. There are over 22 million cellular handsets in use today, and use of a GPS-based system could require the consuming public to pay $6 billion or more simply to retrofit or replace current handsets.[21]

Obviously, great care must be exercised before a decision is made to use an ALI method which requires additions to mobile handsets. Such additions will inevitably increase the size, weight, and power requirements of the handsets and, in the process, undermine the gains that have been made in making handsets truly portable. Moreover, mobile-centric-based solutions have the potential to destroy the continued vitality (and, perhaps, viability) of the mobile services market. U S WEST questions how many of today's

---

[20] The Commission readily acknowledges that GPS "does not work well if a caller is inside a building or amid obstructions that attenuate or block the satellite radio signals." Id. at 23 ¶ 46. In addition, GPS technologies currently require two minutes or more to perform a location calculation, a time period which the public safety community may determine is unacceptable in an environment where the 911 caller will often be on the move.

[21] Of course, this sum will increase as the number of mobile customers increases (between growth and the introduction of new service providers), with many existing mobile systems growing at an annual rate of 50%. In addition, even with a GPS-based system, carriers and PSAPs must also upgrade their equipment, and these new equipment costs will be passed on to consumers as well. The nationwide cost to the public of deploying a GPS-based-system (which, as noted, still does not meet the proposed specification requirements) could easily reach $20 billion or more!

mobile customers would continue to subscribe to mobile service if the industry is forced by prematurely adopted regulations to use a GPS-based system which adds $300 or so to the price of each customer handset.

U S WEST is actively researching and beginning to test a location identification method which does not require any changes or additions to mobile handsets. In this regard, U S WEST companies have already obtained one location patent and have submitted applications for six additional location identification patents.[22]

U S WEST's most promising approach uses hybrid RF measurements to form a new method for performing the wireless location function.[23] This approach combines various new combinations of indigenous analog and digital measurements in both uplink and downlink directions (and, if available, from neighboring base stations) and uses other techniques (such as genetic

---

[22] *See* Cellular Telephone Zone System, U.S. Patent No. 5,295,180 (March 15, 1994); Position System and Method, U.S. Serial No. 08/178,954 (Jan. 7, 1994); Positioning System and Method, U.S. Serial No. 08/240,070 (May 9, 1994); Improved Positioning System and Method, U.S. Serial No. 08/314,477 (Sept. 28, 1994); System and Method for Updating a Location Databank, U.S. Serial No. 08/314,482 (Sept. 28, 1994); Method for Routing Emergency Calls During Busy Interface Channel Conditions, U.S. Serial No. 08/314,180 (Sept. 28, 1994); Method for Determining Position by Obtaining Directional Information from Spatial Division Multiple Access (SDMA)-Equipped and Non-SDMA-Equipped Base Stations, U.S. Serial No. 08/314,486 (Sept. 28, 1994).

[23] While use of a singular RF measurement (*e.g.*, signal strength or time of arrival) to attempt correlation with distance is well known in the state of the art, these methods have been notoriously imprecise due to large variations of RF signal propagation behavior. Multipath signal reflections, refractions, and Rayleigh fading characteristics contribute to a poor correlation with distance.

algorithms and fuzzy logic) to further refine and automate the correlation process. Because U S WEST's approach requires no changes to mobile handsets and uses measurements already utilized in wireless network designs, U†S WEST expects that this approach will be an efficient and cost-effective approach to the location function.

While U S WEST believes that its approach is most promising, it still has considerable testing it must perform to validate this approach. Moreover, it may be that someone else finds a better, more economical, and/or more reliable alternative. Indeed, in the end, it may very well be that a mobile-centric-based solution is the most cost-effective way to perform the location function.

The point is that there is today an insufficient body of knowledge to analyze the technical and cost considerations regarding the various wireless ALI options. And even if a cost/benefit analysis could be performed, there is at present no way of knowing how precise and reliable various ALI technologies will be in several years. At least two more years are required before these types of analyses can be performed (because field testing of new technologies must be completed, followed by the construction of prototype equipment which must also be tested).

In fact, adoption of the three-step implementation proposal in the Notice could actually be counterproductive because it could result in the wire-

less industry adopting the wrong technology — that is, technology that is too expensive, too imprecise, and/or too unreliable. If the proposed rules were adopted, the industry's immediate focus would be to find a way to meet Step 1: isolating the cell site serving the 911 caller. However, the approach taken to meet this step may not be compatible with the approach necessary to locate the 911 caller directly (Steps 2 and 3) because the industry would not be given sufficient time to develop an implementation plan that is truly evolutionary.[24]

Moreover, under the current proposal, the industry will effectively have only two years before it must make a "make buy" decision pertaining to Step 2 (as at least one year must be allowed for the Step 2 equipment to be ordered, built, and then installed). The current state of the art is so immature that carriers will have little basis to evaluate meaningfully one ALI technology over another. As a result, carriers may find that the technology they deployed to meet Step 2 — an unspecified "approximate" location of the 911 caller — is incapable of meeting the requirements of Step 3: identification of location within 125 meters in a three-dimensional environment. Will the Commission grant waivers to carriers unable to meet Step 3 because they happened to choose the wrong technology for Step 2, or will the Commission

[24] Developing an evolutionary implementation plan is especially important to the public safety community which often operates under severe fiscal restraints.

require carriers to scrap their Step 2 technology, deploy whatever Step 3 technology may be available, and pass on all extra (and unnecessary) costs to consumers?[25]

In summary, given the current state of ALI technology development, mandating any performance standards at this time would be inappropriate and potentially counterproductive. Moreover, Commission rules must take account of the unique needs of each customer of the mandated capabilities: public safety organizations. Under no circumstances should carriers be required to deploy equipment that certain customers have no desire to use.[26]

IV. A Recommended Alternative Approach, One Based on Market Need and Market Reality

The fundamental flaw in the current proposals is that they ignore market demand and use and ignore the nascent stage of enhanced wireless 911 technologies. U S WEST below presents an alternative implementation approach that gives precedence to the needs of each potential user of en-

---

[25] The matter is actually much more complex than it may first appear. In the absence of industry standards and equipment built to those standards, carriers will have no choice but to use the proprietary system of a single vendor. However, given that multiple carriers and, oftentimes, multiple PSAPs exist in a given geographic area, all participants must use the same proprietary system if the system is to work (unless PSAPs are willing to deploy multiple systems to accommodate the unique needs of all carriers serving their areas). This coordination effort cannot possibly be completed (much less implemented) within the time frames the Commission has proposed.

[26] Moreover, as discussed above (*see* note 14 *supra),* there are significant legal limits on the Commission's authority to order the private industry to spend their finite resources.

hanced 911 capabilities — public safety organizations — and gives both these organizations and the industry the flexibility to design a system that meets the unique needs of all participants.

A. Any Enhanced Wireless 911 Obligation Would Be Triggered By A Bona Fide Request

Enhanced wireless 911 capabilities would be deployed to meet the needs of public safety organizations. However, it makes no sense to require wireless providers to deploy enhanced wireless 911 capabilities if a public safety organization in a given area is unable or unwilling to use the capabilities. Consequently, the touchstone of any Commission mandate concerning enhanced wireless 911 capabilities should be a bona fide request by an authorized public safety organization for the availability of enhanced wireless 911 capabilities.

No one — public safety organizations, wireless providers, local exchange carriers — is now capable of supporting enhanced wireless 911 capabilities. As discussed above, the industry must first develop interface and signaling standards, after which vendors must build or modify their equipment to meet these standards.

It is reasonable to assume that the lion's share of all necessary standards work will be completed in 24 months, and vendors ordinarily require 24 months to build or modify their equipment to meet new industry require-

ments standards. U S WEST therefore proposes that public safety organizations be permitted to first submit a bona fide request for an enhanced wireless 911 capability within four years of the Commission's order in this proceeding.

B. Local Industry Negotiations

Under U S WEST's proposal, the bona fide request of a public safety organization would consist of a notice of a public meeting sent to all carriers providing real-time voice communications within the jurisdiction of the public safety organization and, to the extent possible, other nearby public safety organizations which may also be served by some or all of the same carriers.[27] During this and subsequent meetings, the participants would (a) define with particularity the needs of the specific public safety organizations involved, (b) discuss technological solutions which might meet those needs, and (c) to the extent possible, agree upon a deployment schedule for all impacted carriers. U†S WEST envisions that these meetings would be governed by the now prevalent industry consensus procedures.

[27] A bona fide request could also be submitted by a state public safety trade association if it were determined that this matter would be better handled on a state, rather than a local, level.

C. Deployment Obligations of Carriers

Prior experience with industry fora suggests that, in most instances, agreement will be reached on most aspects of a proposed enhanced wireless 911 plan. However, no carrier (wireless or wireline) should be obligated to modify its networks to support enhanced wireless 911 capabilities without the following three conditions being met:

1. PSAP Funding Is Assured. No carrier should be required to expend its finite resources in supporting an enhanced wireless 911 capability unless it has reasonable assurance that the requesting public safety organization will actually use the capability (and modify and upgrade its equipment accordingly). Consequently, a carrier's obligation to deploy any enhanced wireless 911 capability should be imposed only after the public safety organization can demonstrate that its funding organization (city, county or state) has approved necessary funding to modify the PSAP's equipment.

2. Other Public Safety Organizations Do Not Oppose The Technical Plan. Many carriers often serve geographic areas encompassing multiple public safety organizations. It is unreasonable to expect carriers to deploy one technology (and one set of performance requirements) for one public safety organization and an entirely different technology (and different performance standards) to support another